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An Examination of PTSD Symptoms as a Mediator of the Relationship between Trauma History Characteristics and Physical Health following a Motor Vehicle Accident

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Abstract

Background—It has been suggested that a history of trauma exposure is associated with increased vulnerability to the physical health consequences of subsequent trauma exposure, and that posttraumatic stress symptoms (PTSS) may serve as a key pathway in this vulnerability. However, few studies have modeled these relationships using mediation, and most have failed to consider whether specific characteristics of the prior trauma exposure have a differential impact on physical and mental health outcomes.

Methods—The present study examined 180 victims of a serious motor vehicle accident (MVA) who reported prior exposure to traumatic events. PTSS were assessed by clinical interview 6 weeks post-MVA, and physical health was assessed 6 months post-MVA. Using structural equation modeling, the present study examined the extent to which event (age at first trauma, number and types of trauma) and response (perceptions of life threat, physical injury and distress) characteristics of prior trauma were related to physical health outcomes following a serious MVA, and whether these relationships were mediated by PTSS.

Results—Results revealed that both event and response characteristics of prior trauma history were associated with poorer physical health, and that PTSS served as a mechanism through which response characteristics, but not event characteristics, led to poorer physical health.

Conclusions—These results highlight the enduring impact of trauma exposure on physical health outcomes, and underscore the importance of considering multiple mechanisms through which different aspects of prior trauma exposure may impact physical health.

Keywords

trauma; PTSD/posttraumatic stress disorder; quality of life; life events/stress; depression

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Trauma victims experience increased risk for a number of short- and long-term physical health problems^{1, 2}. However, the mechanisms through which trauma impacts physical health have not been clearly defined. Schnurr and colleagues^{3, 4} have proposed that posttraumatic stress disorder (PTSD) may serve as a key mediator in the pathway between trauma exposure and physical health, and empirical work has supported an increased risk for physical health problems in individuals with PTSD^{5, 6}.

Prior trauma history has been associated with altered psychophysiological responses to subsequent trauma⁷, and Yehuda and colleagues⁸ have hypothesized that prior stress experience may result in persistent biological changes that disrupt the relationship and coordination between stress hormones, increasing one's risk of developing PTSD upon exposure to a subsequent traumatic event. Cumulative exposure to trauma may directly increase wear and tear on vital organs and systems by increasing allostatic load associated with the stress response^{9, 10}. A history of trauma may sensitize individuals to the harmful physical and psychological effects of subsequent traumas. Additional psychosocial, cognitive, and affective processes are also likely to influence the impact of trauma on health^{3, 11}. Thus, a history of prior trauma is likely to exert both a direct and indirect effect on physical health outcomes. Overall, the current literature has established links amongst trauma exposure, PTSD symptoms (PTSS) and physical health outcomes. However, only a few studies have directly tested these relationships using mediation techniques that test the significance of the indirect effect. Results of these studies have been somewhat inconsistent.

Studies of male and female Vietnam veterans have found that PTSD mediated the relationship between severity of combat exposure and physical symptoms and health perceptions several years post-service^{1, 12, 13}. Lang and colleagues¹⁴ also studied female veterans, but focused on exposure to childhood abuse and neglect rather than combat exposure. Results were generally supportive of PTSS as a mechanism for the trauma-health relationship, but varied somewhat depending on the specific type of childhood maltreatment, with the strongest results found for childhood physical abuse. Eadie and colleagues¹⁵ conducted a more comprehensive evaluation of health outcomes in 153 female undergraduates by examining a latent variable comprised of healthcare utilization, health perceptions, physical symptoms, and sexual and reproductive health. Results revealed that PTSS, but not depressive symptoms, significantly mediated the relationship between severity of sexual assault history and physical health. Similarly, Tansill and colleagues¹⁶ found that trauma-related psychological symptoms (including PTSS, depressive, and other symptoms) mediated the relationship between physical health and adolescent/adult sexual assault, but not between physical health and childhood sexual assault, likely a result of low prevalence rates for childhood events.

In contrast, other studies have failed to demonstrate this mediation effect^{17, 18}. Using data from the National Comorbidity Survey-Replication, Sledjeski and colleagues¹⁹ found that the number of cumulative lifetime traumatic events one experienced were associated with poor physical health independent of PTSS. In addition, Norris and colleagues²⁰ found that PTSS did not mediate the trauma-health relationship in the aftermath of a natural disaster once depressed affect was added to the model. Differences in sample age, gender, type of trauma, and whether or not depression was included in the model may account for these

prior equivocal findings. In addition, inconsistencies in the operationalization of trauma exposure present a general limitation in the literature, restricting comparison of existing studies.

Assessments of trauma exposure vary widely, from simple assessments of incidence of prior trauma to more complex examinations of particular characteristics of the event itself (e.g. timing or frequency) and subjective perceptions of the physical or emotional states that occurred during the experience (e.g. perceived life threat, injury severity, distress). Many studies have reported associations between these event and response characteristics of trauma exposure and physical and mental health outcomes^{19, 21-28}. In general, greater frequency and severity of traumatic events are associated with more negative physical and mental health outcomes. In addition, childhood experiences appear more detrimental to long-term health than experiences in adulthood, perhaps as a result of the biobehavioral impact of traumatic stress during critical developmental periods²⁹.

To date, no study has directly compared whether specific characteristics of a prior trauma differentially impact physical health or whether PTSS mediate these relationships, though examination of the current literature reveals a suggestive pattern. Most studies that examined the severity of prior trauma reported significant mediation models^{1, 12-16} (with few exceptions^{18, 20}), while studies that examined event characteristics such as number of prior traumas¹⁹ or the simple presence or absence of prior trauma¹⁷ did not find significant mediation. It should be noted that the Norris and colleagues²⁰ findings of mediation only became nonsignificant when depressed affect was added to the model.

The present study sought to examine the extent to which prior trauma exposure affected physical health outcomes following a subsequent motor vehicle accident (MVA), and to examine the extent to which PTSS mediated these relationships. Further, we sought to explore potential differences in the mediation model for response characteristics (life threat, perceived injury, distress) vs. event characteristics (number of traumas, number of types of traumas, age at first trauma) of prior traumas. Based on our review of the current literature, we expected prior trauma exposure characteristics and childhood exposure to be associated with both physical health complaints and PTSS. Further, we hypothesized that PTSS would serve as a stronger mediator for response characteristics of prior traumas than event characteristics.

Method

Participants

Data for the present analyses were collected as part of a larger study designed to evaluate psychobiological factors present in the acute aftermath of trauma that predicted development and maintenance of PTSS. The present analyses included a subsample of 210 MVA victims who provided detailed information regarding their history of traumatic experiences. Thirty participants dropped out of the study before the six-month follow-up, leaving a final sample size of 180. There were no significant differences between those who were and were not retained on any key study variables. The final sample consisted of 97 males (53.9%) and 83 females ranging in age from 18-81 ($M=39.78$, $SD=15.61$). The majority of the sample

(91.7%) was Caucasian, with 6.7% African American and the rest representing other ethnicities.

Procedures

All procedures were approved by the Institutional Review Boards of Kent State University, Summa Health System, and Akron General Hospital. Potential participants were identified after admission to one of two level-one trauma centers in Akron, Ohio following consecutive MVAs. Patients were eligible to participate if they were aged 18 or older, communicated fluently in English, lived within 25 miles of the hospital, and scored a minimum of 14 on the Glasgow Coma Scale³⁰. A trauma nurse administered the Mini Mental State Exam³¹ to determine ability to give informed consent. When patients met all eligibility criteria and expressed interest in the study, a researcher obtained consent and conducted the initial assessment. Eighty-seven percent of participants who were approached agreed to participate. Demographic information and injury severity scores were obtained in-hospital. Six weeks post-MVA, clinical interviews were conducted in participants' homes to assess PTSD (Clinician Administered PTSD Scale)³² and depression (Structured Clinical Interview for DSM-IV)³³. In addition, participants completed a modified form of the Traumatic Stress Schedule (TSS)³⁴ which assessed detailed information about exposure to potentially traumatic events prior to the MVA. Six months post-MVA, participants provided information about their physical health by completing the MOS 36-item short-form health survey (SF-36)³⁵. The parent study included a total of 6 assessments over the year following the MVA, which included biological samples (blood, urine, saliva), clinical interviews, and questionnaires. Participants received \$25 at each timepoint.

Measures

Injury severity scores (ISS)³⁶ were calculated by medical personnel and obtained from patient charts. The extent of injury to 6 major regions of the body was scored between 0 and 6, with higher numbers indicating more severe injury. The ISS reflects the sum of the squares of the 3 most severely injured regions. ISSs in the present sample ranged from 0 to 45 ($M=7.51$, $SD=6.20$).

Trauma history was assessed with a modified form of the Traumatic Stress Schedule (TSS)³⁴. The TSS lists 9 potentially traumatic events (e.g. physical assault, sudden loss of loved one, natural disaster) and asks participants to indicate whether or not they have ever experienced each type of event. In addition, participants were invited to write in any event they perceived as traumatic, but that was not included on the list. A TSS total score was calculated by counting the number of event types an individual has experienced, thus reflecting the breadth of exposure. Modifications to the measure are described elsewhere²⁶. Briefly, questions were added to obtain more detailed information about trauma exposure, including the number of times each type of event happened, the age at which the trauma first occurred, and perceived life threat, extent of physical injury and perceived distress resulting from the event. The number of traumas was summed across events to provide a measure of the total extent of prior trauma exposure. Consistent with the Childhood Trauma Questionnaire³⁷, age at first trauma was dichotomized into childhood (prior to age 15) vs. adulthood exposure. Childhood exposure was coded as 1 while adulthood exposure was

coded as 0. For each type of trauma endorsed, participants were asked to what extent they 1)feared for their lives; 2)were physically injured; and 3)were distressed on a scale from 1 (*not at all*) to 7 (*extremely*). The maximum value of each of these trauma response characteristics was identified and used in analyses because these maximum values serve as the most likely proxy for the impact of prior exposure on physical and mental health.

Six weeks post-MVA, master's level clinical psychology graduate students administered the CAPS³² to measure PTSS and the SCID³³ to assess depression. The CAPS measures the frequency and intensity of 17 PTSD symptoms resulting from the MVA, including intrusive, avoidant, and hyperarousal symptoms. A continuous symptom score was calculated by summing the frequency and intensity of all symptoms, with higher scores indicating more severe PTSS. Internal consistency of the CAPS was good in the present sample (Cronbach's alpha=.92). In addition to evaluating MVA-specific PTSS, a second CAPS was administered to assess PTSS resulting from a previous traumatic event reported by the participant. These PTSS are not necessarily current symptoms, as they may have occurred years earlier and resolved by the time of the MVA. The SCID evaluates the presence of 9 depressive symptoms. If an individual endorsed at least 5 symptoms without alternative explanation (i.e. illness, bereavement), a diagnosis of depression was applied. Onset and duration of depression was not recorded, and thus may have been either pre- or post-MVA. Interviews were audiotaped, and a random 10% of tapes were coded by an independent interviewer. The inter-rater reliability calculations for these 10% were very good for both the CAPS ($r=.98$) and the SCID ($kappa=1.0$).

The 36-Item Short Form Health Survey (SF-36)³⁵ is a self-report measure of physical and mental health that is widely used and well validated^{38, 39}. The present study utilized the general health subscale which includes 5 items and measures participants' perceptions of overall health, susceptibility to illness, and expectations for future health. Responses for each item were scored from 0 to 100, with higher scores indicating better health, and the 5 items were summed to create a general health score. Internal consistency in the present sample was adequate (Cronbach's alpha=.82).

Data Analyses

Hypotheses regarding the direct and indirect impact of prior trauma history on physical health were tested as path analyses in AMOS (version 19) using maximum likelihood estimation. Models were evaluated for goodness of fit using the χ^2 test, the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), and the root mean square error of approximation (RMSEA). Good model fit is indicated by CFI and TLI values that approximate 1, and RMSEA values below .06. Further, mediation was tested using bootstrapping to determine the significance of the indirect effects. The primary analyses sought to determine whether PTSS served as a mediator between trauma history characteristics and physical health following a serious MVA (see Figure 1). Specifically, trauma history characteristics were categorized into two latent independent variables representing event characteristics (number of prior traumas, number of types of prior traumas, and age [childhood vs. adulthood] at first trauma) and response characteristics (perceived physical injury, life threat and distress caused by prior traumas). PTSS 6 weeks

post-MVA served as the mediator, and general health was the dependent variable. In order to isolate and explore the individual strength of the mediation models, separate models were tested for event and response characteristics. Depression was not controlled in primary mediation models because the removal of depression also removes overlapping variance with PTSS (particularly avoidance symptoms). However, in order to examine the effect of removing depression, models were retested with depressed individuals removed. Similarly, mediation models were tested including lifetime PTSS as a covariate to control for the influence of previous PTSS in the present models.

Examination of the data revealed a positive skew in number of prior traumas, due to a few extreme values. In order to correct the skew, the upper 5% of values were brought in to equal 35 prior traumas. Thus, a value of 35 may be interpreted as 35 or more prior traumas. To ensure that all participants who were retained could be included in the present analyses, missing data points were imputed using an expectation-maximization (EM) imputation algorithm in EQS 6.1 prior to all analyses.

Results

Preliminary Analyses

Descriptive statistics and bivariate correlations of key study variables are presented in Tables 1 and 2 respectively. Only 11.1% of the present sample met diagnostic criteria for PTSD, and therefore continuous PTSS scores were used in all analyses. Response characteristics (perceived life threat, physical injury and distress) were positively associated with PTSS (all p 's < .05) and negatively associated with general health (all p 's < .05). Event characteristics (number of types of traumas, number of traumas, and childhood vs. adulthood exposure) were also all negatively associated with general health (all p 's < .05), but age at first trauma (child vs. adult) was the only event characteristic to be related to PTSS, and this was at the trend level ($p = .09$). PTSS 6 weeks post-MVA were associated with poorer general health 6 months post-MVA ($p < .001$).

Injury severity, current age, and gender were examined as potential control variables. Results revealed that injury severity was not significantly related to any other study variables. Current age was positively associated with number of prior traumas and types of traumas (p 's < .01) and negatively associated with PTSS ($p < .01$), such that older age was associated with increased lifetime exposure to trauma, but lower PTSS. Older age was also associated with poorer perceived physical health ($p < .05$). Spearman's rho and chi square analyses revealed that women reported higher levels of response characteristics (life threat, physical injury, distress; all p 's < .05) and more PTSS ($p < .001$) than men. There were no significant gender differences in event characteristics (number of traumas and type of traumas, age at first trauma) or physical health. Although initially included as covariates, the addition of injury severity, age and gender to the models did not have any meaningful impact on the mediations, and thus to maximize parsimony, results are presented without covariates.

Mediation Models

The measurement portion of the model appeared to fit the data well; examination of the latent variables revealed appropriate factor loadings of the indicators for both the event characteristics (number of traumas $\beta=.64$, $p=.03$; number of types of traumas $\beta=.98$, $p=.01$; childhood vs. adulthood trauma $\beta=.48$, $p=.01$) and response characteristics latent variables (fear for life $\beta=.71$, $p=.02$; physical injury $\beta=.64$, $p=.02$; distress $\beta=.67$, $p=.01$). Separate mediation models were tested for event and response characteristics to isolate the indirect effect for each independent variable. Direct path coefficients for both models are presented in Figure 1.

The structural model examining response characteristics fit the data well ($\chi^2 [4] = 5.91$, $p = .21$, CFI = .99, TLI = .97, RMSEA = .05(95% CI = .00 to .13)). Direct pathways were as hypothesized, with response characteristics positively associated with PTSS, and both response characteristics and PTSS significantly associated with poor health. Results of bootstrapping revealed that the standardized indirect effect was significant ($\beta=.13$, $p=.01$), suggesting that PTSS 6 weeks post-MVA partially mediated the relationship between response to prior trauma (fear for life, physical injury, distress) and physical health 6 months post-MVA.

The structural model examining event characteristics also fit the data well ($\chi^2 [4] = 5.06$, $p = .28$, CFI = .99, TLI = .98, RMSEA = .04(95% CI = .00 to .13)). As expected, poor health was significantly associated with event characteristics of prior trauma and PTSS. However, in contrast to findings with response characteristics, event characteristics were not significantly associated with PTSS. The indirect effect examining PTSS as a mediator between event characteristics of prior trauma exposure (number of traumas, age at first trauma, number of types of trauma) and physical health was also not significant, suggesting that PTSS resulting from the MVA did not serve as a mechanism through which event characteristics of prior traumas increased vulnerability for physical health problems 6 months after the MVA.

Twenty-five participants (7 males and 18 females) met diagnostic criteria for depression 6 weeks after the MVA. In order to better isolate the independent impact of PTSS, the hypothesized models were also tested with depressed individuals removed. Results continued to achieve good model fit, and yielded similar results to the analyses conducted on the entire sample. The direction and significance of both direct and indirect pathways was identical to the models tested in the entire sample, but the strength of the effects was somewhat smaller.

Finally, lifetime PTSS was included as a covariate in mediation models to approximate control for PTSS resulting from prior trauma exposure. Thirty five of the original 180 participants did not provide data on lifetime PTSS and were therefore excluded from these analyses. Results indicated that, as with depression, lifetime PTSS did not have a substantial impact on the results of the mediation models.

Discussion

To date, research has yielded inconsistencies in the examination of PTSS as a mediator of the relationship between trauma exposure and physical health outcomes. The present study sought to add clarity to this question by examining whether PTSS differentially mediated between event (age at first trauma, number of traumas and types of traumas) and response (life threat, physical injury, distress) characteristics of prior trauma and physical health. Results revealed that both event and response characteristics of trauma history were associated with increased risk for physical health problems, but only the relationship between response characteristics and physical health was mediated by PTSS. Thus, consistent with Sledjeski et al.¹⁹, the present findings demonstrate that the mere accumulation of lifetime traumatic events impacts physical health independent of PTSS. However, PTSS do serve as a mechanism through which perceptions of and emotional reactions to previous traumas may impact physical health outcomes following a subsequent trauma. These results persisted both when lifetime PTSS were included as a covariate and when individuals with major depression were removed from the sample.

The present findings provide additional evidence to support the suggestion that trauma exposure sensitizes an individual to the harmful influence of subsequent trauma exposure on mental and physical health. Further, the finding of differential mediation results for event and response characteristics of prior trauma exposure provides new insight into the multi-mechanistic nature of the relationship between trauma and physical health. Specifically, it appears that negative response characteristics of prior trauma (life threat, perceived injury, distress) affect physical health outcomes at least in part by exacerbating emotional responses to subsequent trauma, such as PTSS. However, event characteristics of prior trauma (number and type of traumas, age at first trauma) were not associated with increased PTSS, despite the fact that these event and response characteristics represented various facets of the same traumatic experiences. This suggests that the accumulation of prior trauma exposure may exert a harmful impact on long-term physical health via mechanisms other than PTSS and encourages future investigation into such mechanisms. A number of cognitive, affective, behavioral, and interpersonal factors may be involved in facilitating the relationship between extent of trauma exposure and physical health outcomes^{3,11}. For example, independent of an emotional response to trauma, coping resources may be depleted prior to subsequent trauma exposure, leaving the individual vulnerable to adverse physical health outcomes, even in the absence of any mental health problems⁴⁰. Alternatively, suppression of emotional response may result in low PTSS, but still evoke psychobiological dysregulation⁴¹. Further consideration of developmental factors is also warranted. The present results indicated that PTSS did not serve as a pathway linking early adversity to physical health. Additional consideration of social and biological developmental trajectories may provide insight into age-specific mechanisms capable of maintaining risk across the lifespan. Overall, the present findings support a more comprehensive and multi-mechanistic approach to the study of trauma and health.

One important limitation in the interpretation of these results is the potential for bidirectional reporting bias between trauma history and post-MVA PTSS. Research suggests that negative affective states may influence retrospective reports of past events^{42, 43}, and therefore in the

present study it is possible that PTSS following the MVA may lead to exaggerated reports of prior trauma characteristics. In addition, for many individuals, prior trauma exposure resulted in PTSS which may be maintained long after the initial exposure. Thus in the present study, reports of MVA-specific PTSS may have been influenced by PTSS resulting from prior events. Although this bidirectional confound is difficult to tease apart, the present study utilized several methodological and analytical techniques to aid in interpretation of these findings. Most notably, clinician-assessed lifetime PTSS were included as a covariate in exploratory mediation models to isolate the effect of MVA-specific PTSS from PTSS resulting from prior traumas. This is a very conservative approach, considering that it is not clear when these lifetime PTSS occurred, and is likely that many of these symptoms did not exist concurrently with the MVA-specific PTSS. The inclusion of lifetime PTSS had no meaningful impact on the present findings, suggesting that PTSS resulting from subsequent trauma (MVA) are associated with prior trauma characteristics and physical health outcomes independent of lifetime PTSS.

The assessments included in the present study represent both strengths and limitations. PTSS were evaluated using the gold standard clinical assessment, and unlike most current research, PTSS in the present study were assessed separately for the MVA and the events reported in participants' trauma histories. This reduces concerns of redundancy between the trauma exposure (IV) and the PTSS that result directly from that trauma exposure (mediator). In previous research examining PTSS as a mediator between trauma exposure and health, the PTSS have been a direct result of all or part of the trauma exposure. The assessment of trauma history (though retrospective) was thorough, and measured several characteristics of exposure to a wide variety of traumas over the lifetime. This is an important difference from prior research that tended to focus on exposure to specific forms of trauma (e.g. combat, childhood abuse). However, physical health was measured generally, without evaluating any specific medical conditions or symptoms. Previous work has suggested that certain types of physical health may be more vulnerable to the effects of trauma and PTSS than others¹⁶, and the present results can only be applied to general perceived health status. Further, the assessment of physical health was based on self-report. This may introduce some bias to the results, though some have suggested self-reported health status to be relatively accurate⁴⁴.

The present findings extend the current literature by demonstrating the indirect effect that prior trauma exposure exerts on psychological response to subsequent traumas, and the role that this response may play in exacerbating or maintaining physical health problems. However, it is important to note that although the study design is prospective, PTSS and physical health were not assessed as repeated measures, and therefore it is not possible to test an alternative model examining physical health as a potential mediator of the relationship between trauma history characteristics and subsequent PTSS. Although the temporal nature of the present findings is clear (i.e. 6-week PTSS precedes 6-month physical health) and reflects an extension of cross-sectional designs, future longitudinal work should incorporate a repeated measures design to more fully evaluate the complex interplay of trauma exposure and its mental and physical health consequences.

In addition, as is typical with samples of MVA victims, levels of PTSS were lower than what is anticipated in other types of traumas (e.g. combat, rape), and it is therefore unclear whether the present findings would generalize to victims of other trauma types or samples with higher levels of posttraumatic distress. Replication of the present study in a variety of traumatized samples would determine whether the specific mechanisms for event and response characteristics of trauma history differ depending on the type of subsequent trauma or the severity of PTSS.

The present results indicate that considerable improvements should be made to the assessment of prior trauma history in future research. A thorough evaluation of both event and response characteristics of prior trauma exposure will assist in the prediction of adverse physical and mental health outcomes. Clinical efforts to reduce the physical health burden of trauma exposure should consider many characteristics of both prior and current traumatization in order to identify mechanisms most appropriate for intervention. As personalized interventions become more standard, it is increasingly important to appreciate the complexity of trauma history and its multiple pathways to poor health.

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Figure 1.

Direct path coefficients of structural equation models testing PTSS as a mediator in the relationship between trauma history characteristics and physical health (n=180). *Note.* All path coefficients were derived from bootstrapped estimates. Values in bold font represent betas from response characteristics model and values in normal font represent betas from event characteristics model. PTSS=posttraumatic stress symptoms, MVA=motor vehicle accident.

Table 1

Descriptive statistics for trauma history characteristics, PTSS, and health (n=180)

	M(SD)	Range
<u>Event characteristics of prior trauma</u>		
Number of traumas	8.08(8.87)	1-35
Number of trauma types	3.41(1.83)	1-10
Childhood trauma exposure [n(%)]	72(40%)	--
<u>Response characteristics of prior trauma</u>		
Fear for life	4.47(2.33)	1-7
Perceived physical injury	4.66(1.86)	1-7
Distress	5.56(1.87)	1-7
PTSS 6-weeks post-MVA	26.36(21.74)	0-108
General health 6-months post-MVA	37.92(22.37)	0-95

Note: PTSS=posttraumatic stress symptoms

Table 2

Bivariate correlations among sample characteristics, trauma history characteristics, PTSS, and health (n=180)

Variables	1	2	3	4	5	6	7	8	9	10
1. Gender ^a	--									
2. Age	.01	--								
3. Injury severity	.01	.04	--							
4. Number of traumas	.05	.16*	-.11	--						
5. Types of traumas	-.01	.17*	-.07	.63***	--					
6. Age at trauma ^b	.06	-.14	.00	.32***	.47***	--				
7. Life threat	.27***	-.15*	-.01	.23**	.34***	.19*	--			
8. Physical injury	.14	.09	.15	.28***	.37***	.16*	.48***	--		
9. Distress	.37***	.11	.02	.24**	.34***	.19*	.47***	.40***	--	
10. 6-week PTSS	.27***	-.18*	-.03	.13	.05	.15*	.26***	.17*	.32***	--
11. 6-month physical health	.08	.15*	-.10	.19*	.27***	.16*	.19*	.16*	.27***	.40***

^aNote. 0=male, 1=female;

^b0=adulthood trauma, 1=childhood trauma; PTSS=posttraumatic stress symptoms.

* p<.05,

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p<.01,

*** p<.00