Differences in Suicidality in Non–Treatment-Seeking and Treatment-Seeking Law Enforcement Officers

A Cross-sectional Study

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Objective: Law enforcement officers (LEOs) are exposed to high levels of occupational trauma and face added stress from heightened public scrutiny and COVID-19, which may result in suicide. It is crucial to understand differences between LEOs who seek treatment and those who do not. **Method:** We compared LEOs from the same greater metropolitan area who sought treatment with those who did not. Participants completed validated measures assessing posttraumatic stress disorder, generalized anxiety, depression, and suicidality. **Results:** The treatment-seeking sample scores were higher on all standardized assessments. Bivariate logistic regression results indicated that the non–treatment-seeking sample's odds of experiencing suicidality were 1.76 times the odds for the treatment seeking sample. **Conclusions:** This suggests that many LEOs experiencing suicidality may not be seeking treatment and highlights the role that posttraumatic stress disorder may play in determining whether LEOs seek treatment or not.

Keywords: first responder, law enforcement officer, suicide, negative affect, depression, generalized anxiety, posttraumatic stress disorder

Experts have established that some occupations are associated with higher suicide rates, particularly those characterized by elevated levels of job stress and increased access to lethal means (eg, military and law enforcement[1]). Law enforcement officers (LEOs) routinely experience occupational exposure to potentially traumatic events,[2] recently amplified by increased stressors due to the COVID-19 pandemic.[3] Research has demonstrated that exposure to such events adversely impact LEOs' mental health[4–6] and can lead to the most tragic mental health outcome—suicide.[7] LEOs die by suicide at higher rates than the general US adult population. The suicide rate for LEOs was 11 to 17 per 100,000 versus 13 per 100,000 for US adults.[7] LEOs are also less likely than others to seek mental health treatment, largely because of stigma and concerns around career impact.[8]

Mental health conditions most commonly experienced by LEOs include depression, anxiety, posttraumatic stress disorder (PTSD), and substance use disorders, which are often present before suicide.[7] In a study of cumulative trauma exposure in LEOs, researchers uncovered a positive correlation with depression, generalized anxiety, and PTSD.[2] Estimates of LEO PTSD prevalence rates range from 7% to 19%[4,6] to as high as 35%[7] with 61% screening positive for symptoms in the past 2 weeks.[9] Furthermore, LEOs have elevated alcohol and substance use rates along with increased domestic and personal problems, which were commonly referenced in a retrospective analysis of completed LEO suicides.[6] More is known about why LEOs avoid treatment; however, the factors that motivate them to seek help and the role that suicidality may play in help-seeking are less understood.

Researchers predicted the odds of interest in mental health care services with a non–treatment-seeking (NTS) sample of LEOs on four mental health variables: generalized anxiety, depression, PTSD, and suicidal ideation or self-harm while adjusting for age, sex, educational level, prior military service, shift, length of service, and relationship status.[9] In the adjusted model, the suicidality adjusted odds ratio (AOR) was 7.86 (95% confidence interval [CI], 1.70–34.48), and the generalized anxiety AOR was 3.58 (95% CI, 0.79–16.23), which were both constructs related to an increased odds in interest for mental health treatment. Conversely, the depression AOR of 0.78 (95% CI, 0.21–2.85) and PTSD AOR of 0.60 (95% CI, 0.02–20.01) were both mental health constructs related to decreased odds in interest for mental health treatment.[9]

Given that suicidal ideation is a construct that drives interest in mental health care among LEOs, scholars need to know what predicts suicidality in treatment and NTS samples of LEOs. If we can find common areas of linkage, agencies and clinicians can zero in on this area and create targeted interventions. Rarely do articles compare differences between a NTS and treatment-seeking (TS) sample from the same greater metropolitan area. This study has two main aims: (1) to evaluate differences among NTS and TS samples LEO mental health measures (PTSD, depression, generalized anxiety, and suicidality) and (2) to determine if there are similar or divergent variables predicting suicide in both samples.

METHODS

Participants

This sample is comprised of NTS and TS groups. The NTS cohort was mostly White (55.6%), married (65.1%), and males (88.8%) with a mean age of 37.78 years (SD, 9.16 years). The average length of service in the NTS sample was 11.27 years (SD, 8.62 years). In the NTS group, 30.8% reported previous military service. The TS group was similarly mostly White (70.1%), married (64.3%), and males (76.6%) with a mean age of 37.29 years (SD, 9.41 years). The average length of service in the TS sample was 11.53 years (SD, 8.66 years). Of the TS group, 34% reported previous military service (Table 1).

Procedure

Two samples were collected from separate organizations in the same greater metropolitan area. The NTS participants were from a large urban police department that employs more than 3000 officers, of which approximately 1400 are in patrol.[9] The NTS sample was drawn from a project funded by a National Institute of Occupational Health and Safety grant (K01-OH011532). The TS sample was collected from a nonprofit agency that specialized in treating trauma exposed veterans, first responders, medical frontline workers, and their

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TABLE 1. Demographics of Sample

Characteristic	Non–Treatment Seeking (n = 169)	Treatment Seeking (n = 137)
Age, y		
Mean	37.38	37.29
Median	35.00	35.00
SD	9.16	9.41
Range	47	40
Prior military service, n (%)		
No	117 (69.2)	90 (65.7)
Yes	52 (30.8)	47 (34.3)
Years as LEO, y		
Mean	11.27	11.53
Median	10.00	9.00
SD	8.62	8.66
Range	47	38
Shift, n (%)		
First	51 (30.2)	72 (52.6)
Second/swing	54 (32.0)	21 (15.3)
Third/graveyard	54 (32.0)	32 (23.4)
Rotating/other	10 (5.9)	12 (8.8)
Relationship status, n (%)		
Married	110 (65.1)	88 (64.3)
Separated	1 (0.6)	7 (5.1)
Divorce	21 (12.4)	6 (4.4)
Single	28 (16.6)	20 (14.6)
Committed relationship	9 (5.3)	16 (11.7)
Sex, n (%)		
Women	19 (11.2)	32 (23.4)
Men	150 (88.8)	105 (76.6)
Ethnicity, n (%)		
African American/Black	26 (15.4)	10 (7.3)
Asian American	3 (1.8)	4 (2.9)
Latino(a)/Hispanic	41 (24.3)	26 (19.0)
Multiple ethnicities	2 (1.2)	1 (0.7)
White	94 (55.6)	96 (70.1)
Other	3 (1.8)	-

LEO, law enforcement officer.

families through traditional and nontraditional therapies. The parent organization is One Tribe Foundation, which has a clinical program, One Tribe Counseling. Since its founding in 2016, they have served approximately 300 LEOs. On the intake packet, the LEOs do not put what agency or department they were referred from or currently serve under. Consequently, it was not possible to screen for any duplicate cases. Data collection and analysis were approved by the University of Texas Health Science Center Institutional Review Board (HSC-SPH-18-0782; HSC-SPH-20-1264). Inclusion criterion for the NTS and TS samples was completion of mental health assessments with no missing data. Furthermore, participants must have provided demographic data, including age, years as an LEO, shift, relationship status, sex, and ethnicity.

The NTS sample patrol officers meet for a briefing during the first 30 minutes of their shift. The purpose of these briefings is to take attendance, brief the officers on crime clusters and criminals in the area, and describe unfinished business from previous shifts and administrative matters. For this study, author K.K.J. attended briefings across all seven divisions and three shifts, totaling 46 briefings, between January and February 2020. At each briefing, K.K.J. explained the purpose of the study and invited officers to use a QR code to complete a 15-minute survey on their smartphone.

The TS sample data were collected at intake from LEOs who sought counseling services between 2017 and 2021 at a nonprofit agency. The clinical assessment data are collected routinely from clients at the agency for program evaluation purposes. The nonprofit agency is regularly collecting, updating, and analyzing the data for internal program evaluation of clinical services.

Measures

Primary Care PTSD Screen for *DSM-5*

The Primary Care PTSD Screen for DSM-5 (PC-PTSD-5) was developed to assess the presence of PTSD.[10] After answering yes to the question "Have you ever experienced this kind of event?", the respondent answers yes or no to five questions that align with *DSM-5* understanding of PTSD. The aggregated scores range from 0 to 5, with the higher summed score indicating the greater severity of PTSD symptoms. In the NTS sample, the Cronbach α was 0.702, and in the TS group, the Cronbach α was 0.754.

Patient Health Questionnaire 2

The Patient Health Questionnaire 2 (PHQ-2) was developed to assess for the presence of depression.[11] The PHQ-2 responses range from 0 (not at all) to 3 (nearly every day), and scores can be summed with ranges from 0 to 6. The higher the aggregated score, the greater the severity of depression. In the NTS sample, the Cronbach α was 0.716, and in the TS sample, the Cronbach α was 0.741.

Generalized Anxiety Disorder 2

The Generalized Anxiety Disorder 2 (GAD-2) was developed to assess for the presence of generalized anxiety.[12] The GAD-2 responses range from 0 (not at all) to 3 (nearly every day), and scores can be summed with ranges from 0 to 6. The higher the aggregated score, the greater the severity of generalized anxiety. In the NTS sample, the Cronbach α was 0.873, and in the TS sample, the Cronbach α was 0.883.

Patient Health Questionnaire—Item 9 (Suicidality)

The Patient Health Questionnaire-9 (PHQ-9) item 9 has been validated to assess for suicide risk, which states, "Thoughts that you would be better off dead, or of hurting yourself."[13] Responses range from 0 (not at all) to 3 (nearly every day). In their validation study, they used the Columbia Suicide Severity Rating Scale as a comparison point and determined that a positive screen was any nonzero answer on item 9.

Data Analytic Plan

Statistical analyses were performed using the Statistical Package for the Social Sciences version 27.0. There were no missing values for either sample. The standardized assessment instruments did not meet the assumptions of normality, and consequently, nonparametric statistical tests were conducted. First, Mann-Whitney tests were conducted between the NTS and TS samples on all four mental health measures and calculated the effect size $r = Z/\text{sqrt}(N)$.[14] Effect size ranges are 0.1 (small), 0.3 (medium), and 0.5 (large). Next, we established the bivariate relationship between the assessments separately for the NTS and TS groups via Spearman correlations. Lastly, we conducted a bivariate exact logistic regression predicting suicidality with PTSD, depression, and generalized anxiety as the predictor variables while controlling for demographic variables (age, sex, length of service as an LEO, prior military service). The exact logistic regression methodology was used to reduce the potential for small-sample bias introduced through dependence on asymptotic results.

RESULTS

Descriptive Statistics

Posttraumatic stress disorder scores were significantly lower in the NTS group (Md = 121.76, n = 169) compared with the TS group (Md = 192.76, n = 137) (U = 6212.50, z = −7.11, $p < 0.001$), with a medium effect size (r = 0.41). Depression scores were significantly lower in the NTS group (Md = 117.53, n = 169) compared with the TS group (Md = 197.87, n = 137) (U = 5497.50, z = −8.16, $p < 0.001$), with a medium effect size (r = 0.46). Generalized anxiety

TABLE 2. Mental Health Assessment Descriptive Statistics

	Non–Treatment Seeking (n = 169)			Treatment Seeking (n = 137)			
	M (SD)	Median (IQR)	n (%)	*M* (SD)	Median (IQR)	n (%)	*Z*
PC-PTSD-5	1.41 (1.49)	1 (0–2.5)		2.88 (1.75)	3 (2–4)		−7.11*
PHQ-2	0.92 (1.23)	0 (0–2)		2.48 (1.78)	2 (1–4)		−8.06*
GAD-2	0.91 (1.28)	0 (0–2)		3.46 (2.09)	0 (0–2)		−10.38*
PHQ-SI	0.04 (0.22)	0 (0–0)		0.13 (0.38)	0 (0–0)		−2.99**
PC-PTSD-5							
Positive			42 (24.9)			84 (61.3)	
Negative			127 (75.1)			53 (38.7)	
PHQ-2							
Positive			22 (13.0)			58 (42.3)	
Negative			147 (87.0)			79 (57.7)	
GAD-2							
Positive			16 (9.5)			85 (62.0)	
Negative			153 (90.5)			52 (38.0)	
PHQ-SI							
Positive			5 (3.0)			16 (11.7)	
Negative			164 (97.0)			121 (88.3)	

Any participant who scored three or greater on the PC-PTSD-5, PHQ-2, and GAD-2 are categorized as positive. Any participant who scored one or greater on the PHQ-SI are categorized as positive.

PC-PTSD-5, Primary Care PTSD Screen for *DSM-5*; PHQ-2, Patient Health Questionnaire 2; GAD-2, Generalized Anxiety Disorder 2; PHQ-SI, Patient Health Questionnaire—Item 9 (suicidality); *M*, mean; Median IQR, median quartile range; SD, standard deviation; *z*, *z* statistic.

*<0.001.

**<0.01.

scores were significantly lower in the NTS group (Md = 107.73, n = 169) compared with the TS group (Md = 209.96, n = 137) (U = 3842.00, z = −10.38, $p < 0.001$), with a large effect size (r = 0.59). Suicidality scores were significantly lower in the NTS group (Md = 147.54, n = 169) compared with the TS group (Md = 160.85, n = 137) (U = 10,570.00, z = −2.99, $p < 0.01$), with a small effect size (r = 0.17). In the NTS sample, 24.9% screened positive for PTSD, 13.0% for depression, 9.5% for generalized anxiety, and 3.0% for suicidal ideation. In the TS sample, 61.3% screened positive for PTSD, 42.3% for depression, 62.0% for generalized anxiety, and 11.7% for suicidal ideation (see Table 2 for descriptive statistics of the mental health measures).

Correlational Analyses

In the NTS sample, PTSD was significantly correlated with depression ($rs(169) = 0.43$, $p < 0.001$) and generalized anxiety ($rs(169) = 0.56$, $p < 0.001$). Furthermore, in the NTS sample, depression was significantly correlated with generalized anxiety ($rs(169) = 0.47$, $p < 0.001$) and suicidality ($rs(169) = 0.26$, $p < 0.001$). Also, generalized anxiety was significantly correlated with suicidality ($rs(169) = 0.22$, $p < 0.01$) (Table 3).

In the TS sample, PTSD was significantly correlated with depression ($rs(137) = 0.31$, $p < 0.001$), generalized anxiety ($rs(137) = 0.32$, $p < 0.001$), and suicidality ($rs(137) = 0.22$, $p < 0.01$). In addition, depression was significantly correlated with generalized anxiety ($rs(137) = 0.65$, $p < 0.001$) and suicidality ($rs(137) = 0.35$, $p < 0.001$) in the TS sample (Table 4).

Bivariate Logistic Regression Analyses

In both regressions, four demographic covariates were predictor variables: age, sex, length of service as an LEO, and prior military service. In both models, none were statistically significant. Scores on the PTSD, depression, and generalized anxiety measures were also in the equations as predictor variables. The bivariate logistic regression results for the NTS sample were statistically significant ($\chi^2_7 = 21.11$, $p < 0.01$). For each point increase in PHQ-2 and GAD-2 measures, the odds of suicidality increased by 234% and 86%, respectively (95% CI, 1.72–7.93; 95% CI, 1.06–3.27) in the NTS sample. The TS sample bivariate logistic regression was also significant ($\chi^2_7 = 30.79$, $p < 0.001$). For each point increase in Primary Care PTSD Screen for *DSM-5* and PHQ-2 measures, the odds of suicidality increased by 71% and 90%, respectively (95% CI, 1.15–2.76; 95% CI, 1.35–2.78) in the TS sample (Table 5).

DISCUSSION

This study contributes to the scholarship on LEO mental health literature in a variety of ways. First, this study used two samples from the same greater metropolitan area, increasing the generalizability and external validity of these results.[15] The TS sample had higher PTSD, depression, generalized anxiety, and suicidality scores on all four standardized mental health assessments. Furthermore, the magnitude of the relationship between the four mental health measures was noticeably higher in the TS than the NTS sample. Next, this study found that, in the NTS, depression and generalized anxiety were significant predictors of suicidal ideation, whereas, in the TS sample, PTSD and depression were significant predictors.

TABLE 3. Non–Treatment Seeking (n = 169) Mental Health Assessment Correlations

	PC-PTSD-5	PHQ-2	GAD-2	PHQ-SI
PC-PTSD-5	1	0.43*	0.56*	0.08
PHQ-2		1	0.47*	0.26*
GAD-2			1	0.22**
PHQ-SI				1

n = 169. Spearman correlation.

PC-PTSD-5, Primary Care PTSD Screen for *DSM-5*; PHQ-2, Patient Health Questionnaire 2; GAD-2, Generalized Anxiety Disorder 2; PHQ-SI, Patient Health Questionnaire—Item 9 (suicidality).

*<0.001.

**<0.01.

TABLE 4. Treatment Seeking (n = 137) Mental Health Assessment Correlations

	PC-PTSD-5	PHQ-2	GAD-2	PHQ-SI
PC-PTSD-5	1	0.31*	0.32*	0.22**
PHQ-2		1	0.65*	0.35*
GAD-2			1	0.11
PHQ-SI				1

n = 137. Spearman correlation.

PC-PTSD-5, Primary Care PTSD Screen for *DSM-5*; PHQ-2, Patient Health Questionnaire 2; GAD-2, Generalized Anxiety Disorder 2; PHQ-SI, Patient Health Questionnaire—Item 9 (suicidality).

*<0.001.

**<0.01.

We also found that depression heavily impacted suicidality in both samples suggests that agencies and mental health treatment providers should make this an area to target. Three recent network analysis papers highlight the role that negative affect has on mental health (W.N. Ponder et al, unpublished data, 2022).[16,17] In a study of TS first responders, researchers found that the negative alterations in cognitions and mood symptom cluster and affective depression were most central to the network (W.N. Ponder et al, unpublished data, 2022). The PHQ-2 questions are within the same affective depression factor as measured by the PHQ-9. Furthermore, in an extremely large sample, scholars found that the PHQ-2 individual questions were among the highest expected influence nodes in the PTSD and depressive networks.[16] Because the PHQ-2 is commonly used in mental health studies, we recommend that scholars and researchers interpret those findings with these results in mind.

This study also found significant sex differences with twice as many female LEOs in TS compared with the NTS sample. These sex differences could be explained by two things. First, a plethora of research shows that females seek medical and behavioral health treatment more often than males. Second, research has shown that LEO females have unique strains,[18] and these strains lead to higher suicide ideation.[19] Specifically, researchers found that, for every one-unit increase in depression, suicide ideation increased by 181% for males and 433% for females.[19] In the fully mediated model, which included strain, depression, anger, burnout, alcohol, and lack of social interaction to the dependent variable suicide ideation, for male officers, depression increased the odds of suicide by 114%, and burnout increased the odds of suicide ideation by 43%. However, for female officers' depression, the odds of suicide ideation increased by 280%, and anger increased the odds for suicide ideation by 226%.[19]

Scholars have long noticed that different shifts (first, second/swing, third/graveyard, etc.) can have on LEOs.[9,20] Many factors contribute to this; for example, LEOs who make arrests at the end of their shift can experience a laborious amount of paperwork, which can lead to longer hours.[20] The shift effect also differentially impacts female officers compared with male officers because female LEOs were more likely to experience suicidal ideation if working the day shift, whereas those on night shift were less likely.[21] Researchers found that those who work the day shift had more psychosocial stressors such as childcare and other miscellaneous family concerns.[22] For those LEOs that work second or third shift, "the amount of quality time spent with their law enforcement family member may be minimal," which can buffer against suicide ideation.[23(p101)]

There were also other noteworthy descriptive findings suggesting that relationship status (e.g., married, single, or divorced) might have on their dyadic relationship. Scholars examined divorce rates among LEOs compared with corrections occupations and across 449 broad occupations. Curiously, police officer divorce rates (15.01%) were below the national average.[24] In the current sample, relationship status may be different for those seeking treatment because of stressors related to mental health or stress impacting their relationship, whereas, in the NTS sample, the divorce rate was higher. Researchers found that officers' self-report and that of their significant other's attachment increased their constructive communication, whereas the significant other's self-report of their attachment increased their own constructive communication, which is adaptive.[25] Also, the LEOs' self-report of their own and their significant other's attachment decreased their demand/withdrawal communication, which is maladaptive. Lastly, the officers' self-report of their own and their partner's attachment increased their relationship satisfaction. Similarly, their partner's self-report of their own and the LEOs' attachment increased marital satisfaction.[25]

In a longitudinal study, researchers followed LEOs from the police academy for the first 4 years of their careers.[26] They found that high levels of positive affect and low levels of negative affect positively predicted longitudinal resilience in LEOs. A randomly controlled trial of a 6-week mindfulness intervention with a LEO sample was able to significantly reduce negative affect in the treatment group, whereas, in the control group, it did not,[27] indicating that might be an area for intervention.

There are additional clinical implications based on our statistical findings. Because there is a one-unit increase in PTSD, the odds of suicidal ideation go up by 71%, and a one-unit increase in depression increases the odds of suicidal ideation by 90% in the TS. Researchers found that LEOs with likely PTSD reported a statistically significant increase on five of the seven mental health stigma dimensions (recovery, attributions, intended microaggressions, self-stigma of seeking help, and perceived stigma of seeking help), suggesting that PTSD functioned as a barrier to care for NTS LEOs.[8] As such, these five dimensions may be additional areas LEO agencies can target to reduce PTSD. Furthermore, researchers found that depression and PTSD were

TABLE 5. Bivariate Exact Logistic Regression Predicting Suicidality (PHQ-SI)

	Non–Treatment Seeking (n = 169)	Treatment Seeking (n = 137)
	OR (95% CI)	OR (95% CI)
Predictors		
Age	1.00 (0.89–1.09)	0.97 (0.91–1.03)
Female	2.02 (0.04–21.91)	0.44 (0.05–2.07)
Race		
White (REF)	-	-
Black	3.67 (0.05–295.06)	0.48 (0.00–3.27)
Hispanic	7.22 (0.56–389.45)	0.53 (0.05–2.62)
Other	11.75 (0.00–458.25)	1.59 (0.03–17.81)
Years as FR	1.01 (0.90–1.11)	0.97 (0.90–1.03)
Relationship status		
Married (REF)	-	-
Divorce	5.74 (0.40–83.37)	0.59 (0.01–4.63)
Single	2.15 (0.04–42.77)	0.78 (0.08–3.93)
Shift		
First (REF)	-	-
Second/swing	0.47 (0.01–9.20)	4.12 (0.84–20.27)
Third/graveyard	0.47 (0.01–9.20)	2.46 (0.52–11.63)
Other	2.60 (0.04–56.43)	1.22 (0.02–12.49)
Prior military service	3.49 (0.39–43.01)	1.44 (0.29–6.22)
PC-PTSD-5	1.49 (0.83–2.70)	1.71 (1.15–2.76)**
PHQ-2	3.34 (1.72–7.93)*	1.90 (1.35–2.78)*
GAD-2	1.86 (1.06–3.27)**	1.18 (0.90–1.57)

Sex (0, male; 1, female); prior military service (0, no; 1, yes).

PHQ-SI, Patient Health Questionnaire—Item 9 (suicidality); PC-PTSD-5, Primary Care PTSD Screen for *DSM-5*; PHQ-2, Patient Health Questionnaire 2; GAD-2, Generalized Anxiety Disorder 2; OR, odds ratio; REF, reference; FR, first responder; CI, confidence interval.

*<0.001.

**<0.01.

associated with reduced interest in mental health care services in NTS LEOs.[9] In contrast, generalized anxiety and suicidal ideation or self-harm increased the odds of seeking mental health services. The value of the present study might help understand what mental health symptoms might prompt a person with suicidality to seek treatment.

Limitations and Future Research

This article is not without several limitations. First, majority of both samples were married, male, and White. Second, because the NTS sample was drawn from an anonymous study, there was no way to omit LEOs in the TS sample who might have responded to the separate study. Third, this study did not have a guiding theoretical framework given the descriptive nature of the research, but resilience has been shown to be efficacious with LEOs buffering against suicide (W.N. Ponder et al, unpublished data, 2022). In the future, we suggest the Positive and Negative Affect Schedule, which was used in a recent study that used ecological momentary assessment in world trade center first responders, which included LEOs.[28] They found that, for those first responders who have chronic PTSD, positive emotions were not constrained, suggesting that positive affect is not clinically related to PTSD, whereas negative affect is a key construct that should be targeted when providing mental health services to first responders, notably LEOs. Also, researchers should conceptualize and test depression based upon the two-factor model of somatic and affective depression, rather than a unidimensional construct based on a first responder network analysis (W.N. Ponder et al, unpublished data, 2022). If scholars can be synergistic and collaborative in assessment selection guided by a theoretical framework and analytic methods, we might expedite the healing for these professionals who are under extreme stress.

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