

Religious/Spiritual Struggles and Suicide Risk Among Adult Psychiatric Outpatients: a 12-Month Longitudinal Study

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Introduction

Religion/Spirituality and Suicide Risk

- Religion/spirituality (R/S) is widely studied as protective against suicide
 - Nonorganizational religious behavior, church attendance, and
- religious affiliation are all associated with lower suicide risk Causal pathways theory (Koenig, 2012) suggests three protective pathways
 - *Behavioral* (e.g., moral objections to suicide)
 - Psychological (e.g., a sense of purpose given by religious beliefs)
 - Social (e.g., support from a religious community)
- Under other circumstances, R/S can emerge as a risk factor: R/S struggles (RSS)







RSS and Suicidality: Existing Research and Its Limitations

- General RSS is associated with greater suicidality in psychiatric outpatients, psychotic patients, U.S. and Croatian military veterans, cancer patients, Indian emergency room patients, and Italian earthquake survivors
- Findings regarding suicidality were based on cross-sectional data The only longitudinal study (with a sample of U.S. military veterans) supports a Primary Struggles model between RSS and suicide risk (Currier et al., 2018)
 - Two timepoints only: baseline and six-month follow-up
 - No difference in indices of fit between Primary Struggles and Complex Struggles; Primary Struggles chosen as a more parsimonious model

Current Study

We assessed a nonveteran adult treatment-seeking sample (n=120) at three timepoints (baseline [T1], 6-month follow-up [T2], and 12-month follow-up [T3]) to examine (a) whether overall RSS and specific RSS domains would predict suicide risk at follow-up and (b) to test the causal models of RSS and suicidality

Procedure

- at a Midwestern suburban outpatient clinic were invited to participate link emailed to them; all T2 and T3 surveys were completed using an emailed link
- Purposive sampling: all adults attending initial evaluation with 1 of 3 psychiatrists Baseline (T1) \rightarrow 6-month follow-up (T2) \rightarrow 12-month follow-up (T3) Participants completed the T1 survey on an iPad in the clinic or at home using a Incentive: \$25 Amazon gift card for each time-point survey completed

Measures

- Religious and Spiritual Struggles Scale (RSSS)
- Suicide Behaviors Questionnaire–Revised (SBQ-R)
- Center for Epidemiological Studies Depression Scale–Revised (CESD-R)
- Duke University Religion Index (DUREL)
- Demographic information: age, sex, marital status, education, and income

Statistical Analyses

- We calculated bivariate correlations between the SBQ-R and each RSS variable at T2 and T3, after controlling for the levels of each at T1
- We used the outcome-wide template approach (VanderWeele, 2017; VanderWeele et al., 2020) to test whether RSS (overall RSS and each specific RSS domain) would be associated with greater subsequent suicide risk at T3, after controlling for demographics and for baseline RSS, suicide risk, depression symptoms, and organizational and nonorganizational religious behaviors.

Controlled for:	IV:
Age	Ste
Sex	T2 F
Marital status	
Education	
Household income	
Depression	
Organizational R/S behaviors	
Non-organizational R/S behaviors	IV:
RSS domain	Ste
Suicide Risk	T2 S

Primary Struggles Outcome: T3 Suicide Risk
Step 1 (All at T1)
Age
Sex
Marital status
Education
Household income
Depression
Organizational R/S behaviors
Non-organizational R/S behav
RSS domain
Step 2
T1 Suicide Risk
Step 3
T2 RSS domain

- values were generated:
 - effect fully
 - Another value indicates the minimum association needed to make the confidence interval for the association cross zero

Step 3

T2 Suicide risk

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Methods

		0		0	
Primary Strug	gles			DV: Primary Struggles DV	
p 2				Step 3	
RSS domain			,	T3 Suicide risk	
OR				OR	
Secondary S	rugg	les		DV: Secondary Struggles	
p 2				Step 3	
Suicide Risk				T3 RSS domain	
	2	Secondar Outcome	y Strugg : T3 RSS	gles Domain	
		Step 1 (Al	l at T1)		
		Age			
		Sex			
		Marital sto	atus		
		Education	١		
		Household	d incom	ie	
		Depressio	n		
		Organizat	ional R/	'S behaviors	
/iors		Non-orga	nization	al R/S behaviors	
		Suicide ris	k		
		Step 2			
		11 RSS dor	main		

- For sensitivity analysis, we calculated E-values (VanderWeele et al., 2019). Two
 - One value indicates the minimum association needed to explain away the

Results

Participants

- T1 n=163, T2 n=128 (77.9% retention), T3 n=120 (73.6% retention cf. baseline)
- Age: 18-73 (M = 37.50, SD = 14.90)
- Sex: 52.3% female
- Race/Ethnicity: 84.2% non-Hispanic Caucasian, 10.0% Hispanic/Latinx
- Caucasian, 4.2% Asian/Pacific Islander, .8% Black/African American Religion: 70% Christian, 1.7% Muslim, 1.7% Jewish, 15% agnostic, 4.2% atheist
- 6.7% no religious preference, 0.8% other Diagnostic Information

Diagnosis	N = 120 n (%) Primary Diagnosis	Secondary Diagnosis ^a
Depressive Disorders	33 (27.5)	16 (13.3)
Anxiety Disorders	31 (25.8)	26 (21.7)
ADHD	12 (10.0)	6 (5.0)
Bipolar Disorders	10 (8.3)	0 (0.0)
PTSD	10 (8.3)	7 (5.8)
Adjustment Disorder	10 (8.3)	0 (0.0)
Other	14 (11.7)	6 (5.0)

aSome participants (n = 59) did not have a secondary diagnosis

Bivariate Correlations with T2 and T3 Suicidality

- Moderate-to-strong correlation: baseline overall RSS, ultimate-meaning struggles, and depression symptoms
- Weak-to-moderate correlation: baseline divine. demonic, interpersonal. doubt (with T2 suicidality only), and moral (with T3 suicidality only) struggles

Causal Models of RSS and Suicidality

Standardized Regression Coefficients for RSS and Suicide Risk

RSS variable	Overall sample (N = 120)			
	Primary		Secondary	
	T2 RSS → T3 Suicide Risk		T2 Suicide	Risk → T3 RSS
	β ^{ab}	sr ²	βa	sr ²
Overall RSS	.25**	.02	.36**	.04
Divine RSS	.16	.01	.35**	.04
Demonic RSS	.10	.01	.27*	.02
Interpersonal RSS	.22*	.02	.16	.01
Moral RSS	.17^	.01	.12	.00
Doubt-related RSS	.03	.00	.16	.01
Meaning-related RSS	.30***	.05	.49***	.07

Note. RSS = religious/spiritual struggles; SI = suicide ideation. ^aAll outcomes were standardized (mean = 0, standard deviation = 1), and β was the standardized effect size.

^bRegression coefficients after controlling for baseline age, marital status, education, income, depression, organizational and nonorganizational religion/spirituality, suicide risk, and RSS variable of interest. *p < .05. **p < .01. ***p < .001. ^p = .053

Sensitivity Analysis

Robustness to Unmeasured Confounding (E-values^a) for the Associations of T2 R/S Struggles (RSS) With T3 Suicide Risk (Primary RSS Model) and for T2 Suicide Risk With T3 RSS (Secondary RSS Model)

	Suicide risk		
	For effect estimate ^b	For confidence interval limit ^c	
Primary Struggles Mod	del (T2 RSS as Exposure an	d T3 Suicide Risk as Outcome)	
Overall RSS	1.83	1.40	
Divine RSS	1.58	1.00	
Demonic RSS	1.43	1.00	
Interpersonal RSS	1.75	1.24	
Moral RSS	1.60	1.03	
Doubt-related RSS	1.18	1.00	
Meaning-related RSS	1.95	1.57	
Secondary Struggles Model (T2 Suicide Risk as Exposure and T3 RSS as Outcome)			
Overall RSS	2.12	1.52	
Divine RSS	2.08	1.47	
Demonic RSS	1.87	1.07	
Interpersonal RSS	1.58	1.00	
Moral RSS	1.49	1.00	
Doubt-related RSS	1.59	1.00	
Meaning-related RSS	2.50	1.85	

Note. T2 = Time 2; T3 = Time 3; SI = suicide ideation; RSS = religious/spiritual struggles. ^aThe formula for calculating E-values can be found in VanderWeele and Ding (2017). bE-values for effect estimates are the minimum strength of association that an unmeasured confounder would need to have with both the exposure and the outcome to explain away the observed effect fully, after accounting for the measured covariates. ^cE-values for the limit of the 95% confidence interval (CI) closest to the null denote the minimum strength of association that an unmeasured confounder would need to have with both the exposure and the outcome to shift the confidence interval to include the null value, after accounting for the measured covariates.



Discussion

Causal Model Findings

Model Robustness	Primary	Complex	Secondary
Moderate		Overall RSS Meaning-Related	
Modest	Interpersonal		Divine
Weak	Moral		Demonic

Clinical Implications

- Concerns about ultimate meaning should be addressed in risk assessment and safety planning
 - Meaning systems include beliefs, goals and values, and a subjective sense of *meaning* (Park, 2010), each of which may serve as targets for intervention
 - Faith may bolster a sense of coherence ("life makes sense"), significance ("I matter to God and others"), and *purpose* ("I have a purpose for living")
- Prolonged distress may lead to anger toward or distance from God if individuals do not feel they can express these feelings to God and be heard (e.g., lament)
- Individuals alienated from their religious community should seek to resolve interpersonal RSS or pursue participating in another religious community
- It is vital for clinicians to develop competence in addressing religion/spirituality and R/S coping—including RSS—with patients (Vieten & Lukoff, 2021)
 - This is especially important because many clinicians receive little R/S training (Vieten et al., 2013, 2016) and often experience discomfort when discussing R/S issues with patients (Rosmarin et al., 2013b)

Conclusions

- The present study represents the first known longitudinal investigation of the relationship between R/S struggles and suicide risk in a treatment-seeking population.
- This was the first known study to test the different causal explanatory models for individual RSS subtypes.
- Findings underscore the mutually reinforcing impact that R/S struggles particularly ultimate-meaning struggles—and suicidality have on each other

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