

Literature Review

Research shows that married individuals generally demonstrate better physical and mental health than those who are separated, divorced, or widowed (Akhtar-Danesh & Landeen, 2007; Kessler, Berglund, Demler, Jin, & Merikangas, 2005). However, the relationship between health and marital status is influenced by the degree of satisfaction in that relationship. Married individuals who report low marital satisfaction also report significant mental health problems (Whisman, 2007; Slatcher, 2010). Higher levels of marital satisfaction are associated with better overall well-being (Proulx, Helms, & Buehler, 2007; Robles, Slatcher, Trombello, & McGinn, 2014). A number of theoretical constructs have been posited to relate these variables to individually driven theories of psychopathology (e.g., Meis et al., 2017; Proulx, Helms, & Buehler, 2007; Taft et al., 2011). However, such theories typically fail to account for the bidirectional nature of these factors (Thoburn & Sexton, 2016).

Hypothesis

It is hypothesized that relationship satisfaction will, on average, be associated with mental health outcomes during treatment (between-person effects) and that individual differences will impact the relationship between these variables.

Method

Participants

This study was conducted at outpatient clinics on a joint military base in the Pacific Northwest. These data were collected between 1 January 2014 and 31 July 2015. Patient data for this study came from behavioral health encounters (individual, outpatient behavioral health sessions with a psychologist, social worker, or master's level counselor) collected by the Behavioral Health Data Portal (BHDP; Srinivasan, Brown, Ivany, & Woodson, 2016; U.S. Army Medical Command, 2012). The patient sample included 178 active-duty service members. Demographic characteristics of the sample are summarized in the Sample table.

Measures

Relationship satisfaction. Relationship satisfaction was assessed using a 4-item version of the Couples Satisfaction Index (CSI; Funk & Rogge, 2007).

PTSD symptoms. Symptoms of PTSD were assessed using the PTSD Checklist – Civilian version (PCL-C; Weathers, Litz, Herman, Huska, & Keane, 1993).

General Distress. The Behavior and Symptom Identification Scale (BASIS-24; Eisen, Normand, & Belanger, 2004) measures general distress.

Data Analysis

We restricted our analysis to individuals with two or more treatment sessions, those who were married at the first encounter with the BHDP, and those who provided a baseline score on the measure of relationship satisfaction with at least one additional observed score ($N = 178$). Those with only one encounter either did not require treatment or chose not to engage in treatment; as such, they were deemed ineligible for the study.

We used the technique described by Curran and Bauer (2011) to separate the between- and within-person associations of relationship satisfaction with change over time in the outcome measures. The final analysis used linear mixed-effects regression models to estimate a linear growth curve for each of the outcome measures.

Results

Estimates from linear mixed-effects regression models

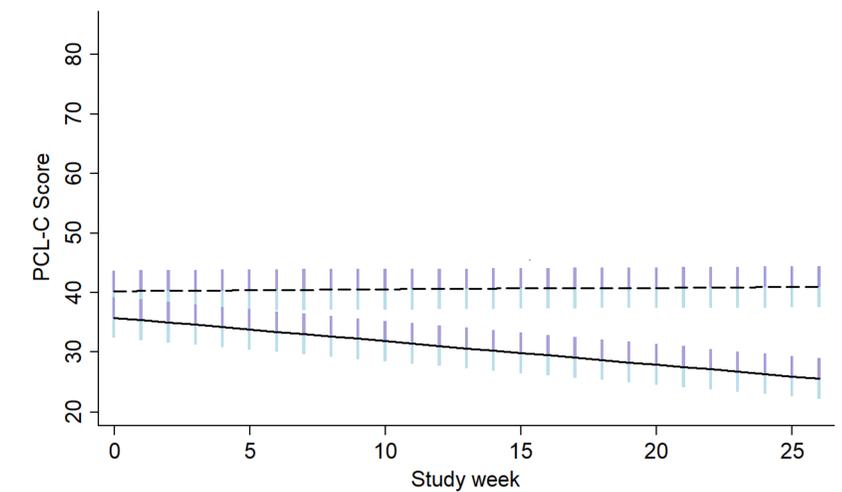
	PCL-C			BASIS-24		
	b	95% CI	B	b	95% CI	B
Intercept (γ_{00})	36.37	26.68, 46.05		1.19	0.79, 1.59	
Satisfaction, between (γ_{01})	-2.50**	-3.85, -1.16	-0.17	-0.10**	-0.16, -0.05	-0.15
Slope (γ_{10})	-0.18	-0.99, 0.63	-0.01	-0.02	-0.06, 0.02	-0.03
Satisfaction, between (γ_{11})	-0.13	-0.26, 0.01	-0.01	0.00	-0.01, 0.00	-0.01
Satisfaction, within (γ_{20})	-3.40**	-4.57, -2.23	-0.23	-0.18**	-0.24, -0.13	-0.27
Random effects						
σ_{0i}	12.70**	11.04, 14.62		0.58**	0.50, 0.67	
σ_{1i}	0.91**	0.72, 1.14		0.04**	0.03, 0.05	
Corr(σ_{0i}, σ_{1i})	-0.14	-0.37, 0.11		-0.36**	-0.54, -0.15	

Note: PCL-C = PTSD checklist, civilian; BASIS-24 = behavior and symptom identification scale; CI = confidence interval; b = unstandardized regression coefficient; B = standardized regression coefficient; ** Indicates $p < .001$.

Sample

Characteristics of study participants at the initial observation

	M (SD)	Min, max
Age	28.94 (6.78)	19, 50
No. deployments	1.51 (1.27)	0, 6
Months deployed	14.72 (13.13)	0, 75
Relationship satisfaction	2.71 (1.44)	0, 5.25
PCL-C	45.91 (14.27)	17, 79
BASIS-24	1.67 (0.66)	0.08, 3.22
Sex		
Male	160	89.89
Female	18	10.11
Race/ethnicity		
White, not Hispanic	93	52.25
Black, not Hispanic	39	21.91
Other race, not Hispanic	23	12.92
Hispanic, any race	23	12.92
Education		
High school	135	75.84
2-year degree	26	14.61
4-year degree or more	17	9.55
Living situation		
Resides with spouse	135	75.84
Separated because of relationship problems	20	11.24
Separated for other reasons	13	7.30
Other	10	5.62
Years married		
<1 year	24	13.48
1-2 years	40	22.47
3-5 years	54	30.34
5-10 years	33	18.54
>than 10 years	27	15.17
Number of times married		
1	152	85.39
2	23	12.92
3 or more	3	1.95
Rank/grade		
E1-E4	83	46.63
E5-E9	70	39.33
Officer	3	1.69
Missing	22	12.36



— Between +1 SD - - - - Between -1 SD
 Within +1 point Within -1 point

This graph shows the marginal mean on the PCL-C over the duration of observation. The two lines represent between-individual differences in marital satisfaction (labeled Between +1/-1 SD). We found that PCL-C scores were lower for those with 1 standard deviation (SD) greater in relationship satisfaction than those who were 1 SD lower in satisfaction, on average, from the population mean. The within-individual aspect (labeled Within +1/-1 point) reflect deviations from the marginal mean associated with an individual having change beyond what might be expected in relationship satisfaction. Specifically, an individual with +1 SD between-individual satisfaction had an even lower PCL-C if they had +1 point deviation on satisfaction (as represented by the light blue) at a point in treatment relative to an individual with a normal satisfaction score (as represented by the dark blue).

Discussion

The intercept for between-person effects was significant and indicated an inverse relationship between overall relationship satisfaction and mental health symptoms. This suggests that those with greater relationship satisfaction tended to have lower distress and PTSD symptoms, although it was not clear which variable (relationship satisfaction or distress symptoms) was driving the difference between groups. Differences in overall relationship satisfaction were not associated with change in distress symptoms. There was a within-person association detected. Individuals who had greater change in relationship satisfaction than expected given their relationship satisfaction trajectory had greater decrease in symptoms.

Family systems theory asserts that when change is introduced at one level of a nested system, the rest of the system must adapt as well (Smith-Acuña, 2011). Resistance to change at the dyadic level (e.g. minimal change in relationship satisfaction) is likely to limit the degree to which change is seen at the intrapersonal level (e.g. distress and PTSD symptoms). Further research among dyads is needed to determine if such findings are due to change in the relationship or due to another intrapersonal construct. This study provides preliminary evidence that relationship satisfaction is associated with individual PTSD and Distress outcomes.