

# Validation of the Timberlawn Couple and Family Evaluation Scales—Self-Report in Veterans with PTSD

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A modified version of the the Timberlawn Couple and Family Evaluation Scales was validated to assess intimate partner relationship functioning among veterans who suffer from PTSD.

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**A**lthough about 8.3% of the general adult civilian population will be diagnosed with posttraumatic stress disorder (PTSD) in their lifetime, rates of PTSD are even higher in the veteran population.<sup>1,2</sup> PTSD is associated with a number of psychosocial consequences in veterans, including decreased intimate partner relationship functioning.<sup>3,4</sup> For example, Cloitre and colleagues reported that PTSD is associated with difficulty with socializing, intimacy, responsibility, and control, all of which increase difficulties in intimate partner relationships.<sup>5</sup> Similarly, researchers also have noted that traumatic experiences can affect an individual's attachment style, resulting in progressive avoidance of interpersonal relationships, which can lead to marked difficulties in maintaining and beginning intimate partner relationships.<sup>6,7</sup> Despite these known consequences of PTSD, as Dekel and Monson noted in a review, further research is still needed regarding the mechanisms by which trauma and PTSD result in decreased intimate partner relationship functioning among veterans.<sup>8</sup> Nonetheless, as positive interpersonal relationships are associated with decreased PTSD symptom severity<sup>9,10</sup> and increased engagement in PTSD treatment,<sup>11</sup> determining methods of measuring intimate partner relationship functioning in veterans with PTSD is important to inform future research and aid the provision of care.

To date, limited research has examined the valid measurement of intimate partner relationship functioning among veterans with PTSD. Many existing measures that comprehensively assess intimate partner relationship functioning are time and resource intensive. One such measure, the Timberlawn Couple and Family Evaluation Scales (TCFES),

comprehensively assesses multiple pertinent domains of intimate partner relationship functioning (ie, structure, autonomy, problem solving, affect regulation, and disagreement/conflict).<sup>12</sup> By assessing multiple domains, the TCFES offers a method of understanding the specific components of an individual's intimate partner relationship in need of increased clinical attention.<sup>12</sup> However, the TCFES is a time- and labor-intensive observational measure that requires a couple to interact while a blinded, independent rater observes and rates their interactions using an intricate coding process. This survey structure precludes the ability to quickly and comprehensively assess a veteran's intimate partner functioning in settings such as mental health outpatient clinics where mental health providers engage in brief, time-limited psychotherapy. As such, brief measures of intimate partner relationship functioning are needed to best inform clinical care among veterans with PTSD.

The primary aim of the current study was to create a psychometrically valid, yet brief, self-report version of the TCFES to assess multiple domains of intimate partner relationship functioning. The psychometric properties of this measure were assessed among a sample of US veterans with PTSD who were in an intimate partner relationship. We specifically examined factor structure, reliability, and associations to established measures of specific domains of relational functioning.

## METHODS

Ninety-four veterans were recruited via posted advertisements, promotion in PTSD therapy groups/staff meetings, and word of mouth at the Dallas Veterans Affairs Medical Center (VAMC). Participants were eligible if they had a

documented diagnosis of PTSD as confirmed in the veteran's electronic medical record and an affirmative response to currently being involved in an intimate partner relationship (ie, legally married, common-law spouse, involved in a relationship/partnership). There were no exclusion criteria.

Interested veterans were invited to complete several study-related self-report measures concerning their intimate partner relationships that would take about an hour. They were informed that the surveys were voluntary and confidential, and that they would be compensated for their participation. All veterans who participated provided written consent and the study was approved by the Dallas VAMC institutional review board.

Of the 94 veterans recruited, 3 veterans' data were removed from current analyses after informed consent but before completing the surveys when they indicated they were not currently in a relationship or were divorced. After consent, the 91 participants were administered several study-related self-report measures. The measures took between 30 and 55 minutes to complete. Participants were then compensated \$25 for their participation.

### INTIMATE PARTNER RELATIONSHIP FUNCTIONING

The 16-item TCFES self-report version (TCFES-SR) was developed to assess multiple domains of interpersonal functioning (Appendix). The observational TCFES assesses 5 intimate partner relationship characteristic domains (ie, structure, autonomy, problem solving, affect regulation, and disagreement/conflict) during a couple's interaction by an independent trained rater.<sup>12</sup> Each of the 16 TCFES-SR items were modeled after original constructs measured by the TCFES, including power, closeness, clarify, other's views, responsibility, closure, negotiation, expressiveness, responsiveness, positive regard, negative regard, mood/tone, empathy, frequency, affective quality, and generalization and escalation. To maintain consistency with the TCFES, each item of the TCFES-SR was scored from 1 (severely dysfunctional) to 5 (highly functional). Additionally, all item wording for the TCFES-SR was based on wording in the TCFES manual after consultation with an expert who facilitated the development of the TCFES.<sup>12</sup> On average, the TCFES-SR took 5 to 10 minutes to complete.

To measure concurrent validity of the modi-

**TABLE 1**  
**Sociodemographic Information (N = 86)**

Characteristics	Results
Age, mean (SD), y	50.36 (15.1)
Years of education, mean (SD)	14.36 (2.5)
Duration of interpersonal relationship, mean (SD), y	14.47 (13.5)
Race, No. (%)	
White	38 (44.2)
Black	44 (51.2)
Other <sup>a</sup>	4 (4.7)
Ethnicity, No. (%)	
Hispanic	14 (16.3)
Non-Hispanic	72 (83.7)
Sex, No. (%)	
Male	69 (80.2)
Female	17 (19.8)
Service branch, No. (%)	
Army	58 (67.4)
Marines	13 (15.1)
Navy	3 (3.5)
Air Force	7 (8.1)
Other <sup>b</sup>	4 (4.7)
National Guard	1 (1.2)
Index trauma, No. (%)	
Combat	60 (69.8)
Military sexual trauma	19 (22.1)
Other civilian	1 (1.2)
Other child	1 (1.2)
Other military	3 (3.5)
Declined to state	2 (2.3)

<sup>a</sup>Other category was a combination of veterans who self-identified as Native Hawaiian (n = 1) or multiracial (n = 3).

<sup>b</sup>These veterans indicated they worked in multiple service branches and are not included in other service branch categories.

fied TCFES-SR, several additional interpersonal measures were selected and administered based on prior research and established domains of the TCFES. The Positive and Negative Quality in Marriage Scale (PANQIMS) was administered to assess perceived attitudes toward a relationship.<sup>13,14</sup> The PANQIMS generates 2 subscales: positive quality and negative quality in the relationship. Because the PANQIMS specifically assesses married relationships and our sample included married and nonmarried participants, wording was modified (eg, "spouse/partner").

The relative power subscale of the Network Relationships Inventory-Relationship Qualities Version (NRI-RQV) measure was

**TABLE 2**  
**Factor Loadings for the Timberlawn Couple and Family Evaluation Scales–Self-Report**

Item	Factor Load
Positive regard	0.85
Closure	0.84
Empathy	0.81
Responsibility	0.80
Responsiveness	0.75
Clarify	0.73
Mood/tone	0.70
Affective quality	0.69
Negotiation	0.66
Negative regard	0.66
Other's views or opinions	0.63
Frequency	0.63
Generalization and escalation	0.61
Closeness	0.60
Expressiveness	0.57
Power	0.50

administered to assess the unequal/shared role romantic partners have in power equality (ie, relative power).<sup>15</sup>

The Revised Dyadic Adjustment Scale (RDAS) is a self-report measure that assesses multiple dimensions of marital adjustment and functioning.<sup>16</sup> Six subscales of the RDAS were chosen based on items of the TCFES-SR: decision making, values, affection, conflict, activities, and discussion.

The Interpersonal Reactivity Index (IRI) empathetic concern subscale was administered to assess empathy across multiple contexts and situations<sup>17</sup> and the Experiences in Close Relationships-Revised Questionnaire (ECR-R) was administered to assess relational functioning by determining attachment-related anxiety and avoidance.<sup>18</sup>

### Sociodemographic Information

A sociodemographic questionnaire also was administered. The questionnaire assessed gender, age, education, service branch, length of interpersonal relationship, race, and ethnicity of the veteran as well as gender of the veteran's partner.

### Statistical Analysis

Factor structure of the TCFES-SR was determined by conducting an exploratory factor analysis. To allow for correlation between items, the Promax oblique rotation method was chosen.<sup>19</sup> Number of factors was determined by agreement between number of eigenvalues  $\geq 1$ , visual inspection of the scree plot, and a parallel analysis. Factor loadings of  $\geq 0.3$  were used to determine which items loaded on to which factors.

Convergent validity was assessed by conducting Pearson's bivariate correlations between identified TCFES-SR factor(s) and other administered measures of interpersonal functioning (ie, PANQIMS positive and negative quality; NRI-RQV relative power subscale; RDAS decision making, values, affection, conflict, activities, and discussion subscales; IRI-empathetic concern subscale; and ECR-R attachment-related anxiety and avoidance subscales). Strength of relationship was determined based on the following guidelines:  $\pm 0.3$  to  $0.49$  = small,  $\pm 0.5$  to  $0.69$  = moderate, and  $\pm 0.7$  to  $1.00$  = large. Internal consistency was also determined for TCFES-SR factor(s) using Cronbach's  $\alpha$ . A standard level of significance ( $\alpha=.05$ ) was used for all statistical analyses.

### RESULTS

Eighty-six veterans provided complete data (Table 1). The Kaiser-Meyer-Olkin measure of sampling adequacy was indicative that sample size was adequate (.91), while Bartlett's test of sphericity found the variables were suitable for structure detection,  $\chi^2(120) = 800.00$ ,  $P < .001$ . While 2 eigenvalues were  $\geq 1$ , visual inspection of the scree plot and subsequent parallel analysis identified a unidimensional structure (ie, 1 factor) for the TCFES-SR. All items were found to load to this single factor, with all loadings being  $\geq 0.5$  (Table 2). Additionally, internal consistency was excellent for the scale ( $\alpha = .93$ ).

Pearson's bivariate correlations were significant ( $P < .05$ ) between TCFES-SR total score, and almost all administered interpersonal func-

TABLE 3

### Pearson's Bivariate Correlations Between the Timberlawn Couple and Family Evaluation Scales–Self-Report and Measures of Interpersonal Functioning

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. TCFES-SR	–												
2. PANQIMS+	.59 <sup>g</sup>	–											
3. PANQIMS– <sup>a</sup>	-.62 <sup>g</sup>	-.39 <sup>g</sup>	–										
4. NRI-RQV-RP <sup>b</sup>	.43 <sup>g</sup>	.22 <sup>e</sup>	-.27 <sup>e</sup>	–									
5. RDAS-DM <sup>c</sup>	.55 <sup>g</sup>	.44 <sup>g</sup>	-.32 <sup>f</sup>	.17	–								
6. RDAS-V <sup>c</sup>	.40 <sup>g</sup>	.25 <sup>e</sup>	-.17	.16	.50 <sup>g</sup>	–							
7. RDAS-Aff <sup>c</sup>	.55 <sup>g</sup>	.47 <sup>g</sup>	-.42 <sup>g</sup>	.13	.54 <sup>g</sup>	.51 <sup>g</sup>	–						
8. RDAS-C <sup>c</sup>	.65 <sup>g</sup>	.37 <sup>g</sup>	-.44 <sup>g</sup>	.35 <sup>f</sup>	.50 <sup>g</sup>	.35 <sup>f</sup>	.46 <sup>g</sup>	–					
9. RDAS-Act <sup>c</sup>	.54 <sup>g</sup>	.48 <sup>g</sup>	-.28 <sup>f</sup>	.27 <sup>e</sup>	.48 <sup>g</sup>	.28 <sup>f</sup>	.44 <sup>g</sup>	.46 <sup>g</sup>	–				
10. RDAS-Disc <sup>c</sup>	.61 <sup>g</sup>	.38 <sup>g</sup>	-.40 <sup>g</sup>	.29 <sup>f</sup>	.50 <sup>g</sup>	.36 <sup>f</sup>	.49 <sup>g</sup>	.59 <sup>g</sup>	.74 <sup>g</sup>	–			
11. IRI-EC <sup>d</sup>	.10	.15	-.12	-.02	.16	.04	.13	.15	.20	.17	–		
12. ECR-R-Anx	-.52 <sup>g</sup>	-.30 <sup>f</sup>	.42 <sup>g</sup>	-.25 <sup>e</sup>	-.47 <sup>g</sup>	-.32 <sup>f</sup>	-.38 <sup>g</sup>	-.36 <sup>f</sup>	-.33 <sup>f</sup>	-.31 <sup>f</sup>	.08	–	
13. ECR-R-Avoid	-.55 <sup>g</sup>	-.46 <sup>g</sup>	.53 <sup>g</sup>	-.25 <sup>e</sup>	-.49 <sup>g</sup>	-.26 <sup>f</sup>	-.43 <sup>g</sup>	-.45 <sup>g</sup>	-.41 <sup>g</sup>	-.44 <sup>g</sup>	-.21 <sup>e</sup>	.50 <sup>g</sup>	–

Abbreviations: ECR-R-Anx, Experiences in Close Relationships-Revised Questionnaire Attachment-Related Anxiety; ECR-R-Avoid, Experiences in Close Relationships-Revised Questionnaire Attachment-Related Avoidance; IRI-EC, Interpersonal Reactivity Index empathetic concern subscale; NRI-RQV-RP, Network Relationships Inventory–Relationship Qualities Version relative power subscale; PANQIMS+, Positive and Negative Quality in Marriage Scale positive quality; PANQIMS–, Positive and Negative Quality in Marriage Scale negative quality; RDAS-Act, Revised Dyadic Adjustment Scale activities subscale; RDAS-Aff, Revised Dyadic Adjustment Scale affective subscale; RDAS-C, Revised Dyadic Adjustment Scale conflict subscale; RDAS-Disc, Revised Dyadic Adjustment Scale discussion subscale; RDAS-DM, Revised Dyadic Adjustment Scale decision making subscale; RDAS-V, Revised Dyadic Adjustment Scale values subscale; TCFES-SR, Timberlawn Couple and Family Evaluation Scales–Self-Report.

<sup>a</sup>Missing data for 1 participant's PNQMS–. <sup>b</sup>Missing data for 1 participant's NRI-RQV-RP.

<sup>c</sup>Missing data for 1 participant's RDAS subscales.

<sup>d</sup>Missing data for 2 participants' IRI-EC.

<sup>e</sup> $P < .05$ .

<sup>f</sup> $P < .01$ .

<sup>g</sup> $P < .001$ .

tioning measures (Table 3). Interestingly, no significant associations were found between any of the administered measures, including the TCFES-SR total score, and the IRI-empathetic concern subscale ( $P > .05$ ).

## DISCUSSION

These findings provide initial support for the psychometric properties of the TCFES-SR, including excellent internal consistency and the adequate association of its total score to established measures of interpersonal functioning. Contrary to the TCFES, the TCFES-SR was shown to best fit a unidimensional factor rather than a multidimensional measure of relationship functioning. However, the TCFES-SR was also

shown to have strong convergent validity with multiple domains of relationship functioning, indicating that the measure of overall intimate partner relationship functioning encompasses a number of relational domains (ie, structure, autonomy, problem solving, affect regulation, and disagreement/conflict). Critically, the TCFES-SR is brief and was administered easily in our sample, providing utility as clinical tool to be used in time-sensitive outpatient settings.

A unidimensional factor has particular strength in providing a global portrait of perceived intimate partner relationship functioning, and mental health providers can administer the TCFES-SR to assess for overall perceptions of intimate partner relationship function-

ing rather than administering a number of measures focusing on specific interpersonal domains (eg, decision making processes or positive/negative attitudes towards one's relationship). This allows for the quick assessment (ie, 5-10 minutes) of overall intimate partner relationship functioning rather than administration of multiple self-report measures which can be time-intensive and expensive. However, the TCFES-SR also is limited by a lack of nuanced understanding of perceptions of functioning specific to particular domains. For example, the TCFES-SR score cannot describe intimate partner functioning in the domain of problem solving. Therefore, brief screening tools need to be developed that assess multiple intimate partner relationship domains.

Importantly, overall intimate partner relationship functioning as measured by the TCFES-SR may not incorporate perceptions of relationship empathy, as the total score did not correlate with a measure of empathetic concern (ie, the IRI-empathetic concern subscale). As empathy was based on one item in the TCFES-SR vs 7 in the IRI-empathetic concern subscale, it is unclear if the TCFES-SR only captures a portion of the construct of empathy (ie, sensitivity to partner) vs the comprehensive assessment of trait empathy that the IRI subscale measures. Additionally, the IRI-empathetic concern subscale did not significantly correlate with any of the other administered measures of relationship functioning. Given the role of empathy in positive, healthy intimate partner relationships, future research should explore the role of empathetic concern among veterans with PTSD as it relates to overall (eg, TCFES-SR) and specific aspects of intimate partner relationship functioning.<sup>20</sup>

While the clinical applicability of the TCFES-SR requires further examination, this measure has a number of potential uses. Information captured quickly by the TCFES-SR may help to inform appropriate referral for treatment. For instance, veterans reporting low total scores on the TCFES-SR may indicate a need for a referral for intervention focused on improving overall relationship functioning (eg, Integrative Behavioral Couple Therapy).<sup>21,22</sup> Measurement-based care (ie, tracking and discussing changes in symptoms during treatment using validated self-report measures) is now required by the Joint Commission as a standard of care, and has been shown to improve outcomes in couples therapy.<sup>23,24</sup> As a brief self-report measure, the TCFES-SR may be

able to facilitate measurement-based care and assist providers in tracking changes in overall relationship functioning over the course of treatment. However, the purpose of the current study was to validate the TCFES-SR and not to examine the utility of the TCFES-SR in clinical care; additional research is needed to determine standardized cutoff scores to indicate a need for clinical intervention.

### Limitations

Several limitations should be noted. The current study only assessed perceived intimate partner relationship functioning from the perspective of the veteran, thus limiting implications as it pertains to the spouse/partner of the veteran. PTSD diagnosis was based on chart review rather than a psychodiagnostic measure (eg, Clinician Administered PTSD Scale); therefore, whether this diagnosis was current or in remission was unclear. Although our sample was adequate to conduct an exploratory factor analysis, the overall sample size was modest, and results should be considered preliminary with need for further replication.<sup>25</sup> The sample was also primarily male, white or black, and non-Hispanic; therefore, results may not generalize to a more sociodemographically diverse population. Finally, given the focus of the study to develop a self-report measure, we did not compare the TCFES-SR to the original TCFES. Thus, further research examining the relationship between the TCFES-SR and TCFES may be needed to better understand overlap and potential incongruence in these measures, and to ascertain any differences in their factor structures.

### CONCLUSION

This study is novel in that it adapted a comprehensive observational measure of relationship functioning to a self-report measure piloted among a sample of veterans with PTSD in an intimate partner relationship, a clinical population that remains largely understudied. Although findings are preliminary, the TCFES-SR was found to be a reliable and valid measure of overall intimate partner relationship functioning. Given the rapid administration of this self-report measure, the TCFES-SR may hold clinical utility as a screen of intimate partner relationship deficits in need of clinical intervention. Replication in a larger, more diverse sample is needed to further examine the



generalizability and confirm psychometric properties of the TCFES-SR. Additionally, further understanding of the clinical utility of the TCFES-SR in treatment settings remains critical to promote the development and maintenance of healthy intimate partner relationships among veterans with PTSD. Finally, development of effective self-report measures of intimate partner relationship functioning, such as the TCFES-SR, may help to facilitate needed research to understand the effect of PTSD on establishing and maintaining healthy intimate partner relationships among veterans.

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### Author disclosures

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### Disclaimer

The opinions expressed herein are those of the authors and do not necessarily reflect those of *Federal Practitioner*, Frontline Medical Communications Inc., the US Government, or any of its agencies.

### References

- Kilpatrick DG, Resnick HS, Milanak ME, Miller MW, Keyes KM, Friedman MJ. National estimates of exposure to traumatic events and PTSD prevalence using DSM-IV and DSM-5 criteria. *J Trauma Stress*. 2013;26(5):537-547.
- Lehavot K, Goldberg SB, Chen JA, et al. Do trauma type, stressful life events, and social support explain women veterans' high prevalence of PTSD? *Soc Psychiatry Psychiatr Epidemiol*. 2018;53(9):943-953.
- Galovski T, Lyons JA. Psychological sequelae of combat violence: a review of the impact of PTSD on the veteran's family and possible interventions. *Aggress Violent Behav*. 2004;9(5):477-501.
- Ray SL, Vanstone M. The impact of PTSD on veterans' family relationships: an interpretative phenomenological inquiry. *Int J Nurs Stud*. 2009;46(6):838-847.
- Cloitre M, Miranda R, Stovall-McClough KC, Han H. Beyond PTSD: emotion regulation and interpersonal problems as predictors of functional impairment in survivors of childhood abuse. *Behav Ther*. 2005;36(2):119-124.
- McFarlane AC, Bookless C. The effect of PTSD on interpersonal relationships: issues for emergency service workers. *Sex Relation Ther*. 2001;16(3):261-267.
- Itzhaky L, Stein JY, Levin Y, Solomon Z. Posttraumatic stress symptoms and marital adjustment among Israeli combat veterans: the role of loneliness and attachment. *Psychol Trauma*. 2017;9(6):655-662.
- Dekel R, Monson CM. Military-related post-traumatic stress disorder and family relations: current knowledge and future directions. *Aggress Violent Behav*. 2010;15(4):303-309.
- Allen ES, Rhoades GK, Stanley SM, Markman HJ. Hitting home: relationships between recent deployment, posttraumatic stress symptoms, and marital functioning for Army couples. *J Fam Psychol*. 2010;24(3):280-288.
- Laffaye C, Cavella S, Drescher K, Rosen C. Relationships among PTSD symptoms, social support, and support source in veterans with chronic PTSD. *J Trauma Stress*. 2008;21(4):394-401.
- Meis LA, Noorbaloochi S, Hagel Campbell EM, et al. Sticking it out in trauma-focused treatment for PTSD: it takes a village. *J Consult Clin Psychol*. 2019;87(3):246-256.
- Lewis JM, Gossett JT, Housson MM, Owen MT. *Timberlawn Couple and Family Evaluation Scales*. Dallas, TX: Timberlawn Psychiatric Research Foundation; 1999.
- Fincham FD, Linfield KJ. A new look at marital quality: can spouses feel positive and negative about their marriage? *J Fam Psychol*. 1997;11(4):489-502.
- Kaplan KJ. On the ambivalence-indifference problem in attitude theory and measurement: a suggested modification of the semantic differential technique. *Psychol Bull*. 1972;77(5):361-372.
- Buhrmester D, Furman W. *The Network of Relationship Inventory: Relationship Qualities Version* [unpublished measure]. University of Texas at Dallas; 2008.
- Busby DM, Christensen C, Crane DR, Larson JH. A revision of the Dyadic Adjustment Scale for use with distressed and nondistressed couples: construct hierarchy and multidimensional scales. *J Marital Fam Ther*. 1995;21(3):289-308.
- Davis MH. A multidimensional approach to individual differences in empathy. *JSAS Catalog Sel Doc Psychol*. 1980;10:85.
- Fraley RC, Waller NG, Brennan KA. An item-response theory analysis of self-report measures of adult attachment. *J Pers Soc Psychol*. 2000;78(2):350-365.
- Tabachnick BG, Fidell L. *Using Multivariate Statistics*. 6th ed. Boston, MA: Pearson; 2013.
- Sautter FJ, Armelie AP, Glynn SM, Wielt DB. The development of a couple-based treatment for PTSD in returning veterans. *Prof Psychol Res Pr*. 2011;42(1):63-69.
- Jacobson NS, Christensen A, Prince SE, Cordova J, El-dridge K. Integrative behavioral couple therapy: an acceptance-based, promising new treatment of couple discord. *J Consult Clin Psychol*. 2000;9(2):351-355.
- Makin-Byrd K, Gifford E, McCutcheon S, Glynn S. Family and couples treatment for newly returning veterans. *Prof Psychol Res Pr*. 2011;42(1):47-55.
- Peterson K, Anderson J, Bourne D. *Evidence Brief: Use of Patient Reported Outcome Measures for Measurement Based Care in Mental Health Shared Decision Making*. Washington, DC: Department of Veterans Affairs; 2018. <https://www.ncbi.nlm.nih.gov/books/NBK536143>. Accessed September 13, 2019.
- Fortney JC, Unützer J, Wrenn G, et al. A tipping point for measurement-based care. *Psychiatr Serv*. 2017;68(2):179-188.
- Costello AB, Osborne JW. Best practices in exploratory factor analysis: four recommendations for getting the most from your analysis. *Pract Assess Res Eval*. 2005;10(7):1-9.

**APPENDIX**

**The Timberlawn Couple and Family Evaluation Scales–Self-Report (TCFES-SR)**

**Please choose the response that best describes your interpersonal relationship**

**Power**

- 1 - Talks between you and your spouse are disorganized, tasks don't get finished because you and your spouse have different goals.
- 2 - You and your spouse compete for power, but neither of you are in charge.
- 3 - You and your spouse compete for power and rarely negotiate or compromise.
- 4 - You and your spouse share power, but one of you is in charge.
- 5 - You and your spouse share power equally.

**Closeness**

- 1 - You and your spouse share very few similar interests, beliefs, activities, friends, values, and/or pleasurable time together.
- 2 - You and your spouse share a few similar interests, beliefs, activities, friends, values, and/or pleasurable time together.
- 3 - You and your spouse share some similar interests, beliefs, activities, friends, values, and/or pleasurable time together.
- 4 - You and your spouse share many similar interests, beliefs, activities, friends, values, and/or pleasurable time together.
- 5 - You and your spouse share very many similar interests, beliefs, activities, friends, values, and/or pleasurable time together.

**Clarify**

- 1 - It is very difficult for you or your spouse to explain your values, opinions, and/or ideas to one another.
- 2 - It is difficult for you or your spouse to explain your values, opinions, and/or ideas to one another.
- 3 - It is somewhat difficult for you or your spouse to explain your values, opinions, and/or ideas to one another.
- 4 - It is somewhat easy for you or your spouse to explain your values, opinions, and/or ideas to one another.
- 5 - It is very easy for you and your spouse clarify values, opinions, and/or ideas with one another.

**Other's views**

- 1 - It is very difficult for you to understand or listen to your spouse's views or opinions.
- 2 - It is difficult for you to understand or listen to your spouse's views or opinions.
- 3 - It is somewhat easy for you to understand or listen to your spouse's views or opinions.
- 4 - It is easy for you to understand or listen to your spouse's views or opinions.
- 5 - It is very easy for you to understand or listen to your spouse's views or opinions.

**Responsibility**

- 1 - You and your spouse find it very difficult to accept responsibility for your beliefs, feelings, or actions.
- 2 - You and your spouse find it difficult to accept responsibility for your beliefs, feelings, or actions.
- 3 - You and your spouse sometimes accept responsibility for your beliefs, feelings, or actions.
- 4 - You and your spouse usually accept responsibility for your beliefs, feelings, or actions.
- 5 - You and your spouse always accept responsibility for your beliefs, feelings, or actions.

**Closure**

- 1 - You and your spouse never are able to deal with problems or find solutions to difficult situations.
- 2 - You and your spouse almost never are able to deal with problems or find solutions to difficult situations.
- 3 - You and your spouse sometimes are able to deal with problems or find solutions to difficult situations.
- 4 - You and your spouse are usually able to deal with problems or find solutions to difficult situations.
- 5 - You and your spouse are always able to deal with problems or find solutions to difficult situations.

**Negotiation**

- 1 - You and your spouse never negotiate when you disagree.
- 2 - You and your spouse almost never negotiate when you disagree.
- 3 - You and your spouse sometimes negotiate when you disagree.
- 4 - You and your spouse usually negotiate when you disagree.
- 5 - You and your spouse always negotiate when you disagree.

**Expressiveness**

- 1 - You and your spouse have no expression of emotion.
- 2 - You and your spouse have little expression of emotion.
- 3 - You and your spouse have some expression of emotion.
- 4 - You and your spouse have a good amount of expression of emotion.
- 5 - You and your spouse always express emotion.

**Responsiveness**

- 1 - You and your spouse often respond to each other's emotions with negativity.
- 2 - You and your spouse often do not respond to one another's emotions.
- 3 - You and your spouse are sometimes positive and sometimes negative to each other's emotions.
- 4 - You and your spouse often respond to one another's emotions, but you may not feel the same emotion (if they are happy you become happy).
- 5 - You and your spouse always respond to one another's emotions, often feeling the same emotion.

**Positive regard**

- 1 - You and your spouse show little to no positive feelings or actions for one another.
- 2 - You and your spouse show some positive feelings or actions for one another.
- 3 - You and your spouse show positive feelings or actions for one another.
- 4 - You and your spouse usually show positive feelings or actions for one another.
- 5 - You and your spouse strongly show positive feelings or actions for one another.

**Negative regard**

- 1 - You and your spouse strongly show negative feelings or actions for one another.
- 2 - You and your spouse usually show negative feelings or actions for one another.
- 3 - You and your spouse show negative feelings or actions for one another.
- 4 - You and your spouse show some negative feelings or actions for one another.
- 5 - You and your spouse show little to no negative feelings or actions for one another.

**Mood/tone**

- 1 - You and your spouse's tone and mood are usually negative.
- 2 - You and your spouse's tone and mood are sometimes negative.
- 3 - You and your spouse's tone and mood are negative at times and positive at other times.
- 4 - You and your spouse's tone and mood are sometimes positive.
- 5 - You and your spouse's tone and mood are usually positive.

**Empathy**

- 1 - You and your spouse almost never are sensitive to one another's feelings.
- 2 - You and your spouse sometimes are sensitive to one another's feelings.
- 3 - You and your spouse usually are sensitive to one another's feelings.
- 4 - You and your spouse often are sensitive to one another's feelings.
- 5 - You and your spouse always are sensitive to one another's feelings.

**Frequency**

- 1 - Almost all talks between you and your spouse result in problems or conflict.
- 2 - Many talks between you and your spouse result in problems or conflict.
- 3 - Some talks between you and your spouse result in problems or conflict.
- 4 - Few talks between you and your spouse result in problems or conflict.
- 5 - Almost no talks between you and your spouse result in problems or conflict.

**Affective quality**

- 1 - One or more conflicts between your spouse and you result in strong negative feelings or actions.
- 2 - One or more conflicts between your spouse and you result in negative feelings or actions.
- 3 - One or more conflicts between your spouse and you result in some negative feelings or actions.
- 4 - One or more conflicts between your spouse and you result in barely any negative feelings or actions.
- 5 - No conflicts occur between your spouse and you or, if they do, they are handled with no negative feelings or actions.

**Generalization and escalation**

- 1 - Disagreements or conflicts between your spouse and you will get worse the longer they last.
- 2 - Disagreements or conflicts between your spouse and you usually get worse the longer they last.
- 3 - Disagreements or conflicts between your spouse and you sometimes get worse the longer they last.
- 4 - Disagreements or conflicts between your spouse and you rarely get worse the longer they last.
- 5 - Disagreements or conflicts between your spouse and you never happen or, if they do, they will not get worse the longer they last.