

# Predictors of Consent to Treatment and Premature Termination of Treatment in a Sample of Veterans With Military-Related PTSD

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**Abstract:** This study examined different variables as predictors of treatment entry and treatment dropout among veterans with military-related posttraumatic stress disorder (PTSD). First, we examined predictors of treatment entry versus refusal of treatment. Among the veterans who started therapy, we examined predictors of treatment completion. Symptom severity of PTSD, depression, and anxiety at baseline were measured. Daily functioning at baseline was also measured. Results indicate that the younger the veterans were, the more likely they were to refuse treatment. Dropout from treatment was also predicted by younger age at referral, as well as by past treatment, higher number of years of education, and higher depression levels at baseline. Two conclusions can be drawn from the results. First, it may be beneficial to increase awareness of treatment options for PTSD among younger veterans as this may increase treatment consent rates. Second, to reduce treatment dropout in veteran patients with PTSD, therapists should take into consideration both past treatment and baseline depression levels as risk factors for dropout.

**Key Words:** PTSD, treatment, dropout, veterans, military

(*J Nerv Ment Dis* 2019;207: 300–306)

Combat-related posttraumatic stress disorder (PTSD) is associated with emotional and interpersonal difficulties and with severe impairment in functioning in various life domains (Schottenbauer et al., 2008). Current therapies can mitigate deterioration in functioning and improve veterans' quality of life (Doran et al., 2017; Schottenbauer et al., 2008). However, despite the detrimental effects of PTSD on veterans' lives and the documented efficacy of therapy in reducing symptoms (Prolonged Exposure; Foa et al., 2007; Resick et al., 2006), many veterans still decline or avoid treatment, and there are low retention rates among those starting therapy (DeViva, 2014; Doran et al., 2017; Hoge et al., 2014). Recent reviews of randomized controlled trials suggest that psychotherapy dropout rates in PTSD range between 20% and 40% (Imel et al., 2013; Kegel and Flückiger, 2015), with even higher dropout rates in naturalistic clinical settings (Niles et al., 2017).

A number of explanations have been proposed for underutilization of treatment in veterans with PTSD, including feelings of shame, guilt, fear, anger, and distrust (Kim et al., 2011). Research also indicates that the stigma surrounding mental illness and psychotherapy is magnified in veterans (Corrigan et al., 2014; Hoge et al., 2004), and that the military culture tends to value strength and emotional resilience, which seemingly conflicts with treatment seeking (Gould et al., 2007; Green et al., 2010).

Underutilization of treatment and dropout in veterans with PTSD has been associated with variables such as younger age, unemployment, marital status, and lower income (DeViva, 2014; Seal et al., 2010). However, the variables associated with treatment avoidance and dropout in veterans are still understudied. Here, we explore potential predictors of veterans' decisions to initiate therapy and to complete its full course. We studied a large sample of Israeli combat veterans with PTSD who were offered treatment after contacting the Unit for Treatment of Combat-Related PTSD (UTC-PTSD) of the Israel Defense Forces (IDF).

## METHODS

### Participants

Participants were 1166 IDF veterans with combat-related PTSD who contacted the UTC-PTSD between 2006 and 2014. Sixty-one percent were self-referrals, 26% were referred by IDF mental health officers, 12% by the Rehabilitation Division of Israeli Ministry of Defense, and 1% were referred by civilian clinics. For 69% of the sample, the traumatic combat event occurred during mandatory military service (age 18–21 years), whereas for 31%, the traumatic combat event occurred while performing a mandatory reserve duty. All participants contacted the UTC-PTSD after they were honorably discharged from mandatory service. Consort Figure 1 describes the flow of participants through the application process at the UTC-PTSD. Table 1 summarizes participants' background data. The study was approved by the IDF's Ethics Committee (Helsinki committee).

All veterans were offered treatment after a diagnosis of PTSD was established. A total of 1021 (88%) started therapy, whereas 145 (12%) declined. Of those starting therapy, 232 (23%) were assigned to cognitive behavioral therapy (CBT), 83 (8%) to trauma-focused group therapy (TF-GT), 275 (27%) to psychodynamic therapy (PDT), 138 (14%) to psychodynamic group therapy (PGT), and 293 (29%) to pharmacotherapy. Dropout rates were 27% ( $n = 63$ ), 31% ( $n = 26$ ), 27% ( $n = 73$ ), 21% ( $n = 29$ ), and 19% ( $n = 55$ ), for each treatment modality, respectively.

### Psychological Evaluation Instruments

#### Clinician-Administered PTSD Scale

The Clinician-Administered PTSD Scale (CAPS; Blake et al., 1995) is a semistructured 30-item clinical interview measuring the frequency and intensity of PTSD symptoms as described in the *Diagnostic and statistical manual of mental disorders, Fourth Edition (DSM-4;* American Psychiatric Association, 2000). Scores range from 0 to 136, with classification as follows: subclinical, 0–19; mild, 20–39; moderate, 40–59; severe, 60–79; and extreme, 80 and above. A total CAPS severity score of 45 or higher served as the clinical cutoff (Weathers et al., 1999). The CAPS has demonstrated good-to-excellent interrater reliability and convergent and diagnostic criterion validity when used in veteran samples with PTSD (Weathers et al., 2001) and other populations (Pupo et al., 2011). Internal consistency in the current study measured by Cronbach alpha was 0.71 pretreatment and 0.77 posttreatment.

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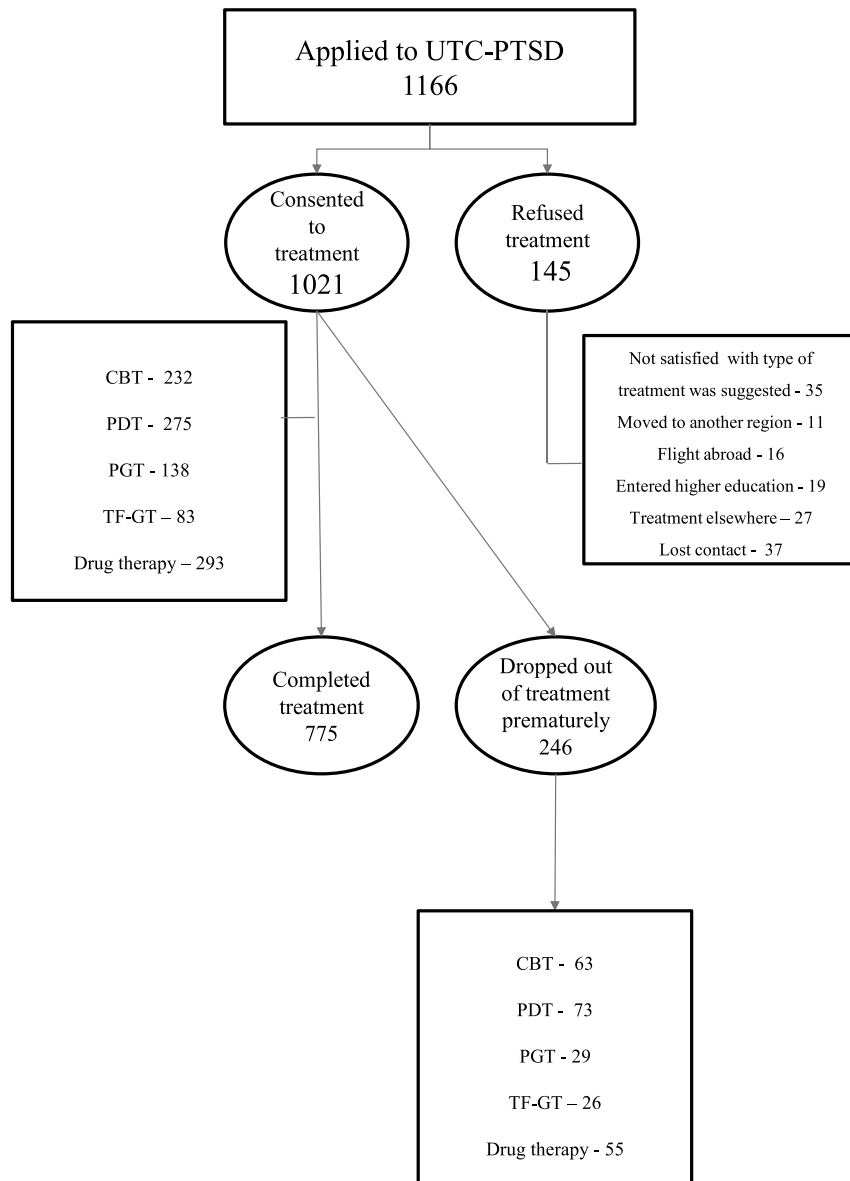
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ISSN: 0022-3018/19/20704-0300

DOI: 10.1097/NMD.0000000000000966



**FIGURE 1.** Flow of veterans throughout the study. A total of 1166 patients applied to UTC-PTSD. A total of 1021 consented to treatment and 145 refused treatment. Of the 1021 who consented to treatment, 775 completed treatment and 246 dropped out of treatment.

**The Montgomery and Åsberg Depression Rating Scale**

The Montgomery and Åsberg Depression Rating Scale (MADRS; Montgomery and Åsberg, 1979) is a semistructured clinician-rated interview used to assess the magnitude of nine core depressive symptoms: reported sadness, inner tension, reduced sleep, reduced appetite, concentration difficulties, lassitude, inability to feel, pessimistic thoughts, and suicidal thoughts. Severity of each symptom is rated on a scale ranging from 0 to 6, using probe questions and anchor points to assist in scoring. Apparent sadness, as a 10th item, was also rated. Thus, total scores range from 0 to 60, with scores 7 to 19 indicating mild depression; 20 to 34, moderate depression; and 35 or higher, severe depression. Internal consistency measured by Cronbach alpha was 0.91 for both pretreatment and posttreatment assessments.

**Hamilton Anxiety Scale**

The Hamilton Anxiety Scale (HAM-A; Hamilton, 1959) is a 14-item, clinician-administered questionnaire measuring both psychic anxiety

(mental agitation and psychological distress) and somatic anxiety (physical complaints related to anxiety). Each item is defined by a series of symptoms and is scored on a 0 (not present) to 4 (severe) scale, with a total score ranging from 0 to 56, where less than 17 indicates mild severity; 18 to 24, mild to moderate severity; and 25 to 30, moderate to severe. In the current study, internal consistency measured by Cronbach alpha was 0.76 pretreatment and 0.92 posttreatment.

**Psychotherapy Outcome Assessment and Monitoring System—Trauma Version**

The Psychotherapy Outcome Assessment and Monitoring System—Trauma Version (POAMS-TV; Green et al., 2003) is a self-report questionnaire designed to assess participants' level of functioning. It includes 10 items, ranging from 0 (extreme distress or dissatisfaction) to 4 (optimal functioning or satisfaction), each assessing functioning in a different area of life, with a score of 3 or more indicating healthy functioning. A global functioning score is derived by averaging scores

**TABLE 1.** Sociodemographic Characteristics of all Participants ( $n = 1166$ )

Age when applied to the unit	Mean (SD)	36.4 (14.2)
	Range	18–80
Emigration	Yes	993 (85%)
	No	173 (15%)
Marital status	Single	655 (56%)
	Married	511 (44%)
No. children	Mean (SD)	1.19 (1.59)
	Range	0–10
Years of education	Mean (SD)	12.61 (1.95)
	Range	8–29
Academic degree	Yes	285 (24%)
	No	881 (76%)
Employment	Employed	701 (60%)
	Unemployed	465 (40%)
Was in therapy	Yes	707 (61%)
	No	459 (39%)
Military rank	Officers	106 (9%)
	Nonofficers	1060 (91%)
Service role	Combatant	1000 (86%)
	Support	166 (14%)
Type of service during the event	Regular	838 (72%)
	Reservists	328 (28%)
Age at event	Mean (SD)	24.2 (5.92)
	Range	17–58
Wounded	Yes	1001 (86%)
	No	165 (14%)

across items. The item assessing relationships with patients' children was only relevant to a small subsample of patients and therefore was excluded from the total score. Internal consistency measured by Cronbach alpha was 0.79 and 0.86 for the pretreatment and posttreatment assessment, respectively.

Hebrew versions of the CAPS, MADRS, HAM-A, and POAMS-TV were applied, all previously used among Israeli veterans demonstrating good internal consistency ( $\alpha = 0.94, 0.86, 0.78,$  and  $0.84$ , respectively; Levi et al., 2016; Levi, 2017; El-Bar et al., 2017).

### Diagnostic Interviews and Treatment Assignment

Diagnostic interviews were conducted over 2 to 3 meetings, each 1-hour long, by 1 of 12 therapists (psychiatrists, clinical psychologists, and social workers), all with extensive experience in PTSD diagnosis and treatment. All interviewers completed the mandatory IDF service and were therefore highly familiar with military culture. Weekly staff meetings were held to discuss relevant cases, diagnoses, and treatment assignment decisions. The UTC-PTSD provides the following therapeutic procedures: CBT, PDT, PGT, TF-GT, and pharmacotherapy. (For details about the treatments and treatment assignment practices at the UTC-PTSD, see Levi et al., 2016; Levi, 2017). In the current study, 25% of patients were offered CBT, 29% PDT, 15% PGT, 9% FG-CT, and 22% pharmacotherapy.

### Procedure

After initial contact with the UTC-PTSD, potential participants were assessed using the previously described measures. Depressive and anxiety symptoms were assessed as these are highly comorbid with PTSD and could have a role as predictors for treatment acceptance and

dropout. Those diagnosed with PTSD based on CAPS scores were offered one of the therapy types practiced at the UTC-PTSD.

### Data Analyses

We conducted two separate logistic regressions to determine predictors of a) the likelihood that participants would accept the offer to start treatment (treatment consent; yes/no); and b) the likelihood that participants accepting treatment would complete the full course of treatment (treatment completion; yes/no). In both analyses, demographic variables (age at application, marital status [married/single], number of children, years of education, academic degree [high school/university], employment [yes/no], past psychotherapy [yes/no], military rank [enlisted/officer], service role [combatant/support], type of service [mandatory/reserve], age at traumatic event, injury [yes/no]) were entered in step 1, whereas symptom severity (PTSD, depression, anxiety) and level of functioning were entered in step 2. All data were analyzed using SPSS IBM (version 23.0).

## RESULTS

### Zero-Order Correlations

Means, standard deviations, and zero-order correlations between study variables are presented in Table 2. The intercorrelations between age at application to the UTC-PTSD, marital status, and number of children; between marital status and number of children; and between CAPS and POAMS-TV were moderate ( $r$ 's = 0.46–0.55,  $p$ 's < 0.001). All other variables showed weak patterns of association ( $r$ 's < 0.25).

### Predicting Treatment Consent

The logistic regression (Table 3) revealed only one significant predictor of treatment acceptance. The younger the veterans were when contacting the UTC-PTSD, the more likely they were to refuse treatment ( $\beta = -0.050$ ;  $SE = 0.01$ ;  $p < 0.001$ ; 95% confidence interval [CI], 0.929–0.975). The effect size of the model was moderate and explained 36% of the variance in treatment initiation (Nagelkerke  $R^2 = 0.356$ ,  $p < 0.001$ ). The independent variables did not display multicollinearity (tolerance < 0.1; VIF < 2.5).

### Predicting Treatment Dropout

The logistic regression (Table 4) revealed four factors that significantly predict dropout from treatment: younger age at application to the UTC-PTSD, being in past treatment, having more years of education, and reporting higher baseline depression ( $\beta = -0.02$ ,  $SE = 0.01$ ,  $p = 0.024$ , 95% CI: 0.967–0.998;  $\beta = 0.08$ ,  $SE = 0.03$ ,  $p = 0.025$ , 95% CI: 1.01–1.15;  $\beta = 0.38$ ,  $SE = 0.16$ ,  $p = 0.015$ , 95% CI: 0.743–1.71;  $\beta = 0.02$ ,  $SE = 0.01$ ,  $p = 0.019$ , 95% CI: 1.00–1.03, respectively). The effect size of the model was high explaining 41% of the variance (Nagelkerke  $R^2 = 0.410$ ,  $p < 0.001$ ). The independent variables did not display multicollinearity (tolerance < 0.1; VIF < 2.5).

## DISCUSSION

The present study explored the predictive associations between demographic, psychiatric diagnosis, and military-related variables and consent to treatment and treatment dropout among Israeli veterans with PTSD.

Results indicated that younger veterans tended to refuse treatment. This finding is consistent with previous studies showing that older veterans are generally more positive about help-seeking than younger veterans (Reneses et al., 2009; Smith et al., 2016). Treatment rejection may be linked to subjective beliefs that being in treatment is an admission of failure reflecting an inability to cope with problems independently (Doran et al., 2017). Relative to older veterans, beliefs like these may pose a greater psychological obstacle for younger veterans as

**TABLE 2.** Means, Standard Deviations, and Correlation of the Variables Entered to the Logistic Regression Predicting Treatment Initiation

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Consent	1.12	0.33		0.13**	-0.04	-0.04	-0.08**	-0.01	-0.00	0.00	0.01	0.02	-0.02	0.00	-0.03	-0.04	-0.02	-0.03	-0.02	0.07*
2. Age at application	35.4	13.9	0.22**		0.46**	0.46**	0.55**	-0.06*	-0.08**	0.04	0.05*	-0.15**	0.05	-0.15**	0.15**	0.11**	0.06*	-0.10**	0.01	0.10**
3. Emigration	1.14	0.35	0.09**	0.09**		0.01	0.08**	0.00	0.01	-0.01	0.065*	-0.01	0.065*	0.00	0.00	0.02	0.03	0.03	0.02	-0.02
4. Marital status	0.44	0.49	0.43**	0.43**	0.12**		0.25**	0.18**	0.00	-0.09**	0.06**	-0.09**	0.06**	-0.05	0.20**	0.01	0.00	0.00	0.00	0.00
5. No. children	0.62	0.49	0.07*	0.07*	0.18**	0.18**		0.09**	0.05	-0.08**	0.07*	-0.08**	0.07*	-0.08**	0.13**	0.04	0.06*	0.04	0.00	-0.08**
6. Years of education	12.4	2.4	0.37**	0.37**	0.16**	0.16**	0.16**		0.06*	0.00	0.06*	-0.15**	0.00	0.01	0.13**	0.03	-0.06*	0.00	-0.01	0.00
7. Academic degree	0.24	0.42	0.23**	0.23**	0.07**	0.07**	0.07**	0.07**		0.23**	0.07**	-0.23**	-0.06*	-0.05	0.19**	-0.04	-0.12**	-0.04	-0.03	0.11**
8. Employment	0.60	0.48	0.02	0.02	-0.06*	-0.06*	-0.06*	-0.06*	0.02		0.02	-0.06*	-0.06*	-0.08**	0.13**	0.04	-0.15**	-0.07**	-0.06**	0.16**
9. Was in therapy	0.39	0.49	0.06*	0.06*	0.06*	0.06*	0.06*	0.06*	-0.01	0.06*	0.06*	-0.01	0.06*	-0.12**	-0.08**	0.03	0.09**	-0.01	-0.04	0.00
10. Military rank	0.90	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.04	-0.05	-0.09**	0.06*	0.05	0.03	0.05
11. Service role	1.14	0.34	0.07**	0.07**	0.07**	0.07**	0.07**	0.07**	0.07**	0.07**		0.07**	0.07**	0.07**	0.07**	-0.07**	0.06*	0.03	-0.02	-0.03
12. Type of service	0.28	0.44	0.12**	0.12**	0.12**	0.12**	0.12**	0.12**	0.12**	0.12**	0.12**		0.12**	0.12**	0.12**	-0.10*	0.04	0.00	-0.01	-0.01
13. Age at event	24.01	5.68	-0.15**	-0.15**	-0.15**	-0.15**	-0.15**	-0.15**	-0.15**	-0.15**	-0.15**	-0.15**	-0.15**	-0.15**	-0.15**		-0.05	0.00	0.02	-0.03
14. Wounded	0.28	0.34	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01		-0.04	-0.01	-0.01
15. CAPS	78.01	20.61	0.17**	0.17**	0.17**	0.17**	0.17**	0.17**	0.17**	0.17**	0.17**	0.17**	0.17**	0.17**	0.17**	0.17**	0.17**		0.02	-0.48**
16. MADRS	29.13	11.09	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	
17. HAM-A	31.30	6.89	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**
18. POAMS-TV	19.40	6.89	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**

*n* = 1166 (listwise). \*\**p* < 0.01; \**p* < 0.05 (2-tailed).

**TABLE 3.** Logistic Regression Predicting Consent to Treatment ( $n = 1166$ )

	<b>B</b>	<b>SE</b>	<b>p</b>	<b>95% CI</b>
Age at application	-0.05	0.01	0.000***	0.92–0.97
Emigration	-0.19	0.29	0.525	0.46–1.47
Marital status	0.36	0.28	0.205	0.82–2.47
No. children	-0.16	0.23	0.479	0.53–1.33
Years of education	0.04	0.04	0.323	0.96–1.12
Academic degree	-0.02	0.24	0.937	0.60–1.58
Employment	-0.09	0.12	0.661	0.62–1.35
Was in therapy	0.24	0.19	0.196	0.88–1.85
Military rank	0.02	0.35	0.963	0.51–2.01
Service role	-0.23	0.28	0.422	0.45–1.38
Type of service	-0.09	0.21	0.650	0.60–1.36
Age at event	-0.01	0.02	0.637	0.95–1.03
Wounded	-0.40	0.31	0.188	0.36–1.21
CAPS	0.00	0.00	0.962	0.99–1.01
MADRS	0.00	0.01	0.770	0.98–1.01
HAM-A	-0.00	0.01	0.651	0.96–1.02
Function (POAMS-TV)	0.02	0.02	0.111	0.99–1.05

\* $p < 0.05$ . \*\*\* $p < 0.001$ .

they typically deal with independence issues in other realms of life. Putting high value on managing the consequences of their traumatic event on their own may partially account for younger veterans' higher rates of treatment refusal. A second possible explanation for reduced treatment acceptance among younger Israeli veterans may be related to cultural stigma. In Israel, as in other countries, the stigma of mental health treatment, and even of applying to a mental health clinic, was found to be one of the strongest influences on treatment acceptance (Hoge et al., 2004). Although attitudes toward psychiatric illness have changed in recent years, the stigma attached to mental health problems still poses a major obstacle for help-seeking (Hoge et al., 2004). This stigma is often felt very acutely by Israeli veterans (Levi et al., 2018; Levi and Lubin, 2018), as they worry that receiving treatment will be perceived by their peers and commanding officers as signs of "weakness." Importantly, due to mandatory law in Israel, soldiers discharged from regular military service continue to serve as reserves. Regardless of the reasons behind lower treatment entry in young veterans, our results suggest that heightened efforts are needed to convince young veterans to accept treatment. Encouraging young veterans to accept psychotherapies for PTSD is vital for their well-being and functioning (Karlén et al., 2010).

Twenty-seven percent ( $n = 246$ ) of participants in the present study dropped out of treatment. This dropout rate is in line with previous research demonstrating that even when veterans do begin treatment, either psychotherapy or medication, a high percentage eventually drops out (Hoge, 2011). Four variables predicted dropout in the present study. First, depressive symptoms at baseline predicted dropout rates. Therapy typically requires strong emotional involvement, commitment, and willingness to deal with emotional difficulties (Ursano et al., 2004). High levels of depression might deplete the patient's resources and enhance avoidance of emotional pain, factors that could enhance treatment dropout. Second, relative to older veterans, younger veterans tended to dropout of treatment more (for similar findings, see DeViva, 2014; Harpaz-Rotem and Rosenheck, 2011; Maguen et al., 2012). As mentioned previously, when discussing age as a barrier for treatment initiation, young veterans also have to cope with other tasks at this stage of their lives (such as academic studies, finding a stable job, marriage, and family status). Hence, younger veterans usually expect rapid results

in therapy, and when these do not occur, they chose to leave treatment (DeViva, 2014). Third, somewhat paradoxically, higher level of education predicted higher dropout rates. Although one may expect that more educated individuals would also be more aware of the benefits of therapy for PTSD, previous research among veterans also revealed that education was positively associated with doubts about the therapist's ability to assist (DeViva, 2014), possibly leading to treatment dropout. Hence, careful monitoring of treatment satisfaction and therapist-patient alliance could reduce treatment dropout among young veterans with higher education levels (Hoge, 2011; Ursano et al., 2004). Finally, having received treatment in the past also predicted dropout rates. We do not have data on the course and nature of the past treatments in which study participants were involved. However, it is conceivable that disappointing or unsuccessful past therapy could reduce motivation and willingness to be fully committed to a new treatment. Importantly, however, previous research has also found that positive experience in past treatment increases the desire for additional help when needed (Brown et al., 2011). Future research is needed to illuminate the association between past treatment and the willingness/ability to complete a new treatment.

### Study Limitations

The current results should be considered in light of various limitations. First, although some of the participants in the current study were referred to the UTC-PTSD by mental health officials, eventually, all participants had to actively and voluntarily contact the UTC-PTSD for help. This means that the study does not necessarily include veterans who do not recognize and acknowledge the implications of their symptoms (Gould et al., 2007). Therefore, it may not be possible to generalize the findings to all veterans. Second, we did not explore the possibility that some veterans who contacted the UTC-PTSD only sought diagnosis and official disability acknowledgement for state pension purposes and in fact never sought treatment. Declining therapy in such veterans is understandable. It is worth clarifying though that, in Israel, decisions on disability are reached through a centralized process coordinated by the Rehabilitation Department of the Israeli Ministry

**TABLE 4.** Logistic Regression Predicting Treatment Dropout ( $n = 1021$ )

	<b>B</b>	<b>SE</b>	<b>p</b>	<b>95% CI</b>
Age at application	-0.02	0.01	0.024*	0.97–1.00
Emigration	0.18	0.21	0.383	0.79–1.82
Marital status	-0.33	0.19	0.088	0.48–1.05
No. children	0.07	0.07	0.391	0.92–1.23
Years of education	0.08	0.03	0.025*	1.00–1.14
Academic degree	-0.33	0.21	0.112	0.47–1.08
Employment	-0.03	0.16	0.834	0.70–1.33
Was in therapy	0.38	0.16	0.015*	1.02–1.99
Military rank	-0.27	0.27	0.312	0.44–1.29
Service role	-0.22	0.22	0.317	0.51–1.24
Type of service	0.16	0.17	0.346	0.83–1.65
Age at event	-0.02	0.01	0.272	0.95–1.01
Wounded	0.07	0.21	0.745	0.70–1.63
CAPS	0.01	0.00	0.072	0.99–1.01
MADRS	0.018	0.01	0.019*	1.00–1.03
HAM-A	-0.011	0.01	0.410	0.96–1.02
Function (POAMS-TV)	0.016	0.011	0.204	0.99–1.04

\* $p < 0.05$ . \*\* $p < 0.001$ .

of Defense, whereas the treatment provided by the UTC-PTSD is entirely unrelated to it. This, however, is not always fully clear to the applying veterans and hence the potential limitation. Finally, lack of random assignment to treatment types could have affected study results as selective treatment assignment might affect treatment retention in a biased manner contingent on treatment type. Relatedly, number of sessions (*i.e.*, treatment length) also differed between treatments, once more creating an unbalanced affect across participants.

## CONCLUSIONS

The present study highlights the need to consider age, depression levels, past therapy experiences, and level of education when offering and delivering treatment for veterans, as these factors were found to be associated with treatment entry and dropout. Future research should build upon present findings to better understand factors affecting treatment entry and completion in this population. First, future research should examine the potential efficacy of psychoeducational interventions aiming to improve negative perceptions of mental health care among young veterans (Hoge et al., 2004) in increasing treatment entry and completion. These could be delivered either upon discharge from active duty or as an integral part of the initial assessment process in veteran clinics. Second, research should explore the effects of specific variables found to be particularly relevant in PTSD treatment, such as the therapeutic alliance (Wampold et al., 2010), on depression levels during treatment, which might help reduce its detrimental effects on treatment retention rates. Third, additional patient, therapist, and treatment-related variables, not included in the present study and that might serve as potential predictors of treatment entry and completion (Egan and Kenny, 2005; Hoge et al., 2014), should be explored in future studies. Finally, a long-term follow-up clinical assessment of present participants, dropouts, as well as completers may assist clinicians working with veterans to increase the likelihood of treatment initiation and decrease dropout rates.

## DISCLOSURE

The authors declare no conflict of interest.

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