The Couple's Resource Scales: A measure for research on resources in couple relationships.

By: Amber L. Pope, Christine E. Murray and Gülşah Kemer

Abstract:

Couples therapy has experienced a shift in therapeutic approaches from those that focus on dysfunction and deficits to postmodern approaches that emphasize clients' strengths and skills. Additionally, researchers have found that resources, such as self-esteem and social support, serve to enhance couples' relationships. One therapeutic approach that emphasizes strengths and resources is solution-focused brief therapy (SFBT). The authors describe the development of a research-oriented instrument grounded in SFBT, the Couples Resource scales (CRS), which was based on an existing practitioner-oriented instrument, called the Couples Resource Map scales. The authors used an exploratory factor analysis on the CRS to create a revised version that shows utility for empirical research.

Keywords: relationship resources | couples therapy | solution-focused brief therapy | counseling | relationships

Article:

Over the past few decades, couple and family therapy approaches have shifted from a focus on dysfunction and conflict toward strengths-based theories that highlight skills and resources clients already possess (Murray & Forti, 2009; O'Connell, 1998). Additionally, couple and family therapists have begun to reject the expert/nonexpert pathology-driven approaches to therapy, and started to embrace postmodern and constructivist theories that value the perspective, agency, and abilities of clients (Anderson, 2003; Cheung, 2005). One postmodern approach to couples and family therapy that emphasizes collaboration and strengths is solution-focused therapy (e.g., Cheung, 2005; Clark-Stager, 1999; Nelson & Kelley, 2001; Seedall, 2009; Zimmerman, Prest, & Wetzel, 1997).

As clinical practice theories began moving away from pathology-based approaches, research on intimate couple relationships has increasingly focused on the values, resources, skills, and strengths that contribute to positive relationship functioning (Fincham, Stanley, & Beach, 2007; Kurdek, 2004; Murray, 2007; Pope, Murray, & Mobley, 2010). However, few empirically sound

instruments exist to measure strengths and positive aspects of couple relationships (Murray, 2007). The Couples Resource Map scales (CRMS) is a clinical practice-oriented instrument developed to assess the personal, relational, and contextual resources that can support couples in their relationships. Several studies have shown the validity and reliability of the CRMS in regard to its application to clinical practice for couples in diverse types of intimate relationships (e.g., Murray, 2007; Murray & Forti, 2009; Pope et al., 2010). The purpose of this study is to construct a revised version of the CRMS to be used for research, rather than clinical purposes. Toward this end, we conducted an exploratory factor analysis (EFA) on the CRMS and revised the instrument to improve its applicability for empirical research, including reducing its length and strengthening its underlying scale structure. In brief, this study resulted in the construction of the Couples

Resource scale (CRS).

Theoretical Background of the CRMS: Solution-focused Brief Therapy

Solution-focused Brief Therapy (SFBT) was developed by Steve de Shazer (de Shazer, 1982, 1988) and colleagues (O'Connell, 1998). SFBT is informed by postmodern and constructivist frameworks, and thus values the phenomenological world of the client and seeks to emphasize their dignity, health, and agency (Cheung, 2005; Seedall, 2009; Seligman, 2006). Solution-focused therapists assume that clients possess the skills, strengths, and resources they need to make changes upon entering counseling, and the focus of SFBT is on solutions, rather than problems (Gingerich & Eisengart, 2000; Seedall, 2009). Within an SFBT framework, clients enter counseling because they get stuck in maladaptive patterns of behavior and need help identifying their assets (Murray, 2007; Seligman, 2006; Walter & Peller, 1992). Thus far, the outcome research on SFBT shows support for it being a useful therapeutic approach for a diverse range of client populations, including couples, and applicable to almost any presenting problem (de Shazer & Berg, 1997; Gingerich & Eisengart, 2000). Goals of SFBT focus on changing clients' behavior by building on existing successful behaviors, changing the way clients view the world, and identifying clients' strengths and resources (Cheung, 2005; Seligman, 2006).

The application of SFBT to couples therapy is a relatively new development in the mental health professions. Several authors have proposed clinical applications of SFBT to couples therapy by integrating SFBT with other frameworks, such as strategic couples therapy (e.g., Cheung, 2005), behavioral marital therapy and integrative couple therapy (e.g., Clark-Stager, 1999), and couple enactments (e.g., Seedall, 2009). The authors only identified two studies that used a research design to assess the effectiveness of SFBT in couple's therapy, both conducted in couple's group format. Both teams of researchers found that the participants in the SFBT couples groups experienced an increase in marital satisfaction compared to satisfaction levels prior to treatment (Nelson & Kelley, 2001; Zimmerman et al., 1997). Multiple researchers, however, have identified that resources and strengths, such as self-esteem, relationship skills, and social support, play an important role in supporting and enhancing relationship satisfaction and commitment for

couples in diverse types of intimate partnerships (Kurdek, 1998, 2004; Murray, 2007; Pope et al., 2010). SFBT, as a therapeutic approach designed to help clients identify and augment their competencies and supports, can inform assessments and interventions designed to build couples' resources, which have the potential to boost relationship satisfaction and stability.

Development of the CRMS

Murray and Murray (2004) drew on the theoretical foundations and practice of SFBT in creating the Couples Resource Map (CRM). The CRM is grounded in a three-level framework for understanding resources in couple relationships. Huston (2000) also proposed an interdisciplinary social ecological framework for conceptualizing diverse types of couple relationships across three levels: The individual partner, partner interactions, and societal forces. Consistent with SFBT's premise that the social context and environment impact individuals and relationships (de Shazer, 1982) and Huston's social ecological framework for understanding couple relationships, Murray and Murray (2004) suggested a structure, the CRM, for assessing personal, relational, and contextual resources that can support and strengthen couples' relationships. Murray and Murray first presented the CRM (see Figure 1) as a qualitative assessment device and intervention strategy in their article on premarital counseling from a solution-focused theoretical approach. Therapists were recommended to ask their clients to complete their maps using colored markers, crayons, or pencils, with different colors corresponding to different levels of support that the partners received for their relationship from each area depicted on the map. In this way, the map was consistent with the SFBT approach of asking scaling questions (de Shazer & Berg, 1997; Gingerich & Eisengart, 2000), in that the colors depicted a scale of support levels. More recently, Murray (2007) developed the CRMS as a clinical practice-oriented assessment and intervention strategy based on the three levels of personal, relational, and contextual resources.

The CRM is visually represented in the form of the couple in the middle of three concentric circles, representing three levels of resources. The innermost circle represents the personal sphere, and within this sphere, there are six categories (self-esteem, values, personal dreams, coping skills, self-soothing strategies, and self-awareness). The middle circle represents that relationship sphere, and within this sphere, there are six categories (couple history, shared dreams, shared material resources, knowledge about partner, strategies to manage negativity, and relationship skills). The outermost circle represents the contextual sphere, and in this sphere, there are nine categories (cultural/community resources, family life professionals, economic/political context, my career, my partner's career, extended social network, friends, my family-of-origin, and my partner's family-of-origin). On the original map, the color scale included five options: Red ¼ a lot of support; orange ¼ some support; yellow ¼ a little support; green ¼ no support; and blue ¼ takes support away.
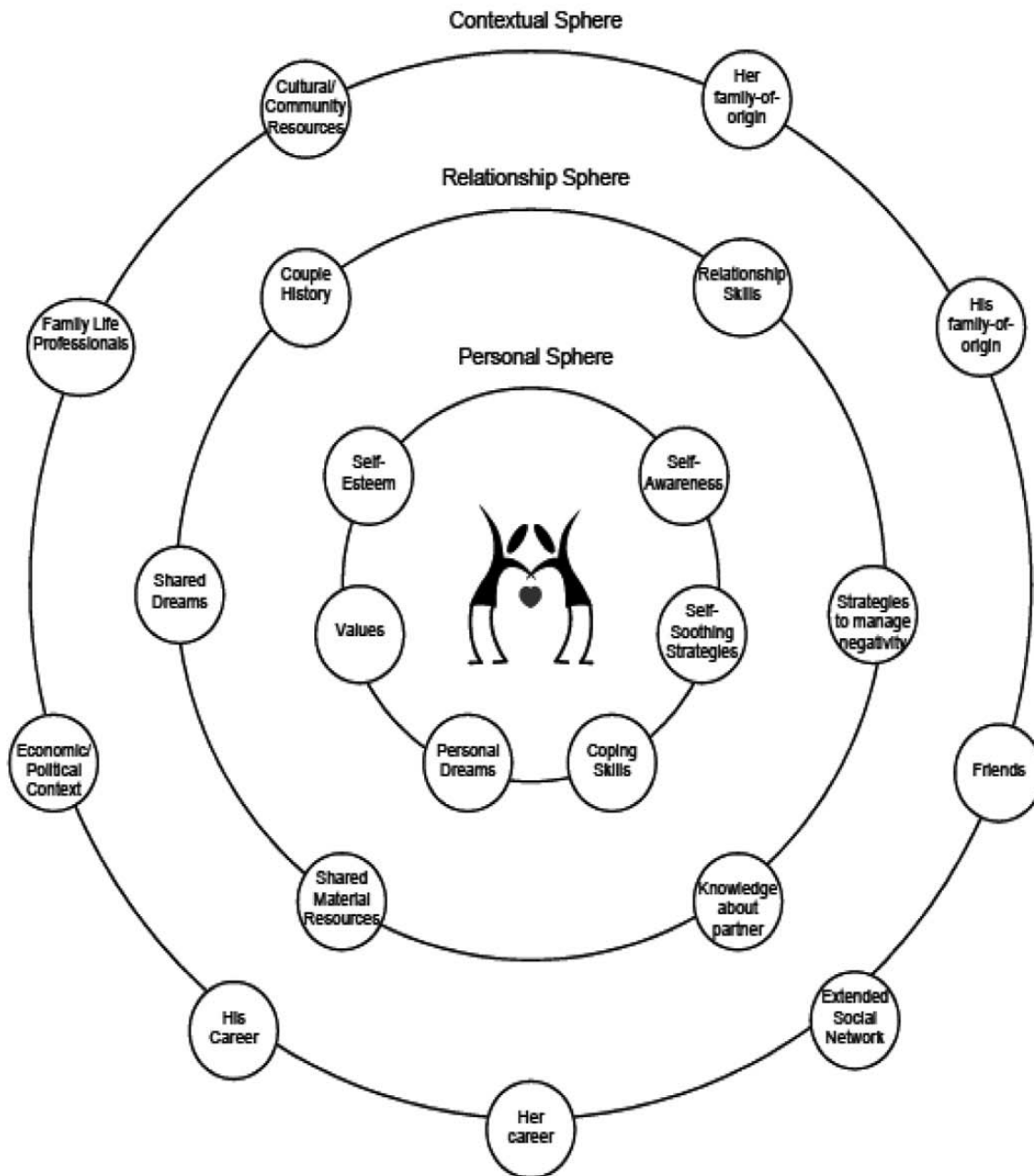
Response to the map from the professional community was very positive. C. Murray received hundreds of requests for a printable version of the map from therapists and educators who had

read about it in the Journal of Marriage and Family Therapy. This printable version was offered in a note in the article in which the CRM was published, and interested readers were instructed to e-mail C. Murray to request the electronic version of the map. Based on this level of interest in the map, C. Murray determined that the map provided a useful framework for clinicians to conceptualize resources for couple relationships and decided to create a quantitative scale based on the map to provide clinicians with another alternative for assessing clients.

Murray (2007) then set out to develop a quantitative instrument to reflect the conceptualization of relationship resources depicted on the CRM. The instrument was intended to include three major subscales, one for each resource sphere (i.e., the Personal Resource Area scale [PRAS], the Relationship Resource Area scale [RRAS], and the Contextual Resource Area scale [CRAS]). In addition, there were 21 smaller category subscales, representing each of the 21 categories in the resource spheres (i.e., six for the personal sphere, six for the relationship sphere, and nine for the contextual sphere). For each item, participants respond to a statement with one of the following responses: Strongly disagree; disagree; agree; and strongly agree.

After an initial pool of 130 items was developed (including about seven items for each of the 21 categories depicted on the CRM), the items were reviewed by a panel of six experts, defined as ''mental health professionals with experience and training in marriage and family counseling'' (Murray, 2007, p. 55). Through this expert panel review, the scale was reduced to 4 items per each of the 21 categories. Next, a sample of 397 senior university undergraduates was asked to complete this pilot version of the instrument. Item analysis procedures were used to reduce the number of items to three each, leaving the final 63-item CRMS. With this sample, the Cronbach's a for the total scale was a ¼ .94, the PRAS was a ¼ .88, the RRAS was a ¼ .92, and the CRAS was a ¼ .86). Generally, respondents who had higher levels of relationship resources also demonstrated higher levels of relationship satisfaction, providing initial support for the validity of the CRMS (Murray, 2007).

Couple Resource Map

Contextual Sphere

Relationship Sphere

Personal Sphere

Cultural/ Community Resources

Her family-of-origin

Family Life Professionals

Couple History

Relationship Skills

His family-of-origin

Shared Dreams

Self-Esteem

Self-Awareness

Values

Self-Soothing Strategies

Strategies to manage negativity

Economic/ Political Context

Personal Dreams

Coping Skills

Friends

Shared Material Resources

Knowledge about partner

His Career

Extended Social Network

Her career

Color each circle according to how much you believe each area will provide resources for your marriage:
Red: A Lot of Support   Orange: Some Support
Yellow: A Little Support   Green: No Support
Blue: Takes Support Away

Figure 1. Couples resource map.

To make the CRMS accessible and interactive, an Internet-based format was desired. Following initial scale development (Murray, 2007), a website developer created an interactive website through which CRMS respondents complete the instrument. The website program compiles participants' responses and provides them with immediate, printable feedback depicts the level of support that the respondent receives for his or her relationship based on the responses provided. In converting the instrument to the online format, the number of colors representing levels of support for each Category Subscale was reduced to four: Red ¼ a lot of support; orange ¼ some support; yellow ¼ a little support; and green ¼ no support. In counseling applications, this map can be printed by the client and brought into a subsequent session for discussion in therapy. The instrument continues to be available, free of charge, at the following website: http://www.couplesresourcemap.org/. The website provides respondents with a unique ID code so that they may return to the site and receive their completed map again at a later point in time without having to reenter their information.

Murray and Forti (2009) then used this interactive Internet-based version of the CRMS in a validation study that included both clinical and nonclinical participants (based on whether they were currently participating in individual or couple therapy). A total of 1,103 participants were in the total sample, with 119 participants comprising the clinical sample and 984 participants comprising the nonclinical sample. Again, the total scale and Resource Area scales demonstrated good internal consistency (total: a ¼ .93; PRAS: a ¼ .85; RRAS: a ¼ .90; and CRAS: a ¼ .84). This study also provided support for the concurrent validity of the CRMS Resource Area scales. Further, across all Resource Area scales and the CRMS total scale, the nonclinical sample reported higher levels of resources than the clinical sample, although the difference on the CRAS was not statistically significant. This study did not examine the properties of the smaller category subscales.

Most recently, Pope, Murray, and Mobley (2010) used the CRMS in a study exploring the applicability of the instrument to individuals in same-sex relationships. Participants were asked to self-identify as being in an intimate committed relationship with a person of the same sex. Ninety-five participants took the CRMS. The total scale (a ¼ .91), PRAS (a ¼ .84), and RRAS (a ¼ .91) demonstrated adequate internal consistency, similar to the ratings in previous studies. The CRAS, however, had a more marginal internal consistency rating (a ¼ .71) as compared to the validation studies where the majority of participants were opposite-sex partners. The findings of this study suggest that the CRMS is applicable to partners in same-sex relationships, that same-sex partners responded similarly to opposite-sex partners who took the instrument, and that same-sex partners may experience more variability in contextual resources, such as social support, than opposite-sex partners (Pope et al., 2010). Through the studies reviewed above, the researchers have found the CRMS to have adequate statistical properties for use as a practitioner-based assessment, and to be an applicable instrument for partners in diverse types of intimate relationships.

Rationale for the Development of the CRS

There are several reasons that a new version of the CRMS is needed in order to serve as a research instrument versus the clinically oriented CRMS in the interactive website format. First, from a clinical standpoint, the depth of information provided by the smaller subscales within each Resource Area scale is useful, in that it provides information about specific areas that serve as resources and barriers to clients in their relationships and in their progress toward treatment goals. Since the CRMS is designed to be discussed in counseling (Murray & Forti, 2009), the precision of these smaller subscales is important but not essential, based on the assumptions that (a) no major life decisions are likely to be based on them and (b) clients have an opportunity to discuss differences in their ratings and their subjective views of these areas with their counselors if they disagree with the ratings. However, from a psychometric standpoint, these smaller scales prove be problematic, in that some of their internal consistency coefficients were low (e.g., in Murray, 2007, the range was from a ¼ .40 to a ¼ .80).

Second, the CRMS has not yet been subjected to a factor analysis to examine its underlying factor structure. The practice-oriented CRMS is grounded in the conceptual framework of the map. However, for research purposes, it is important that the underlying factor structure be determined in order to measure resources most accurately. Third, the CRMS is rather lengthy to be used for research purposes. With 63 items, the instrument is cumbersome to include in a battery of instruments to assess the relationships between resources and other variables of interest. Finally, from a practical standpoint, it is costly and technologically challenging to use the Internetbased version of the CRMS for research purposes. Adding new instrumentation to the site requires reprogramming of the CRMS website, and the cost of doing this is prohibitive for many researchers.

For all these reasons, we set out in this study to create a new version of the CRMS, the CRS, which would be more accessible and useful for researchers. The researchers used an EFA to determine the most appropriate way to revise the CRMS to make it a concise instrument with sound psychometric properties that gathers meaningful information about the levels of different types of resources for partners in couple relationships.

Method

Sample

The sample used for this study was a convenience sample recruited through a variety of strategies. Our goal was to use recruitment strategies that would result in a diverse, geographically unrestricted, naturalistic sample of respondents. Sample recruitment occurred from approximately January 2008 through June 2011. The sample included all individuals who completed the online CRMS during this data collection period. The only incentive that participants received for participating in this study was the immediate, printable feedback in the form of the completed CRM that depicted the amounts of support available to them from the 21 different resources included on the map. This feedback was based on their responses to the

instrument. Participants were required to be over the age of 18 and to be currently involved in a monogamous intimate relationship in order to participate. For purposes of this study, a monogamous intimate relationship is defined as an exclusive relationship, in which two individuals share an emotional, romantic, and/or sexual connection, and both individuals agree that neither partner will share a similar relationship with another person.

Of the 458 participants, 369 identified as female (78.4%) and 99 as male (21.6%). Participants' age ranged from 18 to 73 with a mean of 35.21. The majority of participants reported their ethnicity as Caucasian (N ¼ 362; 79%). Forty-three participants identified as African American (9.4%), 16 participants as Hispanic (3.5%), 31 participants reported their ethnicity as other (6.8%), and 4 did not respond (.9%). In terms of relationship status, 217 participants reported being in marital relationships (47.4%), 107 participants were in dating relationship (23.4%), 77 participants reported that they were engaged (16.8%), and 55 participants reported that they were cohabiting (12%). Participants' relationship duration ranged from less than 1 year to 45 years with a mean of 8 years.

Recruitment

The sample for this study was recruited through multiple convenience and snowball sampling techniques. Recruitment strategies included references to the survey website in conference presentations, journal articles of the second author's previous work developing the CRMS, and on C. Murray's faculty webpage. Participants also were recruited by targeting couples counselors who may have referred their clients to the CRMS website. Recruitment methods targeting counselors relied on personal contacts made with practicing couples counselors, e-mails sent to Internet databases for counselors where e-mail addresses were publicly available, and an e-mail sent to the American Counseling Association's listserv for graduate students inviting them to refer their internship clients to the CRMS. Additionally, participants were recruited through e-mails sent to list-serves targeting faculty and students at the University of North Carolina at Greensboro, through postings on the discussion boards of groups related to couple and relationship issues on Facebook and MySpace, and through paper fliers posted in coffee shops in the Greensboro, NC, area. The survey website is available to the public, so it is possible that some participants may have learned about the CRMS study through other means—such as through an Internet search engine or by word of mouth.

Instrumentation

The instrumentation included the CRMS, the Relationship Assessment scale as a measure of relationship satisfaction (Hendrick, 1988), and a demographic information questionnaire, for a total of 83 items. See the discussion of previous studies on the CRMS discussed in the literature review section for additional information about the development and psychometric properties of the CRMS. The RAS (Hendrick, 1988) is a 7-item scale that assesses relationship satisfaction, and demonstrates good internal consistency with established predictive and concurrent validity

(Corcoran & Fisher, 2000). The instrumentation was estimated to take approximately 15–20 min to complete. Participants' responses were anonymous. The CRMS website asks respondents to indicate whether they have completed the instrument previously. If they responded ''yes'' to this question, their responses were dropped from subsequent analyses.

Data Analysis

The data were first prepared for EFA. Data screening was utilized in order to identify the accuracy of the data together with the amount and distribution of missing data and outliers. The underlying assumptions of the EFA were checked so that its robust use was controlled. Finally, EFA and reliability analysis were conducted.

Results

EFA

The data were examined through SPSS 16.0 computer program for entry correctness and missing values. Systematic and random missing values were found in the data set. Cases with systematic missing values more than 5% of the total case responses were excluded from the data. One hundred twenty cases appeared to have random incomplete data. Because listwise and pairwise deletion methods would discard such a big number of cases in the analysis, incomplete data were handled by replacement with mean method. Thus, the present study involved an adequate sample size of 458 for the factor analysis (n > 300; Tabachnick & Fidell, 2001). Likewise, the item to sample size ratio (1:7.33) was also considered to be adequate for an EFA.

Prior to conducting the EFA, statistical assumptions for factor analysis were checked. The univariate normality assumption was checked through examining skewness and kurtosis coefficients, histograms, boxplots, Q–Q plots, Kolmogorov–Smirnov, and Shapiro–Wilk normality tests. Skewness and kurtosis coefficients were found to be different than 0. Skewness values ranged between □1.542 and .118 which was within the acceptable range of □2 to þ2. Similarly, kurtosis values ranged between □.534 and 3.925, again, they were within the acceptable range of □5 to þ5. Histograms and boxplots for each item indicated that most of the items were not distributed normally, whereas normal Q–Q plots appeared to meet the linearity assumption. Kolmogorov–Smirnov and Shapiro–Wilk normality tests for each item also were calculated for univariate normality. Indicating non-normality, the results of Kolmogorov–Smirnov and Shapiro–Wilk tests were significant. However, Kolmogorov–Smirnov and Shapiro–Wilk normality tests were presented as conservative and may incorrectly fail to reject the null hypothesis, and thus can become less powerful than was expected (PROPHET Statguide, 2007).

Table 1. Mean and Standard Deviation of the Item Scores of Couples

Resource Scales (CRS).

M SD

Item 1 3.21 0.70

Item 2 3.64 0.58

Item 3 2.99 0.78

Item 4 3.08 0.87

Item 5 3.23 0.59

Item 6 3.00 0.92

Item 7 3.23 0.69

Item 8 2.34 0.72

Item 9 3.02 0.60

Item 10 3.34 0.55

Item 11 3.17 0.72

Item 12 2.73 0.80

Item 13 3.13 0.84

Item 14 2.81 0.86

Item 15 3.17 0.76

Item 16 3.53 0.56

Item 17 3.15 0.68

Item 18 3.03 0.59

Item 19 3.34 0.71

Item 20 3.24 0.67

Item 21 3.35 0.71

Item 22 2.25 0.78

Item 23 3.11 0.77

Item 24 3.62 0.52

Item 25 3.30 0.66

Item 26 2.88 0.70

Item 27 3.40 0.64

Item 28 3.06 0.78

Item 29 2.58 0.80

Item 30 2.77 0.83

Item 31 3.01 0.78

Item 32 2.81 0.90

Item 33 3.24 0.71

Item 34 3.08 0.62

Item 35 2.02 0.66

Item 36 3.51 0.52

Item 37 2.88 0.79

Item 38 3.48 0.59

Item 39 2.80 0.70

Item 40 2.91 0.77

Item 41 2.53 1.06

Item 42 3.15 0.72

Item 43 3.12 0.62

Item 44 3.42 0.64

Item 45 3.16 0.72

Item 46 3.30 0.64

Item 47 3.46 0.62

Item 48 2.99 0.79

Item 49 2.97 0.70

Item 50 3.39 0.64

Item 51 2.79 0.82

Item 52 2.90 0.79

Item 53 2.91 0.75

Item 54 2.22 0.84

Item 55 3.23 0.58

Item 56 3.30 0.54

Item 57 2.89 0.75

Item 58 3.23 0.57

Item 59 3.16 0.54

Item 60 3.16 0.75

Item 61 2.92 0.77

Item 62 2.66 0.82

Item 63 2.88 0.81

Note. Means were based on a scale of 1–4.

For the multivariate normality assumption, Mardia's test was run. The result of Mardia's test was found to be significant, so the multivariate normality assumption was not met. As a result, the univariate normality and multivariate normality check on the current data revealed that there were inconsistent findings between tests, as the data appeared to be normally distributed in some of the tests, whereas not normally distributed in others. Since the sample size of the present study was large enough for EFA, researchers decided to continue the analysis with caution.

Second, the data were checked for univariate and multivariate outliers. For the univariate outliers, 32 cases were found exceeding the Z score of þ3.29 and _3.29 (Tabachnick & Fidell, 2001). In order to detect multivariate outliers, a Mahalanobis distance test was used, identifying 16 cases as multivariate outliers. The large number of univariate and multivariate outliers is considered to be a result of the diverse profile of the participants. The present study involved a geographically unrestricted and naturalistic sample of respondents. Among these 32 univariate and 16 multivarite outliers, one of the cases appeared to be a constant outlier. Thus, researchers decided to exclude just that case as an outlier from the study, but were conservative in interpreting the results. Mean and standard deviation of the item scores of CRS are presented in

Table 1.

Third, the correlation matrix of the items was obtained. The correlations between the items were expected to be greater than .30 in order to satisfy one of the assumptions for factor analysis (Hair, Anderson, Tatham, & Black, 1998). Although there were correlations smaller than the given value, some correlation values were also found to be greater than .30. Thus, the relatively high correlations between some of the items were interpreted as the indication of underlying relationship patterns even at the first visual inspection of the correlation matrix. In other words, there were clusters of items appeared to be conceptually related to each other. Finally, the Bartlett test of sphericity was calculated and had shown a statistically significant result (w2 ¼ 1.266, df ¼ 1953, p < .001). Furthermore, the result of the Kaiser– Meyer–Olkin measure of sampling adequacy was found .90 as greater than the suggested minimum value of .60 for conducting factor analysis (Tabachnick & Fidell, 2001).

After all the necessary assumptions were checked and the data were considered to meet the minimum requirements for factor analysis, an EFA with maximum likelihood extraction and oblique rotation was conducted. In the preliminary EFA, 15 factors with eigenvalues more than 1.0 were observed. However, a close inspection of scree plot revealed that there were three factors before the breaking point (see Figure 2). Thus, retaining the consistency between the theoretical and conceptual background of the CRS and preliminary EFA results, three factors were extracted. Furthermore, item loadings less than .30 were suppressed in the EFA to obtain a stronger loading structure.
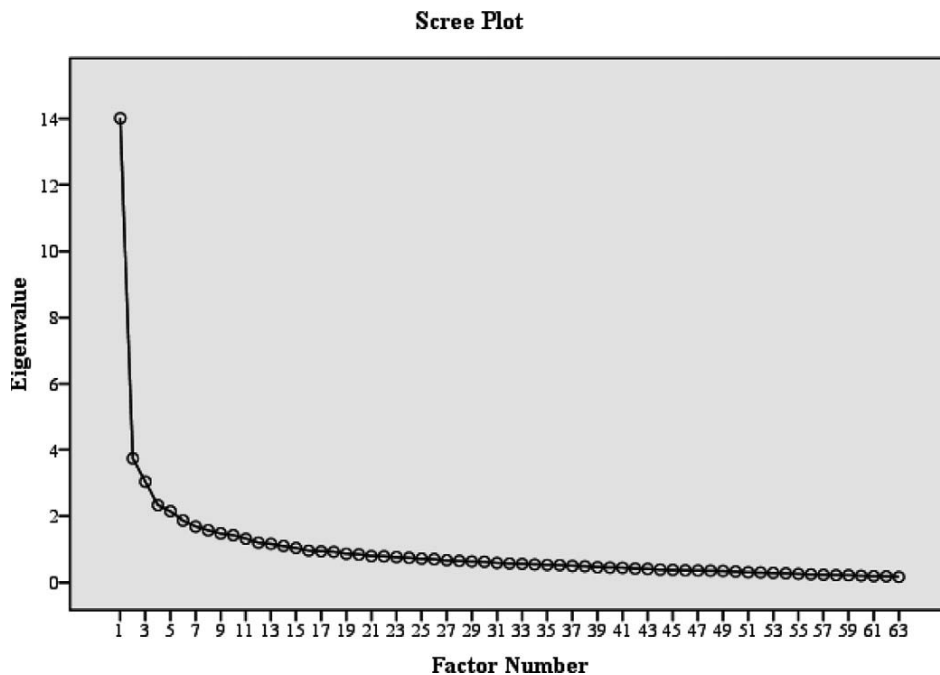

Figure 2. The scree plot of 63 manifest variables.

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EFA results of 63 manifest variables with a three-factor solution indicated that 16 items did not load on any factors. The first factor appeared as relationship resources, and 21 items loaded on this factor. The first factor also involved four items originally from personal resource and one item originally from contextual resource scales. From a conceptual frame of reference, all five items appeared to have unclear wording, which may either be perceived as a personal or a relational source for different individuals. For the second (personal resources) and the third (contextual resources) factors, item loadings were conceptually appropriate. Therefore, researchers decided to exclude these 5 items as well as the 16 unloaded items. A second EFA was conducted with the remaining 42 items. Two more items did not load onto any of the factors and were also excluded from the scale. In the third EFA, all 40 items loaded on three separate factors, as expected conceptually, and there were no double loadings.

Final results of the EFA yielded three factors with eigenvalues of 10.701 for Factor 1, 3.149 for Factor 2, and 2.735 for Factor 3. The total variance explained by the three-factor structure was approximately 37%. The first factor appeared as the relational resources with 16 items. The second factor appeared as personal resources and involved 11 items. The third factor appeared as contextual resources with 13 items. Table 2 shows factor loadings derived from the pattern matrix following oblique rotation.

Results for the Reliability Study

Cronbach's a reliability estimation was applied to the whole scale and three subscales in order to obtain internal consistency of the CRS. The overall scale (a ¼ .92) and the three subscales (relational resources, a ¼ .91; personal resources, a ¼ .88; and contextual resources, a ¼ .81) demonstrated adequate internal consistency. For the overall scale and all three factors, there were no items reducing the reliability coefficients of the each structure. Therefore, all the items included in the scale through the factor analysis also were supported by the reliability coefficients and item-scale/factor correlations. These results indicated that the CRS had satisfactory internal consistency.

Results of the Predictive Validity Analysis

In order to examine the predictive power of the CRS, a standard multiple regression analysis was conducted. In the regression analysis, total scores of three CRS subscales were entered as predictor variables whereas participants' relationship satisfaction ratings were included as the dependent variable. Multiple regression analysis results revealed that the model of three subscales significantly predicted participants' relationship satisfaction ratings, R ¼ .64, R2 ¼

.41, F(3,452) ¼ 103.55, p < .001. In the model, approximately 41% of the variance in participants' relationship satisfaction was explained by participants' relational, personal, and contextual resources scores. Individually, relational resources appeared to be the only significant predictor (b ¼ .12, t ¼ 14.84, p < .001) whereas personal (b ¼ □.02, t ¼ □1.41, p > .05) and contextual resources (b ¼ .004, t ¼ .48, p > .05) were not significantly contributing on participants' relationship satisfaction ratings. Thus, the predictive validity of relational, personal, and contextual resources subscales may be supported by this finding; however, further validity studies with other constructs are considered to be necessary.

Table 2 is omitted from this formatted document.

Discussion

Through the EFA, the researchers reduced the CRMS from 63 to 40 items to construct the CRS. The CRS was found to have three subscales: personal resources, relational resources, and contextual resources. This three-factor structure parallels the theoretical foundations of the CRMS (Huston, 2000; Murray & Murray, 2004), providing support for conceptualizing relationship resources as based in the individual, the relationship, and the social context and environment. As for reliability of the CRS, internal consistency values for the overall scale and for each subscale were sufficient for social science research, with all a coefficients exceeding .81. Finally, through a multiple regression analysis, the 40-item CRS was predictive of participants' relationship satisfaction, demonstrating initial predictive validity of the CRS.

However, when the subscales were analyzed individually, only relational resources was found to be uniquely predictive of relationship satisfaction. This finding is consistent with results from previous studies with the CRMS (Murray, 2007; Pope et al., 2010). The measure that was used for relationship satisfaction, the Relationship Assessment scale, is a 7-item measure that contains questions that assess partners' perceptions of their relationships. That the measure is relationally focused could explain the results of the predictive validity test. Moreover, previous researchers have identified that relationship commitment, rather than relationship satisfaction, is the most salient predictor of relationship stability (Kurdek, 2007). Future studies should look at how the CRS relates to other relationship constructs, particularly commitment, in determining the predictive validity of the CRS.

Limitations

There are several limitations to this research study. First, when checking the statistical assumptions for the EFA, the univariate and multivariate normality checks were inconsistent in determining whether the data were normally distributed. Further, an excessive number of items were identified as multivariate outliers; however, due to the diverse sample, the researchers did not exclude the outliers from the EFA. The Kaiser – Meyer–Olkin measure of sampling adequacy also was found to be higher than the suggested minimum value. Other tests, however, demonstrated that our data set met the minimum requirements for an EFA. As the preliminary

data analyses did not yield clear-cut results for the completion of an EFA, the results of the EFA should be interpreted cautiously and continued research is needed before making a more definitive statement on the empirical soundness of the CRS. Finally, the response format was anonymous so we were unable to identify if any participants were in a relationship with each other, and so dynamics of that relationship could be overrepresented in the results.

Implications

Through this study, the CRMS was subjected to an EFA to explore its underlying factor structure. Based on our findings, the three-factor framework for understanding couple relationships as proposed by Huston (2000) is applicable to conceptualizing the relationship resources of couples (Murray & Murray, 2004). Resources and strengths that support couples' relationships can be located within the individual, the relationship, and the contextual environment. Further, the three-factor structure of the CRS provides additional support for the utility of the clinically based CRM and CRMS as a more stringent analysis was applied to the CRMS in this study than in previous studies. In terms of counseling implications, theories such as SFBT, that emphasize all three levels of relationship functioning, may be well suited to strengthening and supporting couple relationships in counseling through identification and enhancement of resources.

In terms of developing a research instrument, the 40-item CRS obtained from the analysis displayed sounder psychometric properties than the CRMS with higher internal consistency ratings of the overall scale and each major subscale (i.e., personal, relational, and contextual). Through the EFA, we reduced the number of items of the CRMS by 23 to form the CRS, forming a shorter instrument that has more utility for research purposes. As a research instrument, the three major subscales of the CRS do not need to be broken down into smaller subscales to provide specific information as would be useful in a clinical setting. Rather, the CRS can be used to explore the relationships between personal, relational, and contextual resources and other constructs related to intimate relationship stability and satisfaction. Based on this preliminary analysis, the CRS appears to be a concise and useful instrument to explore the levels of different types of resources for partners in couple relationships.

Further research is needed to continue to determine the reliability, validity, and utility of the CRS. The next step to strengthen the psychometric properties of the CRS will be to use confirmatory factor analyses to corroborate the three-factor structure found through the EFA. Further, we only used one construct (i.e., relationship satisfaction) to measure the predictive validity of the CRS, so future studies are needed to examine the relationships between the CRS and other major relationship constructs to determine the validity of the instrument. In previous studies with the CRMS as well as in this study, the relational resources subscale was the most predictive of relationship satisfaction, and future studies need to determine if this connection holds true for other relational constructs, such as relationship commitment or stability. Finally, the use of dyadic data would help researchers identify the similarities in partners' reporting of

resources. Based on our results, the CRS holds promise as a research instrument that values the agency and abilities of individuals through assessing the resources each partner brings to a relationship.

Declaration of Conflicting Interests

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