

FACTOR ANALYSIS OF THE SPOUSE OBSERVATION CHECKLIST-REVISED USING  
ATTACHMENT THEORY AS AN ORGANIZATIONAL FRAMEWORK

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The purpose of the current study was to investigate the factor structure of the Spouse Observation Checklist-Revised using attachment theory as an organizational framework. The study used archival data from a community sample of 92 heterosexual childless couples married 1-5 years and 4 lesbian couples ( $N = 192$ ). Separate exploratory factor analysis on the Perception of Self-Behavior and Perception of Partner-Behavior items revealed symmetrical 4-factor structures with factors reflecting emotional support, physical intimacy, instrumental support, and disengagement. Separate analyses examined associations of the four identified factors with the Experiences in Close Relationships Scale and the Dyadic Adjustment Scale to begin to place the SOC-R within a nomological network.

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## FACTOR ANALYSIS OF THE SPOUSE OBSERVATION CHECKLIST-REVISED USING ATTACHMENT THEORY AS AN ORGANIZATIONAL FRAMEWORK

In 1974, Wills, Weiss and Patterson developed the Spouse Observation Checklist (SOC), a semi-observational questionnaire to assess specific behaviors in the marital relationship. The SOC represents one of the earliest attempts to define and quantify, or observe specific behaviors in marital relationships. The original goal of the SOC was to obtain observational data from relationship partners, who were asked to record their spouse's pleasing and non-pleasing behaviors (Wills et al., 1974). In 1994, Creath revised the original SOC using attachment theory as an organizational framework. The current study investigated the factor structure and validity of the revised SOC (SOC-R).

### Representative Findings Exploring the SOC

As an observational assessment of behavior of spouses in their natural environment, the validity of the SOC has depended upon the spouses' ability to accurately observe and report their own and their partner's behavior (Christensen & Nies, 1980). Validity based on consensus between couples was consistently low with agreement rates being approximately 50% for volunteer couples and 38.6% for clinical couples (Jacobson & Moore, 1981). Due to lack of consensus on reported behaviors, researchers concluded that the SOC was not an accurate observational report of behavior within relationships (Christensen & Nies). However, the SOC did accurately distinguish pleasing and nonpleasing behaviors and differentiate distressed and nondistressed couples (Barnett & Nitzel, 1979).

Floyd and Markman (1983) found that although spouses' report of their partner's behavior was not consistent with the partner's self-report, it was consistent with the outside observer's ratings of the spouses' behavior. However, other attempts to combine the SOC reports

with laboratory observations found low agreement between individuals and trained raters (Royce & Weiss, 1975). Duck (2002) suggested that context guides interpretation of messages, so the sequence of events leading up to an interaction may be important history missed by outside observers, who focus on different aspects of the interaction than the couples do. There are many limitations to considering the difference between self and outsider ratings of behavior as the sole determinant of validity. Vega and O’Leary (2007) argued, “inter-rater correlations may not be a fair assessment of reliability due to different motivations affecting self-report versus report of partner behavior” (p. 704). Social desirability is an artifact of self-observation due to its potential to impact self-reporting of behavior, but not reporting of partner behavior. Although the SOC was originally intended to assess behavior independently of observer biases, an individual’s self-report of his or her own behavior is influenced by different subjective biases than biases that affect observation of a partner’s behavior.

Further criticism of the SOC focused on the length and complexity of the measure. In a study investigating readability of marital assessment measures used by behavioral marriage therapists, Dentch, O’Farrell, and Cutter (1980) suggested the SOC was a complex measure that would benefit from being shortened to reduce complexity. The SOC assessed many behaviors believed to be important in a romantic relationship, but lacked an underlying theory to organize the focal domains of behavior.

While the SOC may not be a reliable quasi-observational measure of actual spouse behavior, the potential benefit of the SOC as a measure of the respondent’s perception regarding their own and their partners’ behaviors within the relationship appears to have been overlooked. Rather than interpreting disagreement between spouses as invalidating the accuracy of reported behavior, it may be more important to try to understand different perceptions of self and partner

within a relationship. “The phenomenology of married couples, their perceptions, appraisals, and beliefs regarding the relationship constitute important sources for assessment data and should not be discarded” (Jacobson & Moore, 1981, p. 275). Studies investigating the SOC as an observational measure confounded reliability and validity data to ensure accuracy of observation; however, this would not be appropriate for use of the SOC as a self-report measure.

With a shift in thinking from attempting to validate the SOC as a quasi-observational measure to its use as a measure of respondents’ perception of behaviors, many of the criticisms of the SOC are naturally addressed. For example, use of the SOC as a measure of behavioral perception would focus less on the accuracy of the reported behavior itself and instead focus on the report of self and partner behavior as a means to understand the unique dynamics within the relationship. Thus, the symmetry in measurement of the SOC may be used as a tool towards understanding the differences in perceptions of members within a relationship. From this perspective, disagreement between couples indicates difference in their perception of the relationship, rather than lack of validity of observational reports.

Gottman and Notarius (2002) identified the need for a theoretical model to organize the complexity of patterns observed in spousal interactions. Additionally, the SOC has been criticized for both its length and complexity. To address these concerns, Creath (1994) used attachment theory to revise the original SOC. Attachment theory is one of the most studied and referenced theories in the developmental psychology literature and provides a framework from which one can understand couples’ behavior in their romantic relationship.

#### Adult Attachment

Following early work focusing on parent-child bonds, attachment theory and research has been extended and applied to adult romantic relationships. Hazan and Shaver (1987)



conceptualized adult romantic love as an attachment process governed by the same behavioral system as infant-caregiver relationships. In a review of adult attachment, Fraley and Shaver (2000) suggested three components must be present to classify a relationship as an attachment bond: (a) individuals rely upon their partner as a secure base and presence of their partner promotes feelings of confidence and security, (b) the relationship is characterized by proximity, or the degree to which an individual remains in close contact with the attachment figure, and (c) the attachment figure is used as a safe haven and relied upon for protection or support during times of danger, or illness.

By dichotomizing Bowlby's internal models of self and others into positive and negative halves, Bartholomew and Horowitz (1991) proposed a model of adult attachment with four quadrants, each representing a specific attachment style: secure, preoccupied, dismissive, and fearful. More recent research has identified two underlying dimensions: attachment anxiety and attachment avoidance (Brennan, Clark, & Shaver, 1998). Attachment anxiety results from inconsistent caregiving that contributes to the development of a negative model of self and reflects the extent to which an individual feels worthy of care and worries about abandonment (Mikulincer & Shaver, 2012). On the other hand, attachment avoidance stems from a consistently unavailable and rejecting attachment figure, which contributes to the development of a negative model of others. Attachment avoidance is characterized by distrust and emotional distance or behavioral independence from partners (Mikulincer & Shaver). The dimensions of attachment anxiety and attachment avoidance can be understood as intersecting planes that create the four quadrants of Bartholomew's four category model. Secure is characterized by low anxiety and low avoidance, preoccupied is characterized by high anxiety and low avoidance, dismissive is

characterized by low anxiety and high avoidance, and fearful-avoidant is characterized by high anxiety and high avoidance.

Secure individuals, who score low on both the attachment anxiety and attachment avoidance scales do not worry about abandonment, are comfortable getting close to others and being depended on by their partners. They are more likely to demonstrate constructive and effective emotion regulation strategies and rely upon primary behavioral strategies during times of distress to effectively seek protection and comfort (Main, 1990). Individuals with insecure attachment instead demonstrate secondary behavioral strategies: hyperactivation and deactivation (for a review, see Mikulincer & Shaver, 2012). To cope with fear of abandonment by the attachment figure, preoccupied individuals use a hyperactivation strategy, which maximizes attachment behaviors to gain attention and prevent abandonment. Conversely, dismissing individuals have difficulty trusting people or depending on others and tend to deactivate the attachment system by minimizing emotions and attachment behaviors.

#### Attachment and Marital Functioning

Since Hazan and Shaver's (1987) extension of attachment theory to adult romantic relationships, attachment theory has become a major focus of couple and marital research. Attachment security has been associated with greater marital satisfaction of the individual, as well as greater satisfaction reported by their partner (Hirschberger, Srivastava, Marsh, Cowan & Cowan 2009). In addition to relationship satisfaction, secure individuals report higher intimacy, trust, self-disclosure, support seeking, and pro-relational behavior (for a review see Feeney, 2008). Insecure attachment is negatively correlated with relationship satisfaction (Mikulincer & Shaver, 2007) and women with preoccupied attachment styles showed reduced marital satisfaction and lower levels of perceived spousal support (Simpson & Rholes, 2002).

Research has also demonstrated that level of relationship satisfaction influenced the interpretation of a partner's behavior, such that satisfied spouses were more likely to attribute positive intentions to their partners than dissatisfied spouses (Gottman, 1998). Perception of the partner has also been related to overall marital satisfaction, such that individuals who report higher marital satisfaction tend to perceive their partner in a more positive light (Srivastava, McGonigal, Richards, Butler, & Gross, 2006).

One of the unique aspects of conceptualizing romantic love as an attachment process is the mutuality of the relationship. Hazan and Shaver (1987) argued that romantic love involves the integration of three behavioral systems: attachment, caregiving, and sex. This differs from infant attachment relationships because both partners in the adult relationship are support seekers in addition to support providers. Thus exploration of behaviors in romantic relationships should investigate not only the attachment behaviors, but also provision of partner support and sexual behaviors.

### Caregiving

Attachment plays an important role in the way partners interact with one another. In mutual, reciprocal adult relationships, activation of the attachment behavioral system in one partner is met with the activation of the caregiving behavioral system in their partner. So the caregiving behavioral system can be viewed as a complementary system to the attachment system. For the purposes of this study, two types of support will be investigated. House (1987) identified four types of social support: emotional, appraisal, informational, and instrumental. Two of these four types are thought to reflect support behaviors as they relate to adult romantic relationships. First, emotional support includes caring, love, trust, empathy, and concern.

Second, instrumental support is a concrete form of direct support and includes assistance via time or money, and other explicit interventions on another person's behalf (House).

Attachment style influences both the tendency to seek support from others and the perception of support received. An individual's working model shapes expectations of others and thus affects the perception of spouse availability and responsiveness. At the behavioral level, Cohn, Silver, Cowan, Cowan, and Pearson (1992) found men and women with secure and insecure attachment styles varied in the degree of their availability and responsiveness to partner requests for support, as well as the degree of anger observed in marital interactions. At the perceptual level, Collins and Feeney (2004) suggested that individuals perceive support experiences through the lens of their working models of attachment. In support of this notion, research findings show that perceived caregiving partially mediates the relationship between attachment security and relationship satisfaction, whereby insecure partners tend to perceive their partners as less caring and report lower satisfaction (Kane et al., 2007).

### Proximity Seeking

Although proximity is monitored and maintained in both infant and adult attachment relationships, unlike infant attachment, adult proximity seeking has both a behavioral and cognitive component. Whereas proximity seeking in infants is sought via attachment behaviors such as crying or clinging, adults have been found to receive comfort through mental representations of their attachment figure (Mikulincer & Shaver, 2007). Rather than relying upon the physical presence of their attachment figure, cognitive representations of that person provide comfort to the individual in distress. Thus proximity seeking in adults also involves an internal process that allows them to meet attachment related goals without actually requiring the physical presence of their attachment figure.

The support seeking behaviors of secure individuals have been associated with a greater capacity to communicate and share emotional experience with others (Slade, 1999). However, individuals whose partners fail to provide protection and security in response to proximity seeking behaviors internalize fears about attaining security, which can negatively impact their view of their partner, and the world (Mikulincer & Shaver, 2007). With their hyperactivation strategy, anxious individuals excessively rely upon proximity seeking to demand attention of the attachment figure. In contrast, the deactivating strategy of avoidant individuals suppresses proximity seeking behaviors to decrease the pain and frustration of unresponsive attachment figures (Mikulincer & Shaver, 2012).

#### Independent Exploration

Individuals secure in their attachment relationship are comfortable venturing away from the relationship to engage in activities independent of their partner. Independent exploration is characteristic of individuals who are secure and confident that their attachment figure will be readily available for support if the individual encounters an anxiety-provoking situation or environment (Hazan & Shaver, 1987). Attachment security has been linked with curiosity, as well as exploration of new information and experiences, which supports the notion that a secure base encourages exploration (Elliot and Reis, 2003). Individuals high in attachment anxiety are described as “clingy” and less likely to engage in exploration away from the romantic relationship. In contrast, individuals high in attachment avoidance are overly independent and likely to distance themselves from the relationship (for a review, see Mikulincer & Shaver, 2012).

Interestingly, overprovision of support has been linked with relationship dissatisfaction to a higher degree than underprovision of support, suggesting partners prefer some degree of

independence or “space” in a romantic relationship (Brock & Lawrence, 2009). Mashek and Sherman (2004) found as many as 57% of couples reported desire for less closeness in romantic relationships. This suggests that a certain amount of intimacy is ideal, whereas too much can feel suffocating.

## Sex

Individual differences in attachment style can inform our understanding of variations in the experience of sexual interactions in close relationships. Secure attachment style has been associated with more physical intimacy and longer, more committed sexual relationships than insecure attachment. Anxious individuals are more likely to use sex as a bid for proximity to serve attachment-related needs for love and felt-security (Davis et al., 2006). Consistent with the fear of closeness and intimacy predicted by attachment theory, avoidant attachment has been related to short-term, less committed or “promiscuous” sexual relationships that involve detachment of sexuality and psychological intimacy (for a review, see Mikulincer & Shaver, 2007).

In a recent study, Little, McNulty, and Russell (2010) found attachment anxiety and attachment avoidance were unrelated to marital satisfaction among individuals reporting more frequent sex, which appeared to buffer the negative impact of attachment insecurity. Both the effects of attachment avoidance and attachment anxiety in relation to marital satisfaction were mediated by expectancies for partner availability.

## The Current Study

In 1994, Creath revised the original SOC to reflect attachment behaviors reported by married couples. To address concerns of atheoretical measure development, attachment theory was used as a theoretical foundation for measuring pleasing and displeasing behaviors within a

relationship. Items were selected to represent behaviors in four areas related to attachment processes in romantic relationships: (a) attachment, which reflected being reliably accessible and responding appropriately and favorably to the others' needs, (b) caregiving, which consisted of nurturing behaviors toward the partner, (c) sexuality, which assessed mutually satisfying sexual behavior, and (d) independent exploration, which included participation and support of activities that do not include the other partner. Content validity of the final group of items was established by review by six raters familiar with attachment theory.

The SOC-R provides an opportunity to investigate some of the overlap between romantic attachment processes and marital satisfaction. It is expected that both marital satisfaction and attachment dimensions will be associated with the perception of partner behavior in a relationship. Worthington and Whitaker (2006) identified eight steps necessary for scale development research. The initial steps were completed by Creath (1994), including: determining what to measure, generating the item pool, determining the format of the measure, and having experts review the initial item pool. An empirical approach exploring the underlying factor structure of the theoretically developed SOC-R was used to evaluate the selected items, optimize scale length, and investigate validity of the scales by comparing it to other measures.

The primary goal of this psychometric study is to determine the factor structure of the SOC-Revised (SOC-R). As a primarily exploratory study, the items of the SOC-R will be allowed to relate freely to each other to determine the factor structure that best describes the data. A four factor structure reflecting the four categories proposed by Creath (1994) is hypothesized: caregiving, availability/responsiveness (attachment), independent exploration, and sexuality.

A secondary goal of this study is to place the SOC-R within a nomological network by examining the relationship of the SOC-R dimensions with other related psychological constructs.

Specifically, dimensions of the SOC-R should be related to other measures of attachment and marital functioning. Several hypotheses regarding direct associations among the proposed factors for the SOC-R and the Experiences in Close Relationships Scale (ECR; Brennan, Clark & Shaver, 1998) and Dyadic Adjustment Scale (DAS; Spanier, 1976) were evaluated. We expected that attachment anxiety and attachment avoidance would be negatively correlated with the predicted scales of the SOC-R (attachment, caregiving, sex, and independent exploration). We also hypothesized that the scales of the DAS (Dyadic Consensus, Dyadic Satisfaction, Dyadic Cohesion, and Affectional Expression) would positively correlate with the predicted scales of SOC-R.

## Method

### Sample and Participant Selection

The current study is derived from a larger project investigating attachment processes and marital functioning among 92 heterosexual married couples and 4 lesbian couples. Although many studies would exclude couples based on sexual orientation, due to the lack of research on lesbian couples, as well as findings that suggest the factors predicting relationship quality are the same for gay and lesbian couples (Kurdek, 2005), the current study examined sample characteristics to support inclusion of the lesbian couples. Independent samples *t*-tests were used to compare the DAS scales and ECR scales for one member from each of the heterosexual and lesbian couples. This method was chosen as the basis for comparison because gender could not be used as a distinguishing variable to examine the dyadic nature of the data. Lack of significant difference on the 7 independent samples *t*-tests (see Table 1) support inclusion of the lesbian couples in subsequent analyses as it provided support that individuals did not differ based on sexual orientation. The final sample examined consists of 96 couples ( $N = 192$ ).



Due to research indicating a decline in marital satisfaction after the first year of marriage and after the birth of children (Twenge et al., 2003), the target sample was limited to couples married between one and five years without children. The participants of the study reported an average age of 27.39 years and predominately European-American descent (89.7%). The mean reported length of marriage was 2.59 years and the majority of respondents were in their first marriage (83.9%).

## Measures

*Background information questionnaire.* The background information questionnaire was developed for this study. It asks about basic demographic information (e.g., age, gender, ethnicity, number of marriages, length of marriages, number of children, level of education, occupation, income level) and family background information (e.g., number of siblings, adoption status, parental divorce, death of family members, relationship of parents, and mental health status of family members).

*Dyadic Adjustment Scale (DAS; Spanier, 1976).* The DAS was designed to assess relationship adjustment and is a popular measure of this construct in clinical and non-clinical samples. The DAS is comprised of four primary factors: Dyadic Consensus consists of 13 items that assess frequency of couples' agreement (e.g., "Indicate the approximate extent of agreement or disagreement between you and your partner regarding religious matters"); Dyadic Satisfaction has 10 items that assess frequency of arguments and negative interaction patterns (e.g., "How often do you and your mate quarrel?"); Dyadic Cohesion includes 5 items that assess frequency of shared activities (e.g., "Do you and your mate engage in outside interests together?"); and Affectional Expression has 4 items that assess expression of love and sexual relations (e.g., "Do you kiss your mate?"). The response format for various items includes dichotomous ratings (0 =

yes and 1 = no), assessment of agreement (0 = *always disagree* to 5 = *always agree*), or assessment of frequency (0 = all the time and 5 = never). Reliability of the total DAS in a meta-analysis was found to be strong, with a mean alpha of .915 across studies (Graham, Liu, & Jeziorski, 2006). Total scores on the DAS are effective both in discriminating between distressed and nondistressed couples and in identification of couples with a high likelihood of divorce (Crane, Busby, & Larson, 1991). The alpha reliabilities of the DAS scales in the current sample are: Dyadic Consensus .84, Dyadic Satisfaction .78, Dyadic Cohesion .65, Affectional Expression .73 and Total Dyadic Adjustment .89.

*Experiences in Close Relationships Scale* (ECR; Brennan, Clark & Shaver, 1998). The ECR was developed using factor analysis of 323 items and 60 constructs that were compiled from 60 different measures of adult attachment. Factor analysis revealed two primary factors that accounted for 62.8% of the variance. The 36 highest loading items were used in two 18-item scales that assess attachment avoidance and attachment anxiety. Discriminant validity analysis indicated the two scales, avoidance and anxiety, are unrelated ( $r = .11$ ). The ECR has demonstrated strong test-retest reliability (.90 and .91 for avoidance and anxiety, respectively) and internal reliability (.94 and .91 for avoidance and anxiety, respectively). Alpha reliabilities for the current sample were .83 for avoidance and .86 for anxiety. The dimensions of attachment anxiety and attachment avoidance can also be used to create the four quadrants of Bartholomew's four-category model: secure, preoccupied, dismissive, and fearful-avoidant.

*Spouse Observation Checklist – Revised* (SOC-R). The original SOC (SOC: Weiss & Perry, 1979) consisted of 409 items reflecting events that can occur in a romantic relationships including 12 categories: companionship, affection, consideration, sex, communication, coupling activities, child care and parenting, household responsibilities, financial decision making,

employment and education, personal habits and appearance, and self and spouse independence. Individuals report on their own behaviors as well as behaviors observed in their partner. Creath (1994) revised the SOC by selecting 49 items reflective of attachment behaviors, including: attachment, caregiving, sexuality, and independent exploration.

### Procedure

This study came out of a larger research project that was approved by the Institutional Review Board at the University of North Texas. The study was advertised in local newspapers and community flyers with contact information for the project manager. Individuals interested in participation scheduled an appointment to meet with a graduate assistant at their home or other convenient location identified by the couple. After explaining confidentiality and obtaining informed consent, the graduate assistant administered the surveys to the participant. Out-of-state participants were mailed packets with detailed instructions to complete the surveys separately from each other without discussion and were provided a pre-paid, return envelope. As an incentive for participation, participants were offered either an entrance into a drawing for a weekend getaway worth \$300, or a \$20 money order. Participants who chose to enter the drawing provided relevant contact information that was separated from the couple data. Data were entered into SPSS by UNT data entry staff. Data was examined for missing data, which was very low and no patterns were detected.

### Data Analysis

Following Wilson et al., 2005 and best practice guidelines for factor analysis (Worthington & Whitaker, 2006; Tabachnick & Fidell, 2007), statistical analyses included examination of assumptions prior to factor analysis. Appropriate use of factor analytic techniques requires examination of the data to assure appropriate statistical decisions are made

(Worthington & Whitaker 2006). Due to the large number of items under examination, principal components analysis (PCA) was initially used to evaluate the number of factors to retain. As the preferred analysis for dimension reduction, PCA was used prior to EFA to consider total variance in the initial extraction of factors (Tabachnick & Fidell, 2007). This was done using examination of eigenvalues, scree plot analysis and parallel analysis (Tabachnick & Fidell, 2007). The variance accounted for by the solution, the variance accounted for by each individual factor, and the interpretability of the factors were all evaluated to determine the initial plausibility of the factor structure.

After the initial PCA, EFA was used to discriminate between shared and unique variance to produce a solution that contained only shared variance. Due to violation of the assumption of normality, principal axis factoring (PAF) was chosen as the extraction method rather than maximum likelihood extraction, which is more sensitive to violation of this assumption (Fabringer, Wegener, MacCallum, & Strahan, 1999). The correlation matrix revealed factors were correlated and therefore a promax oblique rotation was used. Based on the criteria established prior to data analysis, items with factor loadings above .40, without cross loadings greater than 1.5 were retained. Factors with fewer than three items were not considered worth retaining (Tabachnick & Fidell, 2007).

To examine convergent validity, Pearson product-moment correlations were calculated to compare scales of the ECR and DAS with each of the factors of the SOC-R supported by the EFA. Due to the interdependence of the data, as well as expected differences for men and women, correlations were calculated separately for husbands and wives. Finally, paired samples *t*-tests were used to explore differences between husbands and wives on the emerging SOC-R factors. Rather than randomly selecting members of the couple for these analyses, the 4 lesbian

couples were not included in the correlations or the paired samples *t*-tests because gender is not a distinguishable variable in the couple.

## Results

SPSS 19 was used to perform principal axis factor extraction (PAF) with promax rotation to explore the dimensionality of the 49-item Perception of Self-Behavior and the 49-item Perception of Partner-Behavior scales.

### Practical Issues

As a precursor to the factor analysis, data was examined to ensure it met the assumptions of factor analysis: sample size, missing data, normality, linearity, absence of outliers, absence of multicollinearity, and factorability (Tabachnick & Fidell, 2007). A small number of outliers were identified (less than 6% for items) and were recoded into variables 3 standard deviations above the mean. Due to the nature of the data (items cannot be less than 0), the items were positively skewed. There were no missing data so all items were included in the analysis. The correlation matrix was declared to have good factorability with correlations ranging from close to 0 to as high as .71. Bartlett's test of sphericity was significant, which rejects the null hypothesis that the correlation matrix is an identity matrix and supports the correlations are acceptable for the analysis. As Bartlett's test of sphericity is sensitive to sample size and almost always significant, a more discriminating index of factor analyzability, the Kaiser-Meyer Olkin (KMO), measure of sampling adequacy was also calculated to support factorability of the data, which is appropriate for values of .60 and higher (Tabachnick & Fidell, 2007). For the Perception of Self-Behavior, the KMO was .766; for the Perception of Partner-Behavior, the KMO was .796. Both are in the acceptable range and supported factor analysis of the data.

## PCA Findings

An initial principal components analysis (PCA) extraction of the instrument was used before principal factors extraction to estimate the number of factors (eigenvalues greater than 1, scree plot analysis, and Horn's test) and factorability of the correlation matrices. PCA presented different factor solutions when determined by eigenvalues, scree plot analysis, and parallel analysis. The SPSS default setting follows the Kaiser-Guttman rule, which extracts factors with eigenvalues greater than 1. The first 13 factors of both Perception of Self-Behavior items and Perception of Partner-Behavior items had eigenvalues greater than 1, however this is no longer considered sufficient criteria, as use of this method alone can lead to over or underextraction of factors (Velicer & Jackson, 1990). The scree plot is an illustration of the rate of change in the magnitude of the eigenvalues for the factors. The rate of decline is initially fast but levels off, and the point the curve bends, or the "elbow" is considered to indicate the maximum number of factors to extract. Retention of one less factor than the number at the elbow might be appropriate if you are concerned about getting an overly defined solution. Analysis of the scree plots accounted for by the factors in both the Perception of Self-Behavior and Perception of Partner-Behavior suggested that either a 4 or 5-factor solution best explained the data.

In contrast, two parallel analyses indicated that a 7-factor solution best represented the data when eigenvalues from the target data set were compared to eigenvalues from randomly generated data. For the Perception of Self-Behavior: (a) Factor 1: 9.12 vs. 2.15; (b): Factor 2: 4.21 vs. 2.03; (c): Factor 3: 3.09 vs. 1.93; (d): Factor 4: 2.56 vs. 1.84; (e): Factor 5: 2.02 vs. 1.78; (f): Factor 6: 1.86 vs. 1.71; (g) Factor 7: 1.82 vs. 1.65. For the Perception of Partner-Behavior: (a) Factor 1: 10.06 vs. 2.14; (b): Factor 2: 4.20 vs. 2.02; (c): Factor 3: 3.41 vs. 1.93; (d): Factor 4: 1.86 vs. 1.84; (e): Factor 5: 2.19 vs. 1.78; (f): Factor 6: 1.89 vs. 1.72; (g) Factor 7: 1.67 vs. 1.65.

principal axis factor (PAF) using promax rotation was used to extract and compare the 4, 5, and 7 factor solutions.

#### PAF Factor Solutions

Based on the information obtained in the PCA of the Perception of Self-Behavior items and of the Perception of Partner-Behavior items, separate principal axis factor (PAF) with promax rotations were used to extract and compare the 4, 5, and 7 factor solutions of the Perception of Self-Behavior and the 4, 5, and 7 factor solutions of the Perception of Partner-Behavior. Considering the psychometric properties of each model and using conceptual interpretability and theoretical relevance of the models as the final criteria, the 6 resulting factor structures were compared.

Based on pre-established criteria for item retention, the seventh factor in the 7-factor solution was not retained because only 3 items loaded on that factor. The remaining factors in this model did not significantly contribute to the variance accounted for or add theoretical relevance over the simpler models, and thus the 7-factor model was rejected. The 5-factor solution was considered carefully but not retained because the Perception of Self-Behavior and Perception of Partner-Behavior differed with respect to the fifth factor. Specifically, the Perception of Self-Behavior was comprised of items that involved harsh rejection of the partner, whereas the Perception of Partner-Behavior items associated with independent-exploration emerged as the fifth factor. Selection of the 5-factor solution would not maintain symmetry in measurement, thus limiting the applicability of the measure. The 4-factor solution was chosen as the final model because it presented a parsimonious representation of the data with symmetry in measurement between perception of self and perception of partner reports and was consistent with the existing theoretical models for behavior in romantic relationships.

Perception of Self Four-Factor solution. In the Perception of Self-Behavior four-factor solution, communality values ranged from  $h^2 = .148$  to  $h^2 = .706$  (see Table 2). A number of the factors correlated above .32, therefore, the oblique solution was chosen over the orthogonal rotation. The variance explained by the 4 factor solution was 39 % and the 4 factors individually accounted for 17.48, 7.52, 5.09, and 3.94 % of the variance. Using a cutoff of .40 for inclusion of a variable in interpretation of a factor, 18 of 49 items did not load on any factor. One additional item was deleted because it loaded on multiple factors and thus was not a pure marker of any factor. Comparison of item loadings on the Perception of Self-Behavior and Partner-Behavior factor solutions revealed two items loading on the Perception of Self-Behavior but not the Partner-Behavior factors. After considering theoretical consistency and importance, these items were subsequently deleted to maintain symmetry in the final measure.

Analysis of the 28 remaining items that loaded on each of the factors resulted in factors reflecting: Emotional Support, Physical Intimacy, Instrumental Support, and Disengagement. Using the pattern matrix for interpretation, 11 items loaded on the first factor. The items loading on this factor related to provision of emotional support and included items related to listening, comforting, and providing attention to one's partner (Emotional Support; values ranged from .564 to .815). The second factor included 6 items related to sexual behaviors in the relationship (Physical Intimacy; values ranged from .480 to .854). Behaviors associated with instrumental support, such as preparing food or grocery shopping loaded on the third factor, which included 5 items (Instrumental Support; values ranged from .445 to .719). On the fourth factor, 6 items loaded that relate to ignoring or avoiding interaction with one's partner (Disengagement; values ranged from .411 to .660). Good internal consistency was found for Emotional Support (.86), Physical Intimacy (.87) and Instrumental Support (.80), and Disengagement had acceptable



internal consistency (.70). Table 2 provides the list of items, factor loadings, communalities, factor interpretations, and alpha reliabilities for each of the four item sets. Table 3 provides the factor correlations among the four factors.

Perception of Partner Four Factor Solution. In the Perception of Partner-Behavior four-factor solution, communality values ranged from  $h^2 = .211$  to  $h^2 = .738$  (see Table 4). A number of the factors correlated above .40, therefore, the oblique solution was chosen over the orthogonal rotation. The variance explained by the 4 factor solution was 38% and the 4 factors individually accounted for 19.49%, 7.31%, 6.05%, and 4.72% of the variance. Using a cutoff of .40 for inclusion of a variable in interpretation of a factor, 14 of 49 items did not load on any factor. There were no items that loaded on multiple factors. Comparison of item loadings on the Perception of Self-Behavior and Partner-Behavior factor solutions revealed 7 items loading on the Partner-Behavior but not the Self-Behavior factors. After considering theoretical consistency and importance, these items were subsequently deleted to maintain symmetry in the final measure.

Analysis of the 28 remaining items that loaded on each of the factors resulted in factors reflecting: Emotional Support, Physical Intimacy, Instrumental Support, and Disengagement. Using the pattern matrix for interpretation, 11 items related to feeling comforted, attended to, and listened to by one's partner loaded on the first factor (Emotional Support; values ranged from .438 to .872). The second factor included 6 items related to sexual behaviors in the relationship (Physical Intimacy; values ranged from .678 to .852). Behaviors associated with instrumental support, such as preparing food or grocery shopping loaded on the third factor, which included 5 items (Instrumental Support; values ranged from .453 to .737). On the fourth factor, 6 items loaded that relate to feeling ignored or rejected by one's partner (Disengagement; values ranged

from .458 to .764). Internal consistency was excellent for Physical Intimacy (.91), good for Emotional Support (.88) and Instrumental Support (.80), and acceptable for Disengagement (.76). Table 4 provides the names of items, factor loadings, communalities, factor interpretations, and alpha reliabilities for each of the four item sets. Table 3 provides the factor correlations among the four factors.

### Gender Effects

Due to the interdependence of the data, paired-samples *t*-tests were used to compare means for men and women on the SOC-R scales. The 4 lesbian couples were not included in the analyses of gender differences ( $N = 184$ ). Only significant results are discussed below and remaining data are presented in Table 5.

On the SOC-R Perception of Self-Behavior scales, women ( $M = 1.92, SD = 1.32$ ) reported engaging in fewer sexually intimate behaviors than men ( $M = 2.27, SD = 1.29$ ) on the Sexual Intimacy Scale  $t(91) = 2.37, p < .05$ . Similarly, on the Disengagement Scale women ( $M = 0.74, SD = .88$ ) also reported fewer behaviors than men ( $M = 1.06, SD = 0.84$ ),  $t(91) = 2.94, p < .01$ . Women ( $M = 2.01, SD = 1.40$ ) reported provision of more instrumental support than men ( $M = 1.61, SD = 1.35$ ) on the Instrumental Support Scale  $t(91) = 2.35, p < .05$ .

On the SOC-R Perception of Partner-Behavior scales, women ( $M = 2.32, SD = 1.43$ ) reported their husbands engaged in more behaviors on the Sexual Intimacy Scale than men ( $M = 1.93, SD = 1.53$ ) reported of their wives  $t(91) = 2.57, p < .05$ . On the Instrumental Support Scale, women ( $M = 1.17, SD = 1.12$ ) reported receiving support from their partners at a lower frequency than men ( $M = 1.70, SD = 1.11$ ),  $t(91) = 3.23, p < .01$ .

## Relationship of SOC-R with Other Measures

Pearson product-moment correlations comparing the SOC-R factors to scales of the DAS (Dyadic Consensus, Dyadic Satisfaction, Dyadic Cohesion, Affectional Expression, and Total Adjustment) and the ECR (Attachment Anxiety and Attachment Avoidance) are presented in Table 6. Due to the interdependence of the data, as well as expected differences for men and women, correlations were calculated separately for husbands and wives and the same-sex couples were not included in this analysis ( $N = 184$ ).

Among men, most correlations were significant and in the expected direction. Total Dyadic Adjustment was strongly correlated with 7 of the 8 overall SOC-R scales. Both the Perception of Self-Emotional Support and Perception of Partner-Emotional Support as well as Self and Partner Physical Intimacy Scales were positively correlated with Dyadic Adjustment. The Perception of Self-Disengagement and Partner-Disengagement scales were negatively correlated with overall Dyadic Adjustment. The main exception was the Perception of Self-Instrumental Support Scale, which showed only one significant positive correlation with DAS Cohesion. On the other hand, Cohesion was unrelated to both Perception of Self-Disengagement and Partner-Disengagement. Also the correlation between DAS Affectional Expression and Perception of Self-Emotional Support was non-significant. Among women, similar findings were expected, but fewer significant correlations were found. Aside from a negative correlation with Perception of Partner-Disengagement, Total Dyadic Adjustment was not related to the SOC-R scales. Similarly, Dyadic Consensus was not significantly correlated with the new SOC-R scales. As expected, both the Perception of Self-Physical Intimacy and Perception of Partner-Physical Intimacy Scale were positively correlated with DAS Affectional Expression. Similarly, Affectional Expression was positively correlated with Perception of Partner-Emotional Support

and negatively correlated with Perception of Partner-Disengagement. The SOC-R scales of Perception of Self-Emotional Support and Partner-Emotional Support as well as Physical Intimacy were positively correlated with DAS Cohesion.

Contrary to expected findings, many of the SOC-R scales did not significantly correlate with the ECR scales of Anxiety and Avoidance. For men, with the exception of a significant correlation between Perception of Self Instrumental Support with Attachment Anxiety and a significant correlation of Perception of Partner Disengagement with Attachment Anxiety, the SOC-R scales did not correlate with either Attachment Anxiety or Attachment Avoidance. In women both Attachment Anxiety and Attachment Avoidance were positively correlated with Perception of Self Disengagement. Attachment Anxiety was also negatively correlated with Perception of Partner Physical Intimacy and positively correlated with Perception of Partner Disengagement.

## Discussion

This study had two primary goals. The first was to determine the underlying factor structure of the SOC-R and identify scale components needing further development in subsequent reiterations so that confirmatory factor analysis could be conducted. Initially, a 4-factor solution was predicted using attachment theory as the organizing framework. Items were selected that reflected both pleasing and displeasing behaviors associated with attachment (support seeking, independent exploration, caregiving [provision of support], and sex [initiating and participating in sexual acts]). Separate factor analyses were run and compared for the Perception of Self-Behavior and Perception of Partner-Behavior items and for both measures the 4-factor model was selected as the best fit considering empirical data and theoretical relevance of the models.

Although exploratory in nature, this study used attachment theory as an organizational framework to provide a theoretical basis for the reiterative process of EFA. The final measure was informed by attachment theory, but the factor structure was not constrained by the theory. This was beneficial in the current study because analysis of correlations among variables in the factor analysis revealed a simple factor structure that “makes sense”, criteria Tabachnick and Fidell (2007) identify as a marker of a good factor analysis (p. 608). Overall, the alpha reliabilities of the scales are acceptable to high, suggesting the scale consistency within the current sample. Results from the current study provide initial support for validity of the SOC-R and Confirmatory Factor Analysis on a new sample will further support use of the SOC-R as a valuable new tool to assess perception of behaviors in the marital relationship.

The 4-factor model originally hypothesized differed in structure from the four factors that emerged in this study. Rather than groupings of behaviors reflecting positive and negative behaviors occurring on each scale, pleasing behaviors loaded on the first three scales and the more displeasing behaviors loaded together on the fourth factor. Although a different structure than initially expected, the final scales retained reflect important aspects of a marital relationship. Items thought to reflect caregiving were distinguished as emotional and instrumental support. Congruent with the original hypothesis, a scale measuring sex within the marital relationship emerged and measures behaviors related to initiating and engaging in sex.

Inconsistent with the original hypothesis, behaviors associated with independent exploration emerged as a separate factor in the Perception of Partner-Behavior scales, but not for Perception of Self-Behavior. Although this scale was not retained in order to maintain a symmetrical measure, this finding suggests behaviors associated with independent exploration correlated in a meaningful way for spouses’ perception of their partner but not in their perception

of self. Interestingly, the fifth factor for the Perception of Self-Behavior included items that involving harsh rejection of the partner. In addition to considering the low alpha reliability of the scale and symmetry of the final measure, these items were seen as less relevant for a measure of perception of behavior because they appeared to relate to an inner emotional state, such as anger or frustration with one's partner leading to intentional rejecting behaviors. Less severe displeasing behaviors clustered to form the fourth scale, Disengagement, which appears less likely to be conflated with an internal affective state.

The second goal was to examine the emerging scales of the SOC-R in relation to other well-known instruments to place the SOC-R in a nomological network. Consistent with theoretical predictions, many significant correlations in the expected directions emerged between the DAS and SOC-R scales. The consistency between theoretical predictions and the SOC-R correlations with the DAS and ECR provides support for the validity of the newly developed SOC-R scales.

Interestingly, behaviors assessed by the SOC-R were more closely related to men's overall report of dyadic adjustment than women's report. The patterns of correlations observed differed for men and for women. Almost every scale of the DAS was significantly related to the SOC-R for men, whereas only a few significant relationships emerged for women. In contrast, the pattern of correlations between the ECR and SOC-R showed more significant relationships for women than for men. This is consistent with previous research that documents differences in attachment styles for men and women, as well as the finding that different factors that contribute to marital satisfaction for men than for women (Ottu & Akpan, 2011). Overall, the relationships that emerged between the SOC-R and the DAS suggest the newly developed SOC-R is likely to

be an important tool in measuring and understanding behaviors in the marital relationship that contribute to various aspects of dyadic functioning, particularly in men.

For men, with the exception of Perception of Self Instrumental Support, Total Dyadic Adjustment was related to all of the SOC-R scales, providing strong support for the association between the SOC-R behaviors and reported marital adjustment. For women it appears that disengaging behaviors are more closely related to overall functioning in the relationship. Although there were significant correlations with many of the subscales, Total Dyadic Adjustment was only significantly (and negatively) correlated with Perception of Self-Disengagement and Perception of Partner-Disengagement.

At the subscale level, correlations between the DAS and SOC-R for men were more frequent than those for women. Although many differences existed, some similarities were also observed. For both men and women, higher reporting of behaviors on the Perception of Self and Partner Physical Intimacy scale was associated with higher satisfaction with the expression of affection and sex in the relationship as measured by the DAS Affectional Expression scale. This finding provided strong support for validity of the Physical Intimacy scale, which measures initiation and engagement in sexual behaviors. For men, higher Perception of Self and Partner Physical Intimacy was also associated with Dyadic Cohesion, Dyadic Satisfaction (only partner Physical Intimacy), Dyadic Consensus, and Total Dyadic Adjustment. In fact, the strongest correlation of Total Dyadic Adjustment for men was with the Perception of Self and Partner Physical Intimacy scales on the SOC-R. This is also consistent with Hook, Gerstein, Deterich and Gridley's (2003) finding that sex is particularly important for male's perception of marital adjustment. For women, Perception of Self and Partner Physical Intimacy was also related with

Dyadic Cohesion, suggesting that more acts of physical intimacy within the relationship is associated with women's assessment of common interests and activities shared by the couple.

Many of the correlations observed provided support for validity of the Disengagement scale. For example, Perception of Self and Perception of Partner Disengagement was negatively correlated with Affectional Expression among both men and women, suggesting behaviors that create distance within the relationships coincide with reduced satisfaction with the expression of affection and sex in the relationship. Disengagement was also related to the amount of tension in the relationship, such that men and women experienced higher self and partner acts of disengagement when they reported more tension and less commitment to continuance of the marital relationship. For men, Perception of Self and Perception of Partner Disengagement was negatively correlated with Dyadic Consensus, suggesting that men experienced lower levels of agreement on important relationship matters when there were higher levels of self and partner disengagement behaviors.

An interesting gender-specific pattern emerged in the correlations between the DAS scales and the SOC-R scales of Perception of Self and Partner Instrumental Support, as well as the Perception of Self and Partner Emotional Support. For men, Perception of Partner Instrumental Support was correlated with all of the DAS scales and Perception of Partner Emotional Support was correlated with all but one of the DAS scales. In contrast, there were fewer significant correlations between the DAS and men's Perception of Self Instrumental Support and Perception of Self Emotional Support. Only Dyadic Cohesion was positively related to both Self Support scales, and men's Perception of Self Emotional Support was also positively associated with DAS Consensus and Total Adjustment. Although men reported that these supportive behaviors in their partner are associated with the quality of the marital relationship,



their own engagement in these behaviors appeared to be less salient to their view of marital functioning. However, findings do suggest that men's ability to provide their partners with emotional support increases with shared activities and decreases when marital conflict is present. Similar to men, significant correlations emerged between DAS Dyadic Cohesion and the SOC-R Perception of Self Emotional Support and Partner Emotional Support, which suggests that mutual emotional support is important to women's experience of closeness in their marriage. However, there were no other significant correlations between the DAS and the SOC-R Self and Partner Scales for Emotional Support and Instrumental Support among women. Overall, higher levels of provision and receipt of emotional support was related to men and women's sense of greater marital cohesion. In addition, provision of instrumental support was mostly unrelated to dyadic adjustment for both husbands and wives. However, men's receipt of instrumental support from their partners was significantly related to better functioning on every aspect of marital adjustment. The same was not true for women. This latter finding is consistent with more traditional gender roles of Western society, which assigns instrumental household tasks, such as shopping and food preparation to women, but does not impose the same expectations in men (Feeney, 1999).

In terms of the ECR and SOC-R associations, women high in attachment avoidance reported more behaviors on the Disengagement scales. This finding fits with theoretical predictions that individuals high in attachment avoidance are more likely to disengage from their relationships or minimize their attachment needs. The lack of association between women's attachment avoidance and Perception of Partner Disengagement suggests that the disengaging behaviors are likely related to an aspect of the individual, rather than of the relationship or that avoidant women tend to marry men who intentionally engage their partner in order to maintain

the pair-bond. The latter is consistent with previous research indicating that a common dyadic configuration consists of one avoidant partner and one anxious partner (Kirkpatrick & Davis, 1994), who may be attracted to one another because each fulfills the relationship expectations of the other. However, it is also possible that the avoidant women consciously perform acts of disengagement, but are less attuned to their partner's disengaging behaviors.

Similarly, there was a positive association between attachment anxiety with Perception of Self Disengagement for women and Partner Disengagement for both women and men.

Consistent with attachment theory, people higher in attachment anxiety often interpret their partner's behaviors as distancing and even rejecting at times. On the other hand, it is puzzling that women's attachment anxiety was related to greater Perception of Self Disengagement. It is possible that women high in attachment anxiety either disengage when angry or after seeking support and feeling rejected. Alternatively, they may perceive themselves performing disengaging behaviors because they feel a sense of distance from their partner they cannot understand. Consistent with this explanation, women high in attachment anxiety also viewed their partners as engaging in fewer behaviors associated with expression of Physical Intimacy.

The same pattern of results was not found in men. Contrary with the initial predictions, attachment style was minimally correlated with the scales of the SOC-R in males. Aside from the relationship between attachment anxiety and Perception of Partner Disengagement, men's SOC-R factors did not correlate with their ECR ratings. When compared with the results obtained for women, it is particularly surprising that a correlation between Perception of Self-Disengagement and Attachment Avoidance was not observed. Perhaps lack of insight into one's attachment behaviors impacted the self-report results.

Overall, there were fewer associations between the SOC-R and attachment scales than predicted. Although some correlations were found that fit with the expected outcomes, it is possible that characteristics of the sample impacted the way the SOC-R related to the ECR. Specifically, the sample was high functioning and on the average reported low levels of attachment anxiety and attachment avoidance. As a result, the sample may have lacked sufficient variance in attachment dimensions to detect relationships among the SOC-R scales and the ECR.

Perception of Self and Partner Instrumental Support was not significantly correlated with the ECR for men or women, which suggests the provision of instrumental support is not associated with attachment style. This scale was only associated with men's perception of dyadic adjustment and should be further examined for validity in Confirmatory Factor Analysis.

Interestingly, correlations were more frequent between the DAS and SOC-R for men and more frequent between the ECR and SOC-R for women. Many of the behaviors assessed by the SOC-R were associated with men's report of Dyadic Adjustment. Consistent with previous research, behaviors in the relationship associated with sex and receipt of support are associated with men's reported satisfaction (Ottu & Akpan, 2011). The SOC-R is a measure of behavioral perception, suggesting that individual factors are likely to influence one's self-report. It appears that different factors influence the pattern of reporting by men and women, such that frequency of marital behaviors was associated with dyadic adjustment for men, but not for women. Although the true nature of these differences is not understood, a few possibilities are presented that may be investigated in future work. Perhaps women's perception of behavior is more related to attachment style because women are more likely self-reflect, or attribute qualities of the marriage to individual factors rather than only limitations of their partner or the relationship itself. Many of the correlations for women were observed in both the self and partner report,

suggesting an emphasis on mutuality or reciprocal behavior. Conversely, for men there were many more links between the DAS and their perception of partner behavior than perception of self-behavior. Men appeared more likely than women to consider relationship qualities as stemming from aspects of their partner, rather than engaging in self-reflection. Different attributions (internal versus external) would explain the diverging pattern observed among men and women because women may be more attuned to internal factors, such as attachment emotions and fear, and men may be more attuned to external, more observable factors, such as their partners' behaviors.

Another potential explanation is that the gender stereotypes of Western society influence the expectations men and women have of their own and their partner's behavior. Although gender roles are changing in modern times, evolutionary and historical roles of males and females are highly embedded in Western culture. In fact, Michelson, Caffey, and Williams (2006) suggested that the relationship between emotional and instrumental support differs both between and within gender, such that whether one was classified as "traditional" or "egalitarian" in regards to gender role influenced the relationship between emotional spousal support and marital quality.

Evidence of gender differences suggests that men and women demonstrated certain behaviors in the marital relationship to a different extent. For example, women reported engaging in fewer behaviors associated with physical intimacy, and reported being less disengaged than men did. Wives reported providing more instrumental support to their husbands, who in turn reported receiving more instrumental support from their wives. This fits with the idea that men and women engage in different behaviors based on previous expectations or gender socialization. Consistent with Ottu and Akapn (2011), men place more emphasis on physical

expression of love whereas women value emotional support or expression of intimacy outside of sex. The differences in frequency of behaviors reported fits with a more traditional gender role division in the relationship rather than an egalitarian division.

As a sample drawn from in the southern United States, one may hypothesize a high portion of traditional gender roles (Carter, 1999). It is possible that many of the behaviors measured by the SOC-R are related to dyadic adjustment for males because they align with traditionally feminine behaviors in a relationship. This would suggest that men expect a certain degree of emotional support, physical support, and physical intimacy from a wife than women do from a husband. Future work could clarify the nature of these gender differences by expanding the diversity of the population under investigation.

Several caveats regarding the present study should be mentioned. This study involves secondary analysis of data previously collected as part of a larger study. Consequently the sample was not large enough to split in order to conduct both exploratory and confirmatory factor analysis (CFA) for further validation of the measure. The measures included in the study were self-report measures and subject to the limitations of individual's ability to accurately report on their behavior and internal experience. A major strength of the current study is the community population of married individuals used for the initial validation of this measure. Many measurement development studies rely upon convenience samples due to the need for a large sample and the demands of collecting data within the general population. However, the sample is not representative of the adult U.S. population and would benefit from replication with other samples. As a middle-class community sample, the participants were relatively high functioning, particularly in self-reported attachment style. Lower levels of insecure strategies and

a lack of variance may explain the mostly non-significant correlations between the SOC-R and ECR.

Although the current study found support for validity of the SOC-R, CFA on a new sample is strongly encouraged to address some of the limitations. The SOC-R appears to be a useful tool for understanding how individuals view their own and their partner's behaviors in a romantic relationship. O'Conner and Byrne (2007) noted that the emphasis of most measures of attachment is on the individual, rather than the relationship. Symmetry of measurement in the SOC-R provides an opportunity to investigate the perceived behaviors at both the individual and relationship level through comparison of self and partner reports of each member in the relationship. Additionally, many measures of marital satisfaction operate at the attitude, belief, or emotional level. The SOC-R provides an alternate means of measuring perception of a relationship at the behavioral level. The final model retained in this study lends flexibility to future work. The SOC-R can be used as a 4-scale Perception of Self Measure, or the complimentary Perception of Partner items can be included to create symmetry in measurement and provide multiple points for comparison. Future work must validate the factor structure using Confirmatory Factor Analysis with a new sample. A more thorough investigation of the gender differences observed in this study would contribute to better understanding of the different factors that contribute to reports of marital satisfaction by men and women. To address the association between attachment and the SOC-R scales, it would be helpful to clarify the nature of the relationship between the SOC-R and attachment in a sample with increased variability in attachment dimensions. Finally, to understand the nature of the different perceptions reported by men and women, a mixed-method study comparing observational data and couple's perception

of marital behaviors could shed light into the different ways individual factors influence self-report.

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Table 1

*Comparison of Heterosexual and Lesbian Couples on DAS and ECR Scales*

	Sexual Orientation		<i>T</i>	<i>Df</i>
	Heterosexual <i>N</i> = 92	Lesbian <i>N</i> = 4		
Dyadic Cohesion	17.60 (3.01)	18.00 (1.41)	0.26	94
Affectional Expression	8.79 (2.00)	9.75 (1.71)	0.94	94
Dyadic Satisfaction	42.06 (3.80)	40.33 (1.53)	0.78	94
Dyadic Consensus	51.45 (6.44)	50.25 (2.87)	0.37	94
Total Dyadic Adjustment	119.57 (12.13)	118.33 (6.66)	0.18	94
Attachment Avoidance	2.07 (0.82)	2.19 (0.68)	0.29	94
Attachment Anxiety	2.81 (1.01)	2.74 (0.74)	0.15	94

*Note.* \* =  $p < .05$ . Standard deviations appear in parentheses below means.

Table 2

*Four Factor Perception of Self-Behavior Exploratory Factor Analysis of SOC-R: Factor Names, Factor Loadings, Communalities ( $h^2$ ) and Alpha Reliabilities ( $\alpha$ )*

Item	Emotional Support $\alpha = .86$	Physical Intimacy $\alpha = .87$	Instrumental Support $\alpha = .80$	Disengagement $\alpha = .70$	$h^2$
I comforted my spouse when s/he was upset	.663				.632
I did not pay attention when my spouse was talking about something				.660	.509
I made lunch for my spouse			.719		.533
When I went to the store, I asked my spouse if s/he needed something			.471		.337
I caressed my spouse	.564				.342
I listened to my spouse's problems	.747				.521
I refused to talk about a problem that my spouse and I share				.468	.293
We engaged in sexual intercourse		.854			.676
I petted or initiated other sex play with my spouse		.622			.474
I initiated sexual advances		.480			.472
I talked to my spouse when s/he asked for some attention	.566				.394
I complied in a friendly manner to a request	.815				.588
I tried to cheer my spouse up	.650				.506
I comforted my spouse when s/he was upset	.620				.541
I engaged in sexual behaviors I know my spouse especially likes		.802			.624
I acted like I did not respect my spouse's opinion				.411	.160
I made breakfast for my spouse			.597		.355
I hugged my spouse passionately	.601				.459
I read the paper or watched TV when my spouse talked to me				.541	.261
* I said that I wanted to spend a period of time by myself				.496	.278
I was sexually responsive to my spouse		.723			.475

*(table continues)*

Table 2 (*continued*)

Item	Emotional Support $\alpha = .85$	Physical Intimacy $\alpha = .865$	Instrumental Support $\alpha = .801$	Disengagement $\alpha = .696$	$h^2$
I asked my spouse about his or her feelings	.565				.405
I ignored my spouse when my spouse asked me for some attention				.537	.324
I prepared a favorite food for my spouse			.718		.482
I did not give my spouse the attention s/he asked for				.585	.371
I let my spouse know that I enjoyed sexual intercourse with him or her		.833			.706
* I brought my spouse a cup of coffee, tea, etc.			.445		.354
I showed particular interest in what my spouse said by asking relevant questions	.688				.482
I showed my spouse I was glad to see him or her	.730				.543
I prepared a snack for my spouse			.598		.529

Note – Starred items were deleted to maintain symmetry between the self and partner report measures.

Table 3

*Factor Correlations in Four-Factor Model of SOC-R Perception of Self and Partner*

Perception of Self Factor	Emotional Support	Physical Intimacy	Instrumental Support	Disengagement
Emotional Support	1.00	.357	.395	.322
Physical Intimacy		1.00	.147	-.042
Instrumental Support			1.00	.140
Disengagement				1.00

  

Perception of Partner Factor	Emotional Support	Physical Intimacy	Instrumental Support	Disengagement
Emotional Support	1.00	.428	.361	-.134
Physical Intimacy		1.00	.228	-.139
Instrumental Support			1.00	-.081
Disengagement				1.00



Table 4

*Four-Factor Perception of Partner-Behavior Exploratory Factor Analysis of SOC-R: Factor Names, Factor Loadings, Communalities ( $h^2$ ) and Alpha Reliabilities ( $\alpha$ )*

Item	Emotional Support $\alpha = .88$	Physical Intimacy $\alpha = .91$	Instrumental Support $\alpha = .80$	Disengagement $\alpha = .76$	$h^2$
My spouse comforted me when I was upset	.753				.554
My spouse did not pay attention when I was talking about something				.559	.367
My spouse made lunch for me			.516		.314
When my spouse went to the store, s/he asked if I needed anything			.720		.509
My spouse caressed me	.501				.401
* My spouse actively supported an independent activity of mine	.410				.211
My spouse listened to my problems	.777				.546
My spouse refused to talk about a problem that s/he and I share				.458	.234
* My spouse ran an errand for me			.519		.365
We engaged in sexual intercourse		.750			.556
My spouse petted and initiated other sex play with me		.852			.738
My spouse initiated sexual intercourse		.787			.606
* My spouse bought an item especially for me			.559		.386
My spouse talked to me when I asked for some attention	.765				.578
My spouse complied in a friendly manner to a request	.438				.260
My spouse tried to cheer me up	.782				.576
* My spouse refused to listen to my feelings				.554	.321

*(table continues)*

Table 4 (continued)

Item	Emotional Support $\alpha = .875$	Physical Intimacy $\alpha = .910$	Instrumental Support $\alpha = .816$	Disengagement $\alpha = .712$	$h^2$
My spouse comforted me when I was upset	.872				.685
My spouse engaged in sexual behaviors s/he knows I especially enjoy		.678			.595
My spouse acted like s/he did not respect my Opinion				.609	.407
My spouse made breakfast for me			.453		.224
My spouse hugged me passionately	.641				.567
My spouse read the newspaper or watched TV when I talked to him or her				.608	.377
My spouse was sexually responsive to me		.820			.683
My spouse asked about my feelings	.525				.431
* My spouse lectured rather than listened to me				.536	.330
My spouse ignored me when I asked for some Attention				.764	.641
My spouse prepared a favorite food for me			.737		.581
My spouse did not give me the attention I asked for				.727	.553
My spouse let me know when s/he enjoyed sexual intercourse with me		.801			.676
* My spouse responded favorably to my desire for a time out without him or her	.402				.235
* My spouse did one of my chores as a favor to me				.438	.346
My spouse showed particular interest in what I said by asking relevant questions	.587				.459
My spouse showed me s/he was glad to see me	.597				.517
My spouse prepared a snack for me			.555		.391

Note – Starred (\*) items were deleted to maintain symmetry between the self and partner report measures

Table 5

*Paired-Samples t-Test for Husbands and Wives*

	Gender		<i>t</i>	<i>df</i>
	Men <i>N</i> = 92	Women <i>N</i> = 92		
Self Emotional Support	4.52 (2.87)	4.56 (2.30)	0.10	91
Self Sexual Intimacy	2.27 (1.29)	1.92 (1.32)	2.37*	91
Self Instrumental Support	1.61 (1.35)	2.01 (1.40)	2.35*	91
Self Disengagement	1.06 (0.84)	0.74 (0.88)	2.94**	91
Partner Emotional Support	3.45 (2.19)	3.85 (2.09)	1.44	91
Partner Sexual Intimacy	1.93 (1.53)	2.32 (1.43)	2.57*	91
Partner Instrumental Support	1.70 (1.11)	1.17 (1.12)	3.23**	91
Partner Disengagement	0.78 (0.75)	0.85 (0.75)	0.63	91

*Note.* \* =  $p < .05$ , \*\* =  $p < .001$ . Standard Deviations appear in parentheses below means.

Table 6

*One-tailed Pearson's Product Moment Correlations of SOC-R with DAS and ECR for Husbands and Wives*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) Dyadic Cohesion	--	.44**	.42**	.39**	.67**	-.22*	-.38**	.23*	.28**	.16	-.02	.25*	.36**	.13	-.01
(2) Affectional Expression	.31**	--	.49**	.37**	.63**	.36**	-.30**	.00	.33**	.10	-.21*	.13	.32**	.05	-.22*
(3) Dyadic Satisfaction	.35**	.53**	--	.44**	.77**	-.44**	-.45**	.15	.07	.10	-.31**	.21	.19	-.04	-.36**
(4) Dyadic Consensus	.47**	.54**	.57**	--	.44**	-.25**	-.34**	-.18	-.01	-.08	-.14	-.07	-.02	-.01	-.18
(5) Total Dyadic Adjustment	.66**	.70**	.79**	.91**	--	-.37**	-.48**	-.01	-.05	.07	-.20*	.13	.18	.01	-.24*
(6) Attachment Avoidance	-.24*	-.20	-.43**	-.39**	-.43**	--	-.33**	.03	.02	-.11	.30**	-.02	-.05	.01	.06
(7) Attachment Anxiety	-.02	-.05	-.19	-.18	-.15	.27**	--	-.01	-.06	-.08	.22*	-.08	-.24*	-.01	.35**
(8) Self Emotional Support	.35**	.03	.13	.24**	.27**	-.11	.12	--	.51**	.37**	.03	.77**	.49**	.32**	.07
(9) Self Physical Intimacy	.27**	.36**	.15	.40**	.40**	-.14	-.08	.35**	--	.16	.04	.57**	.79**	.38**	-.04
(10) Self Instrumental Support	.21*	.02	-.04	.14	.15	.03	.18	.51**	.25*	--	.06	.44**	.26*	.23*	.04
(11) Self Disengagement	-.10	-.21*	-.22*	-.24**	-.25*	.18	.15	.35**	-.02	.25*	--	.02	-.08	.19	.25*
(12) Partner Emotional Support	.37**	.20	.29**	.23*	.35**	-.12	.07	.84**	.29**	.43**	.20	--	.60**	.54**	-.03
(13) Partner Physical Intimacy	.29**	.44**	.28**	.28**	.38**	-.13	-.13	.17	.66**	.12	-.22*	.29**	--	.26**	.09
(14) Partner Instrumental Support	.27**	.22*	.23*	.28**	.32**	-.09	-.07	.31**	.35**	.33**	-.02	.44**	.33**	--	.06
(15) Partner Disengagement	-.07	-.30**	-.43**	-.26*	-.32**	.10	.25*	.06	-.06	.22*	.29**	-.06	-.02	.01	--

\*  $P < .05$  \*\*  $p < .01$  Note: Correlations for men are presented on the lower diagonal; correlations for wives are presented on the upper diagonal

APPENDIX A  
EXTENDED LITERATURE REVIEW

In 1974, Wills, Weiss and Patterson developed the Spouse Observation Checklist (SOC), a semi-observational questionnaire to assess specific behaviors in the marital relationship. The SOC represents one of the earliest attempts to define and quantify, or observe specific behaviors in marital relationships. The original goal of the SOC was to obtain observational data from relationship partners, who were asked to record their spouse's pleasing and non-pleasing behaviors (Wills et al., 1974). In 1998, Creath, Campbell, Dougherty, Utermark, Raiff, and Drake revised the original SOC using attachment theory as an organizational framework. The proposed study will investigate the factor structure and validity of the revised SOC (SOC-R). The following chapter includes representative findings of the SOC, a review of attachment theory and how it relates to behavior in romantic relationships, as well as a description of the proposed study.

#### Representative Findings Exploring the SOC

Researchers were initially enthusiastic about the potential for an easier means of gathering objective behavioral data. Previous studies investigated the SOC as a quasi-observational measure of behavior within a romantic relationship and studies used partner's agreement as an indication of validity of the measure (Christensen & Nies, 1980; Elwood & Jacobson, 1982). As an assessment of behavior of spouses in their natural environment, validity of the SOC as a behavioral measure depended upon accuracy of spouses' ability to accurately observe and report their own and their partner's behavior. Consensus between spouses was consistently low with an agreement rate of approximately 50% for volunteer couples (Jacobson & Moore, 1981) and 38.6% for clinical couples (Elwood & Jacobson, 1982). When findings revealed a lack of agreement between partners, researchers concluded that the SOC was not an accurate objective report of behavior within relationships (Christensen & Nies, 1980; Elwood &

Jacobson, 1982). However, the SOC did accurately distinguish pleasing and nonpleasing behaviors (Christensen & Nies, 1980) and differentiate distressed and nondistressed couples (Barnett & Nitzel, 1979).

While the majority of studies found the overall level of agreement rates too low for use as an observational measure, variability in spouses' accuracy was found on different types of items. Jacobson and Moore (1981) found couples were more likely to agree on items that required less inference on part of the observing spouse. For example, concordance rates were higher on items measuring discrete behaviors, such as "we took a walk" as opposed to items requiring inference, such as "spouse confided in me." However, the authors suggested, "inferential items may be very important in a marital relationship, and eliminating them simply to improve reliability may be self-defeating" (Jacobson & Moore, p. 275).

Floyd and Markman (1983) found that although partners' report of their spouse's behavior was not consistent with the spouse's self-report, it was consistent with the outside observers ratings of the spouses' behavior. However, other attempts to combine the SOC reports with laboratory observations found low agreement between individuals and trained raters (Royce & Weiss, 1975). Royce and Weiss (1975) suggested trained and untrained observers often focus on different aspects of interaction than the couples do. Furthermore, although even untrained observers can identify distressed and nondistressed couples, they do so with low reliability. Outside observers may attend more to negative aspects of interactions and are less likely to agree with ratings made by members within the couple on the frequency of positive interactions that occur within the couple's interaction (Robinson & Price, 1980).

Vega and O'Leary (2007) argued, "inter-rater correlations may not be a fair assessment of reliability due to different motivations affecting self-report versus report of partner behavior"

(p. 704). Social desirability may be considered an artifact of self-observation due to its potential to impact self-reporting of behavior, but not reporting of partner behavior. Although the SOC was originally intended to assess behavior independently of observer biases, an individual's self-report of his or her own behavior is influenced by different subjective biases than biases that affect observation of partner's behavior.

One should also consider the difference of context for outside observers compared to the individuals within the couple. The couple's history of the relationship is confounded with the couple's report of behaviors, but not with an outside observer's report. Duck (2002) emphasized that context guides interpretation of messages, so the sequence of events leading up to an interaction may be important history missed by an outside observer. There are further limitations to considering the difference between self and outsider ratings of behavior as the sole determinant of validity. Due to the fact that the actual frequency of behaviors is not known, there is no "gold standard" against which to compare couples' responses to demonstrate validity (Vega & O'Leary, 2007).

Research conducted after development of the SOC can be used to inform appropriate use of the measure. Brewer (1994) suggested that individuals rely upon heuristics (i.e., basing reports on knowledge about effects) to report their cumulative behavior over a specified period of time. It is possible that individuals asked to report behaviors or events that occur in the course of a week will be more likely to rely upon a heuristic than those filling the measure out more frequently. The SOC can be used as a daily measure, which reduces the potential confounds that occur during collection of self-report data all at one point in time. For example, while one would expect moment to moment happiness or fluctuations in behavior to vary daily, social desirability is likely more static and less likely to co-vary. Almeida, Wethington and Chandler (1999)



suggested that daily measures of social experiences and well-being tend to be more accurate than retrospective questionnaires.

Further criticism of the SOC focused on the length and complexity of the measure. In a study investigating readability of marital assessment measures used by behavioral marriage therapists, Dentch, O'Farrell, and Cutter (1980) suggested the SOC was a complex measure that would benefit from being shortened to reduce complexity. The original SOC measure included assessment of many behaviors believed to be important in a romantic relationship, but lacked an underlying theory to organize the focal domains of behavior.

While the SOC may not be a reliable quasi-observational measure of actual spouse behavior, the potential benefit of the SOC as a measure of the respondent's perception regarding their own and their partners' behaviors within the relationship appears to have been overlooked. Rather than interpreting disagreement between spouses as invalidating the accuracy of reported behavior, it may be more important to try to understand different perceptions of self and partner within a relationship. "The phenomenology of married couples, their perceptions, appraisals, and beliefs regarding the relationship constitute important sources for assessment data and should not be discarded" (Jacobson & Moore, 1981, p. 275). Studies investigating the SOC as a quasi-observational measure confounded reliability and validity data to ensure accuracy of observation; however, this would not be appropriate for use of the SOC as a self-report measure.

Segrin, Hanzal, and Domschke (2009) compared two competing models to investigate the importance of spouse's consistency of perception in relation to marital satisfaction. First, the behavioral model suggests that spouses who report their partners' behavior more similarly to the partner's self-report, regardless of positive or negative intention, are more likely to be satisfied in the marital relationship. Second, the benevolent perception model suggests that benevolent

perceptions, even when objectively inconsistent, are more important than reporting accuracy in determining marital satisfaction. The behavioral model was not supported. That is, the consistency of one partner's report with the spouses' self-report was not found to be an important predictor of marital satisfaction. Segrin et al. found that positively toned perceptions were more important than consistency of the partners' reports in predicting marital satisfaction, supporting the benevolent perception model.

With a shift in thinking from attempting to validate the SOC as a quasi-observational measure to its use as a measure of respondents' perception of behaviors, many of the criticisms of the SOC are naturally addressed. Comparison of participants' reported SOC data with laboratory observations of couple interactions completed by trained behavioral observers was discrepant (Royce & Weiss, 1975). In particular, distressed couples were less likely to agree with outside observer's ratings than non-distressed couples (Robinson & Price, 1980). However, use of the SOC as a measure of behavioral perception would focus less on the accuracy of the reported behavior itself and instead focus on the report of self and partner behavior as a means to understand the unique dynamics within the relationship. From this perspective, disagreement between couples indicates difference in their perception of the relationship, rather than lack of validity of observational reports. "The fact that two spouses living in the same environment perceive such different worlds suggests that in functional terms, spouses are operating in vastly different environments" (Jacobson & Moore, 1981). Thus, the symmetry in measurement of the SOC may be used as a tool towards understanding the differences in perceptions of members within a relationship.

Gottman and Notarius (2002) identified the need for a theoretical model to organize the complexity of patterns observed in spousal interactions. Additionally, the SOC has been

criticized for both its length and complexity. To address these concerns, Creath et al. (1998) used attachment theory to revise the original SOC. Attachment theory is one of the most studied and referenced theories in the developmental psychology literature and provides a framework from which one can understand couples' behavior in their romantic relationship.

### Attachment Theory

John Bowlby (1969, 1973) proposed that the attachment system is a biologically based behavioral system that evolved to enhance survival in infants and children. Infants exhibit attachment behaviors such as crying, reaching, or clinging to increase proximity to an attachment figure during times of distress and caregiver response to these behaviors contributes to the child's normal or abnormal development (Bowlby, 1973). Thus the caregiver serves as a "secure base" from which children explore when feeling safe and increase proximity when distressed. Bowlby attributed these changes in behavior to the deactivation of the attachment system when feeling safe and activation of the attachment system when distressed. The attachment behavioral system has two major components: monitoring and regulation of attachment behavior (Fraley & Shaver, 1999). An individual constantly monitors the environment for relevance to attachment related goals. For example, an individual attends to the physical or psychological proximity, availability, or responsiveness of an attachment figure. Secondly, an individual regulates his or her attachment behaviors in response to attachment related goals. For example, an individual may orient their behavior toward or away from their primary attachment figure (Pietromomaco & Feldman Barrett, 2000).

Based on both the quality and quantity of early parent-child interactions, children develop their views of self, other, and the world, which in turn influence their way of relating to others (Ainsworth, Blehar, Waters, & Wall, 1978). Attachment figures who are consistently available

more effectively promote their children's ability to regulate feelings of fear and anxiety than inconsistent or rejecting attachment figures (Bowlby, 1980). Over time, children begin to develop "internal working models," which are internal representations of their attachment figure, the environment, and self. These internal working models inform children's future interactions and perceptions in other attachment relationships throughout their lives (Dykas & Cassidy, 2011).

Ainsworth et al. (1978) contributed empirical support for Bowlby's emerging theory. Their empirical investigation of infant attachment behaviors utilized a laboratory procedure called the "Strange Situation," which heightened stress to elicit attachment behaviors by separating and reuniting infants from their mothers. In their observation of these episodes, Ainsworth and colleagues identified three categories of infant attachment behavior: Secure, ambivalent-resistant, and avoidant. Infants classified as *secure* comprised approximately 60% of the group. These infants were observed to explore the room while within their mother's presence and became distressed upon separation from their mother, but were quickly calmed when she returned. The *ambivalent-resistant* group of infants made up approximately 15% of the group and was observed to be "clingy" to their mothers when in the room together. They were highly distressed upon separation, which persisted longer following their mothers' return. The final 25% of the sample was labeled as *avoidant* because they were less likely to seek proximity to the caregivers, even after the mother returned to the room following the separation. Infant behaviors during the Strange Situation correlated with infant-caregiver interaction patterns at home. Secure infants had mothers who were consistently responsive and available to their infants, whereas anxious-ambivalent infants had intrusive or inconsistently available caregivers, and avoidant infants had unavailable or rejecting caregivers.

A fourth category of infant attachment was later added by Main and Solomon (1986), which was referred to as *disorganized*. These infants did not fit into the categories outlined by Ainsworth and colleagues, demonstrating disorientation and confusing attachment behavior at times, such as approaching a caregiver followed by sudden freezing, or avoidance (Lyons-Ruth & Jacobvitz, 1999). Frightened or frightening parenting behavior has been associated with infants' development of disorganized attachment (Owen & Cox, 1997).

#### Continuity of Attachment

Bowlby (1973) proposed that patterns of attachment arise from a mutually determined system and are maintained through an individual's internal working model. That is, throughout the lifespan, an individual's attachment system both influences and is influenced by that person's experiences in relationships. People rely upon previous experiences to guide their expectations of how others are likely to behave and feel about them and use these models to interpret the intentions or goals of their partners (Fraley & Shaver, 1999). At the theoretical level, working models are resistant to change because individuals assimilate new information into existing working models rather than accommodate information that conflicts with existing expectations (Fraley & Shaver). Research supports a certain degree of continuity of attachment organization through childhood, adolescence, and early adulthood (Collins et al., 2002; Hamilton, 2000).

Generally it is assumed that attachment remains stable over time. However, lawful discontinuity has also been demonstrated. For example, Hamilton (2000) showed that change in attachment classification between infancy and adolescence was significantly associated with negative life events. Changes in attachment may occur following a variety of stressful experiences, such as prolonged absence or death of a spouse, abuse, and family dysfunction.

## Adult Attachment

Attachment theory and research has been extended and applied to adult romantic relationships. Hazan and Shaver (1987) conceptualized adult romantic love as an attachment process and developed a self-report measure that classified adults into attachment categories. The three categories they proposed were parallel to Ainsworth's attachment styles: secure, anxious-ambivalent, and avoidant. The initial measurement of adult attachment was a questionnaire asking respondents to select one of three items that best described their attachment style. The questionnaire described secure individuals as people who find it relatively easy to get close to others and who are comfortable with others depending on them. They also do not worry often about being abandoned or about someone getting too close to them. Anxious individuals were described as individuals who find others reluctant to get as close as they would like. They often worry whether their partner really loves them or wants to stay with them and desire to "merge completely" with another person, which sometimes scares people away. Avoidant individuals are described as feeling uncomfortable being close to others and who have difficulty trusting people completely and depending on others. They may experience love partners as desiring more intimacy than they are comfortable with.

In addition to extending attachment categories to describe romantic love, Hazan and Shaver (1987) introduced a theoretical rationale for application of infant-caregiver attachment processes in adult relationships. First, they proposed adult attachment relationships are governed by the same behavioral system as infant-caregiver relationships. An attachment relationship is one in which the attachment behavioral system is active. Although attachment theory has been extended to understand romantic love, not all romantic partnerships are necessarily attachment relationships. Fraley and Shaver (2000) reviewed three components of that must be present to

classify a relationship as an attachment bond: (a) individuals rely upon their partner as a secure base and presence of their partner promotes feelings of confidence and security, (b) the relationship is characterized by proximity, or the degree to which an individual remains in close contact with the attachment figure, and (c) the attachment figure is used as a safe haven and relied upon for protection or support during times of danger, or illness.

Further advancement in measurement of adult attachment came from Bartholomew and Horowitz (1991), who proposed a four-category model of adult attachment. The four categories were created through dichotomization of Bowlby's internal models of self and others into positive and negative halves. Attachment styles depended on people's view of self as worthy of love in combination with their view of others as generally accessible and responsive to requests for support. The resulting quadrants were: secure, preoccupied, dismissive, and fearful.

Brennan, Clark, and Shaver (1998) examined the existing attachment measures and used an empirical approach to develop the Experiences in Close Relationships Scale (ECR). They examined 323 items related to romantic attachment taken from 14 different measures proposing to measure adult attachment. Factor analysis revealed a two-factor structure that measures attachment along two roughly orthogonal dimensions: attachment anxiety and attachment avoidance. The extent to which an individual worries whether a partner will be available and responsive determines their location on the attachment anxiety scale. Attachment anxiety results from inconsistent caregiving and the development of a negative model of self (Ainsworth et al., 1978). On the other hand, the degree of emotional distance from partners, efforts to maintain behavioral independence, and level of distrust of partners determine one's location on the attachment avoidance scale. Attachment avoidance stems from a consistently unavailable and rejecting attachment figure, which contributes to the development of a negative model of others

(Ainsworth et al.). Combinations of attachment anxiety and attachment avoidance can be used to identify the four attachment styles proposed by Bartholomew (1990). The dimensions of attachment anxiety and attachment avoidance can be understood as intersecting planes that create the four quadrants of Bartholomew's four category model, such that secure is characterized by low anxiety and low avoidance, preoccupied is characterized by high anxiety and low avoidance, dismissive is characterized by low anxiety and high avoidance, and fearful-avoidant is characterized by high anxiety and high avoidance. Using Item Response Theory to evaluate current measures of adult attachment, Fraley, Waller, and Brennan (2000) found the ECR had the best psychometric properties when compared to the Adult Attachment Scale (Collins & Read, 1990), Relationship Styles Questionnaire (Griffin & Bartholomew, 1994), and Simpson's (1990) attachment scales.

Secure individuals, who score low on both the attachment anxiety and attachment avoidance scales are more likely to demonstrate constructive and effective affect regulation strategies (Mikulincer, Shaver, Bar-On & Ein-Dor, 2010). Secure individuals rely upon primary behavioral strategies during times of distress to effectively seek protection and comfort (Main, 1990). Individuals with insecure attachment instead demonstrate secondary behavioral strategies: hyperactivation and deactivation (Main). Hyperactivation is a strategy adopted by individuals high in attachment anxiety and involves the maximization of attachment behaviors to gain attention and prevent abandonment by the attachment figure (Fraley & Shaver, 2000). Conversely, individuals high in attachment avoidance work to deactivate the attachment system by minimizing emotions and attachment behaviors (Fraley & Shaver, 1998).

Secondary behavior strategies are believed to be less effective than primary strategies to aid in coping with stress (Main, 1990). Individuals with secure attachment styles show less



physiological reactivity to negative affect than individuals with insecure attachment styles (Feeney & Kirkpatrick, 1996). Individuals high in attachment anxiety tend to be overwhelmed by negative emotions, whereas individuals high in attachment avoidance suppress negative emotions (Mikulincer & Orbach, 1995). This is consistent with the belief that individuals with insecure attachment lack skills for social functioning and thus demonstrate difficulty in regulation of affect (Mallinckrodt, 1992).

Bowlby's description of an attachment system that exists to regulate emotional state during periods of distress has led researchers to focus on the relationship between attachment insecurity and negative mental health outcomes. Studies have linked insecure attachment with both current depressive symptoms and future risk of depression in children (Abela, Hankin et al., 2005), adolescents (Allen, Porter, McFarland, McElhane, & Marsh, 2007), and adults (Enns, Cox, and Larsen, 2000). A wealth of research supports the association between attachment insecurity and negative emotional states or depression (Eberhart & Hammen, 2006; Allen et al., 2007; Rodin et al., 2007; Wei, Mallinckrodt, Larson, & Zakalik, 2005; Abela et al., 2005; Williams & Risking, 2004).

Individuals with secure attachment styles reported experiencing significantly higher positive affect experiences (Alford, Lyddon, & Schreiber, 2006). Mikulincer and Sheffi (2000) found that attachment style moderated the effects of positive affect on cognitive processes, whereby secure individuals demonstrated increased creativity with induction of positive affect. Individuals with high attachment anxiety demonstrated the opposite effect, supporting the notion that hyperactivation of the attachment system expends increased cognitive effort (Mikulincer & Sheffi). Individuals high in attachment avoidance demonstrate limited emotional awareness and avoid recognizing negative emotional content (Brennan & Shaver, 1995). Consistent with

deactivation, individuals with avoidant attachment demonstrated no difference in cognitive reactions to positive and neutral affective states (Mikulincer & Sheffi).

#### Attachment and Marital Functioning

Since Hazan and Shaver's (1987) extension of attachment theory to adult romantic relationships, attachment theory has become a major focus of couple and marital research. Attachment styles of romantic partners have been associated with reported marital satisfaction; such that secure attachment is positively correlated and insecure attachment is negatively correlated with relationship satisfaction (Hazan & Shaver, 1987; Collins & Read, 1990, Simpson, 1990).

Overall, Brock and Lawrence (2009) suggested that overprovision of partner support (receiving more support than desired) was a greater risk factor for marital dissolution than under provision (receiving less support than desired). Perception of the partner has also been related to overall marital satisfaction. Individuals who report higher marital satisfaction tend to perceive their partner in a more positive light (Srivastava, McGonigal, Richards, Butler, & Gross, 2006).

Attachment security of an individual has been associated with greater marital satisfaction of the individual, as well as greater satisfaction reported by their partner (Hirschberger, Srivastava, Marsh, Cowan & Cowan 2009). Women with preoccupied attachment styles showed declines in marital satisfaction with lower levels of perceived spousal support (Simpson & Rholes, 2002). In addition to higher relationship satisfaction, securely attached individuals tend to have higher relationship expectations (Collins, 1996) and more positive beliefs about romantic love (Hazan & Shaver, 1994).

Research suggests attachment orientation and marital satisfaction are related constructs, though not redundant. In one recent longitudinal study, marital satisfaction tended to decline

over the course of a relationship, showing a different trajectory than attachment style (Hirschberger et al., 2009). Attachment security was not found to buffer declines in marital satisfaction during critical developmental periods such as the transition to parenthood (Hirschberger et al.). Although attachment security was found to impact marital satisfaction over the course of a relationship, attachment security and marital satisfaction were found to have different effects on dissolution. In contrast to previous research suggesting that marital satisfaction is related to marital dissolution (Karney & Bradbury, 1997), Hirschberger et al. reported there was no significant effect of attachment security on marital dissolution. This finding suggests that although attachment security influences marriage over time, it works independently of marital satisfaction, thus providing a unique contribution to our understanding of relationship dynamics.

Attachment behavior often overlaps with factors identified as important in determining marital satisfaction (Gottman, 1998). Level of relationship satisfaction influenced the interpretation of a partner's behavior, such that satisfied spouses were more likely to attribute positive intentions to their partners than dissatisfied spouses (Gottman). The SOC-R provides an opportunity to investigate some of the overlap between attachment theory and the literature on marital satisfaction. It is expected that both marital satisfaction and attachment theory will be associated with the Partner behavior in a relationship.

#### Integration: Attachment, Marital Satisfaction, and Behavior

Attachment theory is grounded in the notion that individuals seek closeness and comfort from attachment figures when they are in anxiety provoking situations (Bowlby, 1969, 1980). One of the unique aspects of conceptualizing romantic love as an attachment process is the mutuality of the relationship. Hazan and Shaver (1987) argued that romantic love involves the

integration of three behavioral systems: attachment, caregiving, and sex. This differs from infant attachment relationships because both partners in the adult relationship are support seekers in addition to support providers. Thus exploration of behaviors in romantic relationships should investigate not only the attachment behaviors, but also caregiving and sexuality.

### Support Provision

In addition to the attachment behavioral system, Shaver and Hazan (1988) described the importance of the caregiving behavioral system in conceptualizing romantic love. Bowlby (1982) described the caregiving behavioral system as an artifact of evolution, which serves to provide support and protection to others who are in need. Attachment plays an important role in the way partners interact with one another. However, in contrast to infant-parent attachment relationships, adult relationships are mutual and reciprocal. Activation of the attachment behavioral system in one partner is met with the activation of the caregiving behavioral system in their partner. Thus the caregiving behavioral system is described as a complementary system to attachment.

Attachment theory focuses on approach behaviors and provides a unique understanding about the differences in preference for partner support. However the definition of specific behaviors to objectively measure support is often neglected. For the purposes of this study, two types of support will be investigated. House (1987) identified four types of social support: emotional, appraisal, informational, and instrumental. Two of these four types are thought to reflect support behaviors as they relate to adult romantic relationships. First, emotional support includes caring, love, trust, empathy, and concern. Second, instrumental support is a concrete form of direct support and includes assistance via time or money, and other explicit interventions on another person's behalf. (House).

Individuals consistently monitor their attachment figure's availability and regulate their attachment behaviors accordingly. At the behavioral level, Cohn, Silver, Cowan, Cowan, and Pearson (1992) found that couples joint attachment styles were related to behavior in the relationship. Men and women with secure and insecure attachment styles varied in the degree of their availability and responsiveness to partner requests for support, as well as the degree of anger observed in marital interactions. At the perceptual level, Collins and Feeney (2004) suggested that individuals perceive support experiences through the lens of their working models of attachment. Attachment style influences both the tendency to seek support from others and the perception of support received. An individual's working model shapes expectations of others and thus affects the perception of spouse availability and responsiveness. Perceived caregiving was found to partially mediate the relationship between attachment security and relationship satisfaction, suggesting insecure partners are less satisfied because they perceive their partners as less caregiving (Kane, Jaremka, Guichard, Ford, Collins & Feeney 2007). A spouse who is available and receptive to the needs of their partner serves as a secure base and safe haven during activation of the attachment behavioral system (Fraley & Shaver, 1999).

Partners who are consistently available and respond positively to requests for support promote secure attachment relationships. Partners with a secure attachment are more likely to respond consistently and positively to requests for support and will also be more likely to seek support from their partner appropriately (Florian, Mikulincer, & Bucholtz, 1995). Thus, secure individuals are more likely to expect their partners will provide support because the patterns have reliably offered support in the past. Insecure individuals are likely to respond inconsistently or alternatively reject partner requests for support (Simpson, Rholes, & Nelligan, 1992). Due to the inconsistency or absence of support from partners, insecure individuals are less likely to trust

their partners to provide support when it is needed. For example, Simpson et al. found that avoidant women sought less support than securely attached women and avoidant men were found to provide less emotion support when their partner was experiencing an anxiety-provoking situation.

Interestingly, overprovision of support has been linked with relationship dissatisfaction to a higher degree than underprovision of support, suggesting partners prefer some degree of independence or “space” in a romantic relationship (Brock & Lawrence, 2009). Mashek and Sherman (2004) found as many as 57% of couples reported desire for less closeness in romantic relationships. This supports the idea that a certain amount of intimacy is ideal, whereas too much can feel suffocating (Mashek & Sherman).

#### Proximity Seeking

Although proximity is monitored and maintained in both infant and adult attachment relationships, unlike infant attachment, adult proximity seeking has both a behavioral and cognitive component. Whereas proximity seeking in infants is sought via attachment behaviors including crying, or clinging, adults have been found to receive comfort through mental representations of their attachment figure (Mikulincer & Shaver, 2004). Rather than relying upon the physical presence of their attachment figure, cognitive representations of that person provide comfort to the individual in distress. Thus proximity seeking in adults also involves an internal process that allows them to meet attachment related goals without actually requiring the physical presence of their attachment figure.

The support seeking behaviors of secure individuals have been associated with a greater capacity to communicate and share emotional experience with others (Slade, 1999). Secure individuals were found to be more likely to self-disclose in romantic relationships and report

more comfort with closeness and self-disclosure of their partners (Collins & Read, 1990; Kobak & Hazan, 1991). Individuals whose partners fail to provide protection and security in response to proximity seeking behaviors internalize fears about attaining security, which can negatively impact their view of their partner, and the world (Mikulincer & Shaver, 2003). Failure for proximity seeking to provide comfort to an individual can result in deactivation of the attachment system (Main, 1990). In other cases, the attachment system may remain continually activated and interfere with the functioning of other behavioral systems (Main, 1990).

### Independent Exploration

In addition to requests for support, individuals secure in their attachment relationship are more likely to venture away from the relationship to engage in activities independent of their partner. Independent exploration is characteristic of individuals who are secure and confident that their attachment figure will be readily available for support if the individual encounters an anxiety-provoking situation or environment (Hazan & Shaver, 1987).

Sibley and Liu (2006) investigated attachment in relation to quality of social interactions outside of the romantic relationship. Secure individuals, who are less likely to rely upon hyperactivation or deactivation of the attachment system, reported higher intimacy and satisfaction in relationships with friends and other family members. Secure individuals are more likely to focus on positive aspects of situations relative to insecure individuals (Mikulincer & Florian, 1998). Having positive expectations of others is likely to encourage more open exploration of new opportunities and experiences in life.

### Sexuality

Sexual behavior is a construct implicated in research on romantic attachment style as well as marital satisfaction. While research in this area is limited, it has been suggested that there

would be a predictable link between sexual behaviors and attachment style in romantic relationships (Fraley & Shaver, 2000). Secure attachment style has been associated with more physical intimacy than other attachment styles, in addition to willingness to rely upon partners and willingness to self-disclose (Mikulincer & Nachshon, 1991). Secure individuals are more likely to engage in long-term, committed sexual relationships than insecure individuals, whereas avoidant attachment has been related to short-term, less committed or “promiscuous” sexual relationships (Brennan & Shaver, 1995; Brennan, Clark & Shaver, 1998). Theoretically, it is likely that avoidant individuals prefer less committed, short-term sexual relationships because they fear closeness and intimacy.

In a recent study, Little, McNulty, and Russell (2010) had couples keep a diary of their intercourse over the past 30 days to investigate whether experiences that promote intimacy would moderate the negative implications of attachment insecurity. They found attachment avoidance was unrelated to marital satisfaction in individuals reporting more frequent sex. Additionally, attachment anxiety was unrelated to marital satisfaction in individuals reporting daily sexual satisfaction. Both the effects of attachment avoidance and attachment anxiety were mediated by expectancies for partner availability in relation to marital satisfaction.

### The Proposed Study

In 1998, Creath, Campbell, Dougherty, Utermark, Raiff, and Drake revised the original SOC to reflect attachment behaviors reported by married couples. They selected items to represent behaviors in four areas related to attachment processes in romantic relationships. The items measured included: a) attachment, which reflected being reliably accessible and responding appropriately and favorably to the others’ needs b) caregiving, which consisted of nurturing behaviors toward the partner c) sexuality, which assessed mutually satisfying sexual



behavior and d) independent exploration, which included participation and support of activities, which do not include the other. The final group of items was chosen by six raters familiar with attachment theory based on content validity. The measure was used on a sample of 206 married individuals to determine the influence of attachment styles on behavior reported by married couples. Creath et al. found that attachment style, as measured by the Attachment Style Questionnaire (ASQ; Hazan & Shaver, 1987) was significantly related to participants' reports of behavior. Individuals classified as secure reported more positive caregiving and sexual behaviors than individuals classified as avoidant. When compared with anxious individuals, secure individuals reported more caregiving and independent behaviors.

O'Conner and Byrne (2007) noted that the emphasis of most measures of attachment is on the individual, rather than the relationship. Symmetry of measurement provides an opportunity to investigate the perceived behaviors at both the individual and relationship level through comparison of self and partner reports of each member in the relationship. Additionally, many measures of marital satisfaction operate at the attitude, belief, or emotional level. The SOC-R provides an alternate means of measuring perception of a relationship at the behavioral level.

The SOC was originally designed for use as a quasi-observational measure to identify pleasing and displeasing behaviors within a relationship. Previous researchers have criticized use of the SOC as a quasi-observational measure, but failed to consider the wealth of information it can bring. The original measure lacked a conceptual plan and failed to stand up as an unbiased quasi-observational measure of behaviors within a relationship. To address concerns of atheoretical measure development (Kazek et al., 1988), Creath et al.'s (1998) study used attachment theory as a theoretical foundation for measuring pleasing and displeasing behaviors

within a relationship. The SOC-R has potential to be a valuable assessment tool in multiple ways. Rather than focusing on reports about a romantic partner's personality, the SOC-R relies upon reports of behavior that have been related to both marital functioning and attachment style.

The primary goal of this psychometric study is to determine the factor structure underlying the SOC-Revised (SOC-R). As a primarily exploratory study, the items of the SOC-R will be allowed to relate freely to each other to determine the factor structure that best describes the data. A four factor structure reflecting the four categories proposed by Creath et al. (1998) is hypothesized: caregiving, availability/responsiveness (attachment), independent exploration, and sexuality.

A secondary goal of this study is to place the SOC-R within a nomological network by examining the relationship of the SOC-R dimensions with other related psychological constructs. Specifically, dimensions of the SOC-R should be related to other measures of attachment and marital functioning. Several hypotheses regarding direct associations among the proposed factors for the SOC-R and scales of the ECR and Dyadic Adjustment Scale (DAS) will be evaluated.

#### Proposed Hypotheses

##### Hypothesis 1.

- It is hypothesized that attachment anxiety and attachment avoidance will be negatively correlated with the scales of the SOC-R.

##### Hypothesis 2.

- It is hypothesized that dyadic consensus will have be positively correlated with the scales of the SOC-R.
- It is hypothesized that dyadic satisfaction will be positively correlated with the scales of the SOC-R.

- It is hypothesized that dyadic cohesion will be positively correlated with the SOC-R scales of caregiving, sexuality and availability/responsiveness, and negatively correlated with independent exploration.
- It is hypothesized that affectional expression will have a strong positive correlation with the sexuality factor, and a weak positive correlation with the other scales of the SOC-R.
- It is hypothesized that total adjustment will be positively correlated with the scales of the SOC-R.

APPENDIX B  
ADDITIONAL METHODOLOGY

## Data Analysis

Worthington and Whitaker (2006) identified 8 steps necessary for scale development research. The initial steps were completed by Creath et al. (1998), including: determining what to measure, generating the item pool, determining the format of the measure, having experts review the initial item pool. Creath et al. used the theoretical method of scale development. They selected the pool items from the original SOC using attachment theory as an organizational framework. The current study used an empirical approach to explore the underlying factor structure of the theoretically developed SOC-R. Following the best practices guidelines identified in Worthington and Whitaker's (2006) review, the study evaluated the items, optimized scale length, and used other measures (the DAS and ECR) to investigate validity of the scales.

As a precursor to the factor analysis, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was calculated to evaluate factorability. This measure accounts for the relationship of sum of squared correlations to partial correlations to indicate the extent to which the correlation matrix contains factors as opposed to chance correlations (Worthington & Whitaker, 2006). Values of .60 and higher are suggested appropriate for good factor analysis (Tabachnick & Fidell, 2007). The extraction method used was common factor analysis (FA), which works to understand the latent factors that account for item's shared variance and is considered more compatible with the goal of scale development than principle components analysis (Worthington & Whitaker, 2006). Specifically, principal axis factoring was chosen due to the violation of normality. Although maximum likelihood is a more common approach for Common Factor Analysis, it is more sensitive to violation of the assumption of normal distribution.

To avoid overestimates of factor loadings that can occur using an orthogonal rotation with correlated factors, the proposed study relied upon a data based approach to identify the rotation method. Review of the correlation matrix revealed that, as expected, the factors were correlated and thus an oblique rotation was used.

A priori criteria for factor retention were determined. Factors with eigenvalues greater than 1 were considered for retention following Kaiser's (1958) recommendation. Additionally, factors with fewer than 3 items were not retained (Tabachnick & Fidell, 2007) and conceptual interpretability was used as the final criterion for factor retention (Worthington & Whitaker, 2006). Items with loadings less than .40 or cross-loading less than .15 different from an item's highest factor loading were also deleted (Worthington & Whitaker).

Convergent validity of the SOC-R as a measure of pleasing and displeasing behaviors was examined by comparing scale correlations with the DAS, a measure of marital adjustment. Pearson product-moment correlations were calculated to compare the scales of the DAS (Dyadic consensus, Dyadic Satisfaction, Dyadic Cohesion, Affectional Expression, and Total Adjustment) with each of the factors of the SOC-R supported by the EFA. To further support the use of attachment theory in the development of the SOC-R, Pearson product-moment correlations also examined associations of the ECR scales of attachment anxiety and attachment avoidance with the factors of the SOC-R. Due to the interdependence of the data, as well as expected differences for men and women, all correlations were calculated separately for husbands and wives. Finally, a repeated measures MANOVA was conducted to explore associations between the 4 ECR attachment styles and the emerging SOC-R factors.

APPENDIX C  
ADDITIONAL RESULTS

### Perception of Self-Behavior 5-Factor Solution

In the perception of self five-factor solution, communality values ranged from  $h^2 = .216$  to  $h^2 = .722$  and are listed in Table C.2. The variance explained by the 5-factor solution was 36.98 % and the five factors individually accounted for 17.51, 7.55, 5.14, 4.00, and 2.77 % of the variance respectively. Using a cutoff of .40 for inclusion of a variable in interpretation of a factor, 13 of 49 items did not load on any factor. One additional item was deleted because it loaded on multiple factors and thus was not a pure marker of any factor.

Using the pattern matrix for interpretation, 12 items loaded on the first factor (values ranged from .424 to .794); 6 items loaded on the second factor (values ranged from .536 to .856); 6 items loaded on the third factor (values ranged from .496 to .730); 6 items loaded on the fourth factor (values ranged from .469 to .786); 5 items loaded on the fifth factor (values ranged from .410 to .538). Factor 1 (.860), factor 2 (.865), and factor 4 (.801) had good internal consistency, factor 3 (.700) had acceptable internal consistency, and factor 5 had poor internal consistency (.530). Table C.2 provides the names of items, factor loadings, communalities, factor interpretations, and alpha reliabilities for each of the 5 item sets. Table C.3 provides the factor correlations among the factors.

### Perception of Self-Behavior 7-Factor Solution

In the 7-factor solution, communality values ranged from  $h^2 = .214$  to  $h^2 = .726$  and are listed in Table C.4. The variance explained by the 7-factor solution was 42.71 % and the 7 factors individually accounted for 17.64, 7.64, 5.23, 4.13, 2.83, 2.75, and 2.48 % of the variance respectively. Using a cutoff of .40 for inclusion of a variable in interpretation of a factor, 9 of 49 items did not load on any factor. There were no items with cross loadings on the 7-factor model. Using the pattern matrix for interpretation, 9 items loaded on the first factor (values ranged from



.450 to .860); 6 items loaded on the second factor (values ranged from .520 to .827); 7 items loaded on the third factor (values ranged from .447 to .704); 6 items loaded on the fourth factor (values ranged from .481 to .851); 4 items loaded on the fifth factor (values ranged from .506 to .728); 5 variables loaded on the sixth factor (values ranged from .429 to .550); and 3 variables loaded on the seventh factor (values ranged from .408 to .449). Of the seven factors, 4 had good internal consistency, ranging from .801 (factor four) to .881 (factor one). Factor 3 had acceptable internal consistency (.708) and factors 6 (.530) and factor 7 (.561) had poor internal consistency. Table C.4 provides the names of items, factor loadings, communalities, factor interpretations, and alpha reliabilities for each of the item sets. Table C.5 provides the factor correlations among the factors.

#### Perception of Partner-Behavior 5-Factor Solution

In the 5-factor solution, communality values ranged from  $h^2 = .235$  to  $h^2 = .738$  and are listed in Table C.6. The variance explained by the 5-factor solution was 40.97 % and the 5 factors individually accounted for 19.55, 7.36, 6.08, 4.80, and 3.18 % of the variance respectively. Using a cutoff of .40 for inclusion of a variable in interpretation of a factor, 12 of 49 items did not load on any factor. There were no items that loaded on multiple factors.

Using the pattern matrix for interpretation, 12 items loaded on the first factor (values ranged from .429 to .802); 6 items loaded on the second factor (values ranged from .691 to .843); 8 items loaded on the third factor (values ranged from .407 to .760); 8 items loaded on the fourth factor (values ranged from .457 to .768); 3 items loaded on the fifth factor (values ranged from .473 to .507). Physical Intimacy had excellent internal consistency (.910), factor one (.889) and factor three (.829) had good internal consistency, and factor 5 (.570) had poor internal consistency. Table C.6 provides the names of items, factor loadings, communalities, factor

interpretations, and alpha reliabilities for each of the item sets. Table C.7 provides the factor correlations among the factors.

#### Perception of Partner-Behavior Report 7-Factor Solution

In the 7-factor solution, communality values ranged from  $h^2 = .174$  to  $h^2 = .752$  and are listed in Table C.8. The variance explained by the 7-factor solution was 46.69 % and the 7 factors individually accounted for 19.67, 7.42, 6.19, 4.93, 3.34, 2.79 and 2.34 % of the variance respectively. Using a cutoff of .40 for inclusion of a variable in interpretation of a factor, 12 of 49 items did not load on any factor. One item was also deleted because it loaded on multiple factors and thus was not a pure marker of any factor.

Using the pattern matrix for interpretation, 7 items loaded on the first factor (values ranged from .517 to .942); 6 items loaded on the second factor (values ranged from .735 to .904); 7 items loaded on the third factor (values ranged from .476 to .767); 4 items loaded on the fourth factor (values ranged from .704 to .842); 4 items loaded on the fifth factor (values ranged from .567 to .902); 5 items loaded on the sixth factor (values ranged from .453 to .643); and 3 items loaded on the seventh factor (values ranged from .492 to .534). Factor 1 (.900) and factor 2 (.910) had excellent internal consistency, factor 4 (.801) and factor 5 (.884) had good internal consistency, factor 3 (.782) had acceptable internal consistency, factor 6 (.606) had questionable internal consistency, and factor 7 (.479) had unacceptable internal consistency. Table C.8 provides the names of items, factor loadings, communalities, factor interpretations, and alpha reliabilities for each of the item sets. Table C.9 provides the factor correlations among the factors.

Table C.1

*Frequency Characteristics of the Sample (N = 192)*


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Variables	n	%
<b>Ethnicity</b>		
African American	0	0%
Asian/Pacific Islander	4	2.2%
Bi-racial/Multi-racial	6	2.7%
Hispanic/Latino	9	4.9%
Native American	1	.5%
White/European American	172	89.7%
<b>Occupational Status</b>		
Employed Full time	148	74.0%
Employed Part-time	17	7.8%
Student	31	16.1%
Unemployed	2	1.0%
Missing	2	1.0%
<b>Level of Education</b>		
Less Than HS Graduate	0	0%
High School Graduate	7	3.3%
Some College	50	26.1%
Technical/2 yr. Degree	13	7.1%
Bachelors Degree	95	49.5%
Graduate/ Professional Degree	27	14.1%

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Table C.2

*5-Factor Perception of Self-Behavior Exploratory Factor Analysis of SOC-R: Factor Names, Factor Loadings, Communalities ( $h^2$ ) and Alpha Reliabilities ( $\alpha$ )*

Item	Emotional Support $\alpha = .860$	Physical Intimacy $\alpha = .865$	Disengagement $\alpha = .700$	Instrumental Support $\alpha = .801$	Disengag ement $\alpha = .530$	$h^2$
I comforted my spouse when s/he was upset	.602					.632
I did not pay attention when my spouse was talking about something.			.730			.546
I made lunch for my spouse				.786		.594
When I went to the store, I asked my spouse if s/he needed something				.476		.337
I caressed my spouse	.513					.343
I listened to my spouse's problems	.707					.520
I refused to talk about a problem that my spouse and I share			.496			.300
We engaged in sexual intercourse		.855				.683
I petted or initiated other sex play with my spouse		.648				.485
I initiated sexual intercourse		.536				.501
I talked to my spouse when s/he asked for some attention	.603					.410
I refused to let my spouse have free time for a hobby or interest					.419	.259
I rejected my spouse's sexual advances					.486	.241
I complied in a friendly manner to a request	.737					.594
I tried to cheer my spouse up	.591					.509
I refused to listen to my spouse's feelings					.538	.360
I comforted my spouse when s/he was upset	.593					.541
I engaged in sexual behaviors I know my spouse especially likes		.797				.625

(table continues)

Table C.2 (continued)

Item	Emotional Support $\alpha = .860$	Physical Intimacy $\alpha = .865$	Disengagement $\alpha = .700$	Instrumental Support $\alpha = .801$	Disengagement $\alpha = .530$	$h^2$
I acted like I did not respect my spouse's opinion					.410	.260
I made breakfast for my spouse				.652		.398
I hugged my spouse passionately	.559					.456
I read the paper or watched TV when my spouse talked to me			.550			.271
I said that I wanted to spend a period of time by myself			.506			.279
I was sexually responsive to my spouse		.727				.481
I asked my spouse about his or her feelings	.662					.470
I lectured rather than listened to my spouse	.424					.390
I ignored my spouse when my spouse asked me for some attention			.534			.322
I called my spouse just to complain about something s/he did					.432	.216
I prepared a favorite food for my spouse				.728		.487
I did not give my spouse the attention s/he asked for			.614			.374
I let my spouse know that I enjoyed sexual intercourse with him or her		.856				.722
I brought my spouse a cup of coffee, tea, etc.				.469		.365
I showed particular interest in what my spouse said by asking relevant questions	.787					.551
I showed my spouse I was glad to see him or her	.794					.582
I prepared a snack for my spouse				.606		.532

Table C.3

*Factor Correlations in 5-Factor Model of SOC-R Perception of Self-Behavior*

Factor	Emotional Support	Physical Intimacy	Disengagement	Instrumental Support	Disengagement
Emotional Support	1.00	.389	.294	.429	.007
Physical Intimacy	.389	1.00	-.020	.176	.068
Disengagement	.294	-.020	1.00	.160	.023
Instrumental Support	.429	.176	.160	1.00	.114
Disengagement	.007	.068	.023	.114	1.00

Table C.4

*7-Factor Perception of Self-Behavior Exploratory Factor Analysis of SOC-R: Factor Names, Factor Loadings, Communalities ( $h^2$ ) and Alpha Reliabilities ( $\alpha$ )*

Item	Emotional Support $\alpha = .881$	Physical Intimacy $\alpha = .865$	Disengagement $\alpha = .708$	Instrumental Support $\alpha = .801$	Affection $\alpha = .825$	Rejection $\alpha = .530$	Independent Exploration $\alpha = .561$	$h^2$
I comforted my spouse when s/he was upset	.685							.659
I did not pay attention when my spouse was talking about something			.704					.553
I made lunch for my spouse				.851				.671
When I went to the store, I asked my spouse if s/he needed something				.508				.465
I caressed my spouse					.728			.572
I listened to my spouse's problems	.829							.605
I refused to talk about a problem that my spouse and I share			.456					.310
I ran an errand for my spouse	.450							.521
We engaged in sexual intercourse		.827						.714
I petted or initiated other sex play with my spouse		.608						.527
I scheduled an activity without my spouse							.408	.273
I stayed at home to watch the children or work while my spouse left to do something s/he enjoys							.449	.275
I initiated sexual intercourse		.520						.507
I kissed my spouse passionately					.506			.546
I talked to my spouse when s/he asked for some attention	.599							.426

(table continues)

Table C.4 (continued)

Item	Emotional Support $\alpha = .881$	Physical Intimacy $\alpha = .865$	Disengagement $\alpha = .708$	Instrumental Support $\alpha = .801$	Affection $\alpha = .825$	Disengagement $\alpha = .530$	Independent Exploration $\alpha = .561$	$h^2$
I refused to let my spouse have free time for a hobby or interest						.442		.289
I rejected my spouse's sexual advances						.528		.276
I complied in a friendly manner to a request	.538							.584
I tried to cheer my spouse up	.719							.592
I refused to listen to my spouse's feelings						.550		.395
I comforted my spouse when s/he was upset	.860							.698
I engaged in sexual behaviors I know my spouse especially likes		.786						.648
I acted like I did not respect my spouse's opinion						.431		.331
I made breakfast for my spouse				.629				.427
I hugged my spouse passionately					.786			.726
I read the paper or watched TV when my spouse talked to me			.449					.355
I said that I wanted to spend a period of time by myself			.511					.305
I was sexually responsive to my spouse		.700						.477
I asked my spouse about his or her feelings	.490							.467

(table continues)



Table C.4 (continued)

Item	Emotional Support $\alpha = .881$	Physical Intimacy $\alpha = .865$	Disengagement $\alpha = .708$	Instrumental Support $\alpha = .801$	Affection $\alpha = .825$	Disengagement $\alpha = .530$	Independent Exploration $\alpha = .561$	$h^2$
I lectured rather than listened to my spouse			.447					.531
I ignored my spouse when my spouse asked me for some attention			.662					.450
I called my spouse just to complain about something s/he did						.429		.214
I prepared a favorite food for my spouse				.702				.488
I did not give my spouse the attention s/he asked for			.657					.419
I let my spouse know that I enjoyed sexual intercourse with him or her		.826						.723
I brought my spouse a cup of coffee, tea, etc.				.481				.381
I responded favorably to my spouse's desire for a time out with me							.416	.292
I showed particular interest in what my spouse said by asking relevant questions	.593							.543
I showed my spouse I was glad to see him or her					.559			.641
I prepared a snack for my spouse				.637				.564

Table C.5

*Factor Correlations in 7-Factor Model of SOC-R Perception of Self-Behavior*

Factor	Emotional Support	Physical Intimacy	Disengagement	Instrumental Support	Affection	Disengagement	Independent Exploration
Emotional Support	1.00	.326	.308	.418	.424	.168	-.074
Physical Intimacy	.326	1.00	.005	.146	.269	.125	-.007
Disengagement	.308	.005	1.00	.046	-.016	.025	.091
Instrumental Support	.418	.146	.046	1.00	.272	.227	-.100
Affection	.424	.269	-.016	.272	1.00	.107	-.067
Disengagement	.168	.125	.025	.227	.107	1.00	-.142
Independent Exploration	-.074	-.007	.091	-.100	-.067	-.142	1.00

Table C.6

*5-Factor Perception of Partner-Behavior Exploratory Factor Analysis of SOC-R: Factor Names, Factor Loadings, Communalities ( $h^2$ ) and Alpha Reliabilities ( $\alpha$ )*

Item	Emotional Support $\alpha = .889$	Physical Intimacy $\alpha = .910$	Instrumental Support $\alpha = .829$	Disengagement $\alpha = .787$	Independent Exploration $\alpha = .570$	$h^2$
My spouse comforted me when I was upset	.639					.560
My spouse did not pay attention when I was talking about something				.489		.370
My spouse made lunch for me			.606			.413
When my spouse went to the store, s/he asked if I needed anything			.646			.581
My spouse caressed me	.613					.448
My spouse actively supported an independent activity of mine					.507	.366
My spouse listened to my problems	.765					.549
My spouse ran an errand for me			.471			.378
We engaged in sexual intercourse		.718				.563
My spouse petted and initiated other sex play with me		.843				.738
My spouse initiated sexual advances		.828				.653
My spouse bought an item especially for me			.525			.386
My spouse kissed me passionately	.557					.565
My spouse talked to me when I asked for some attention	.753					.581
My spouse complied in a friendly manner to a request	.429					.262
My spouse tried to cheer me up	.737					.575
My spouse refused to listen to my feelings				.524		.320
My spouse comforted me when I was upset	.752					.693

(table continues)

Table C.6 (continued)

Item	Emotional Support $\alpha = .889$	Physical Intimacy $\alpha = .910$	Instrumental Support $\alpha = .829$	Disengagement $\alpha = .787$	Independent Exploration $\alpha = .570$	$h^2$
My spouse engaged in sexual behaviors s/he knows I especially enjoy		.691				.602
My spouse acted like s/he did not respect my opinion				.644		.437
My spouse made breakfast for me			.476			.235
My spouse hugged me passionately	.802					.680
My spouse read the newspaper or watched TV when I talked to him or her				.564		.374
My spouse said that s/he wanted to spend a period of time alone					.501	.242
My spouse was sexually responsive to me		.815				.683
My spouse asked about my feelings	.526					.437
My spouse lectured rather than listened to me				.575		.360
My spouse ignored me when I asked for some attention				.768		.659
My spouse called me just to complain about something I did				.457		.262
My spouse prepared a favorite food for me			.760			.599
My spouse did not give me the attention I asked for				.716		.564
My spouse let me know when s/he enjoyed sexual intercourse with me		.802				.680
My spouse responded favorably to my desire for a time out without him or her					.473	.369

(table continues)

Table C.6 (continued)

Item	Emotional Support $\alpha = .889$	Physical Intimacy $\alpha = .910$	Instrumental Support $\alpha = .829$	Disengagement $\alpha = .787$	Independent Exploration $\alpha = .570$	$h^2$
My spouse did one of my chores as a favor to me			.407			.348
My spouse showed particular interest in what I said by asking relevant questions	.544					.457
My spouse showed me s/he was glad to see me	.723					.592
My spouse prepared a snack for me			.654			.508

Table C.7

*Factor Correlations in 5-Factor Model of SOC-R Perception of Partner-Behavior*

Factor	Emotional Support	Physical Intimacy	Disengagement	Instrumental Support	Disengagement
Emotional Support	1.00	.446	.360	-.180	.242
Physical Intimacy	.446	1.00	.260	-.127	.056
Disengagement	.360	.260	1.00	-.164	.184
Instrumental Support	-.180	-.127	-.164	1.00	.101
Disengagement	.242	.056	.184	.101	1.00

Table C.8

*7-Factor Perception of Partner-Behavior Exploratory Factor Analysis of SOC-R: Factor Names, Factor Loadings, Communalities ( $h^2$ ) and Alpha Reliabilities ( $\alpha$ )*

Item	Emotional Support $\alpha = .900$	Physical Intimacy $\alpha = .910$	Disengagement $\alpha = .782$	Instrumental Support $\alpha = .801$	Affection $\alpha = .884$	Independent Exploration $\alpha = .606$	Disengagement $\alpha = .479$	$h^2$
My spouse comforted me when I was upset	.883							.697
My spouse did not pay attention when I was talking about something			.664					.522
My spouse made lunch for me				.842				.576
My spouse caressed me					.748			.576
My spouse actively supported an independent activity of mine						.570		.395
My spouse listened to my problems	.942							.703
We engaged in sexual intercourse		.834						.632
My spouse petted and initiated other sex play with me		.739						.752
My spouse scheduled an activity without me						.453		.253
My spouse stayed home to watch the children or work while I left to do something I enjoy						.539		.271
My spouse initiated sexual Advances		.735						.694
My spouse kissed me Passionately					.567			.586
My spouse talked to me when I asked for some attention	.686							.599

(table continues)

Table C.8 (continued)

Item	Emotional Support $\alpha = .900$	Physical Intimacy $\alpha = .910$	Disengagement $\alpha = .782$	Instrumental Support $\alpha = .801$	Affection $\alpha = .884$	Independent Exploration $\alpha = .606$	Disengagement $\alpha = .479$	$h^2$
My spouse refused to let me have free time for a hobby or interest							.528	.253
My spouse rejected my sexual advances							.534	.314
My spouse tried to cheer me up	.716							.591
My spouse refused to listen to my feelings			.509					.317
My spouse comforted me when I was upset	.841							.750
My spouse engaged in sexual behaviors s/he knows I especially enjoy		.808						.701
My spouse acted like s/he did not respect my opinion			.581					.174
My spouse made breakfast for me				.803				.701
My spouse complained when I said I wanted to spend a period of time without him or her							.492	.436
My spouse hugged me passionately					.902			.856
My spouse read the newspaper or watched TV when I talked to him or her			.624					.394
My spouse said that s/he wanted to spend a period of time alone						.552		.287

(table continues)



Table C.8 (continued)

Item	Emotional Support $\alpha = .900$	Physical Intimacy $\alpha = .910$	Disengagement $\alpha = .782$	Instrumental Support $\alpha = .801$	Affection $\alpha = .884$	Independent Exploration $\alpha = .606$	Disengagement $\alpha = .479$	$h^2$
My spouse was sexually responsive to me		.904						.745
My spouse asked about my feelings	.555							.512
My spouse lectured rather than listened to me			.476					.368
My spouse ignored me when I asked for some attention			.767					.662
My spouse prepared a favorite food for me				.704				.604
My spouse did not give me the attention I asked for			.752					.566
My spouse let me know when s/he enjoyed sexual intercourse with me		.778						.674
My spouse responded favorably to my desire for a time out without him or her						.643		.470
My spouse showed particular interest in what I said by asking relevant questions	.517							.489
My spouse showed me s/he was glad to see me					.791			.723
My spouse prepared a snack for me				.735				.546

Table C.9

*Factor Correlations in 7-Factor Model of SOC-R Perception of Partner-Behavior*

Factor	Emotional Support	Physical Intimacy	Disengagement	Instrumental Support	Affection	Independent Exploration	Disengagement
Emotional Support	1.00	.379	-.188	.443	.441	.439	.050
Physical Intimacy	.379	1.00	-.134	.359	.406	.292	-.067
Disengagement	-.188	-.134	1.00	-.182	-.122	-.004	-.001
Instrumental Support	.443	.359	-.182	1.00	.186	.392	.186
Affection	.441	.406	-.122	.186	1.00	.153	-.322
Independent Exploration	.439	.292	-.004	.392	.153	1.00	-.013
Disengagement	.050	-.067	-.001	.186	-.322	-.013	1.00

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