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■ RESEARCH ARTICLE

A Comparison of Post-Traumatic Stress Disorder Rates and Determining Factors in New Jersey Female and Male Emergency Medical Technicians

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ABSTRACT: Post-traumatic stress disorder, or PTSD, is a severe mental condition a person can develop after experiencing or witnessing a traumatic event. It may have long-term psychological effects as well as reduced work performance. Compared to the general population, emergency medical technicians (EMTs) responsible for arriving on the scene to treat and transport medical patients in emergencies experience a higher prevalence of PTSD. However, in existing publications on PTSD among EMTs, there is a lack of research on PTSD among specifically female EMTs. To fill the gap, this study examined the prevalence of PTSD and its determining factors in female EMTs compared to their male co-workers working in New Jersey. Overall, this study found that 27% of respondents met PTSD criteria, while the prevalence of PTSD among male and female EMTs was similar. However, among the determining factors analyzed, the married women EMTs who took on statistically more family duty responsibilities also showed higher PTSD severities than married men. The discovery of this clear correlation between family duties and PTSD offers enlightenment for relevant agencies in providing support for EMTs.

KEYWORDS: Behavioral and Social Sciences, Post-traumatic stress disorder (PTSD); emergency medical technician (EMT); determining factors; comparison; gender.

■ Introduction

Post-traumatic stress disorder, or PTSD, is a mental condition that an individual could develop after experiencing or witnessing a disturbing event.[1] Such events are common encounters for emergency medical technicians (EMTs) who treat and transport medical patients. Their experiences range from superficial lacerations and bone fractures to horrific car crashes and homicides. Other triggering factors for PTSD in EMTs include stressful conditions like low pay and long working hours; the average income for EMTs is 30% less than that of other working Americans.[2] PTSD can lead to severe anxiety, trouble sleeping, sudden changes in character, and even suicidal thoughts,[1] significantly affecting an individual's social and occupational life.[3] In a professional setting, PTSD has been linked to reduced work performance and impaired decision-making,[4] with displayed symptoms including high levels of acute stress, intense and unpleasant reactions when faced with high acuity situations, "performance deficits on complex cognitive tasks, verbal memory impairment and heightened assessment of risk".[5] This means that EMTs impacted by PTSD may not be able to fully concentrate on their work, putting themselves and their patients at risk. This risk is even more alarming with the knowledge that the rate of PTSD among EMTs ranges from 11% to 35%,[3] much higher than 6% for the general population developing PTSD at some point in their life.[6] All these studies and statistics have demonstrated the profound need for investigating, understanding, and mitigating PTSD among EMTs.

To study PTSD among EMTs, a comprehensive evaluation of PTSD-determining factors is important for a non-biased and in-depth understanding. However, in existing literature, there is an evident lack of research on female EMTs and how they differ from their male counterparts. One such illustration is a study by Khazaei *et al.*, in which 259 participants surveyed were all male, leading the authors to admit in their limitations section that the study may have been gender biased.[3] This exclusion of female EMTs in research is not an isolated case but a general trend. After analyzing twelve articles, Alghamdi recognized this gap in his literature review.[4]

In a limited number of studies that included female respondents, it was disappointing that no attempts had been made to determine the correlation between gender and PTSD severity. For instance, Russ surveyed an EMT population with a male-to-female ratio of 224:79 but failed to analyze if there was any difference in PTSD prevalence between them.[7] Ntatamala & Adams determined that 35% of females and 27% of males included in their study had PTSD. Still, similarly, they did not attempt to investigate the reason for the gender contrast.[8] Another example is Olff's study, where women were determined to have a two to three times higher risk of developing PTSD than men.[9] Among all the studies, none of the authors separated the genders to examine them individually or to evaluate what PTSD-determining factors are most significant for each. This gap exists even though 39.1% of over 175,000 EMTs currently employed in the United States are women.[10]

The presumption that men and women react similarly to various situations is not a legitimate reason to ignore these current research gaps. In reality, women biologically respond differently to stress and exhibit different PTSD symptoms

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than men.[11] This is illustrated when male and female rats were exposed to single prolonged stress (SPS) in a study by Pooley *et al*.[11] SPS is a model of PTSD that involves exposing the rats to several successive stressful situations, including a forced swim experience and a brief loss of consciousness after exposure to a chemical compound of ether. Males showed higher acoustic startle response (ASR) or enhanced muscular activity produced reflexively in response to the stimulus, replicating a well-established effect of SPS. On the contrary, female rats showed no changes in ASR. A similar trend has been observed in humans as well. "More than half of women with PTSD do not show the male-typical increase in negative feedback control of the HPA axis.

Similarly, women with PTSD are less likely to show enhanced ASR, and in some cases, show diminished startle".[11] These findings indicate that female EMTs may not show as many visible PTSD signs as men. However, this silence does not translate to more resilience in women to PTSD. Instead, this silence may exacerbate the problem, resulting in women being overlooked and not receiving the necessary care.

In addition to physical differences, all the articles in this literature review have ignored the fact that, albeit the roles of men and women have become more equitable over the last few decades, they are still fundamentally dissimilar even today. For example, women's roles often include more family obligations than men, such as caregiving for children and elderly parents, all on top of their regular jobs.[12] According to a Gallup poll conducted in 2019, women are more likely to do the laundry, prepare meals, and care for children daily in a household compared to men.[13] Considering that these added responsibilities could induce more stress in women, they are included in this study to help identify the determining factors responsible for the gender difference in PTSD of EMTs.

Due to the lack of analysis regarding PTSD-determining factors for female EMTs specifically, this study aims to tackle this research gap by answering the question: *How does the prevalence of PTSD and its determining factors in female EMTs compare to their male co-workers working in New Jersey?*

By generating conclusions about how gender impacts PTSD rates differently, this study hopes to help inform legislators and healthcare providers about how to assist EMTs best and if gender should play a factor in their decisions. Such assistance may include government support to address the issues arising from gender variations, especially considering donations fully fund some stations. In general, resources for EMTs are not readily available. In some states, emergency medical services (EMS) are not considered essential, so taxpayer dollars do not necessarily support them.[14] This lack of resources may explain why Spitzer found that "only 55% of respondents had ever received any information or education about PTSD, and only 13% of respondents sought treatment for their symptoms".[14] There are many ongoing legislative debates about these mental health concerns which have led to disparities between states, with some states offering significant, while others offering little or no worker compensation for traumatic experiences.[15] Should more gender-specific resources be needed, this general lack of funding for EMS would present additional challenges to diagnosing and treating PTSD in female EMTs, emphasizing the need for further research on this gender gap.

New Jersey is an ideal context for conducting such research since it can act as a microcosm of the United States. For instance, the national median age is 38.8 years as of 2021,[16] close to the median age of 40 in New Jersey.[17] This type of similarity can be seen across multiple other variables such as educational attainment, employment rate, and ethnicity, making New Jersey one of the top three states most representative of the US.[18] Such research in a representative setting is important due to the lack of extensive national studies on PTSD among EMTs.[14] Thus, conducting this study in New Jersey is a suitable alternative while generating a significant impact.

Methods

The survey research method was the most optimal for this study. The survey research method refers to "collecting information about a group of people by asking them questions and analyzing the results."[19] It is one of the best tools to gain insights into topics of interest from a predefined group of respondents. This aligns well with the purpose of this study --- to identify the prevalence and possible determining factors of PTSD among EMTs and assess the differences in males and females.

The survey used in this study consisted of three major parts. The first consisted of only one question asking respondents' consent to participate in the survey. The second part of the survey collected demographic information as potential PTSD-determining factors, and the third part contained questions used to determine the presence of PTSD among respondents.

The questions in the second part were chosen based on studies by Khazaei *et al*. and Ntatamala & Adams, who studied PTSD in the general EMT population.[3,8] They included questions in their surveys relating to gender, years of work experience, marital status, employment status, time worked, and previous training with stress management. Gender defined in this study is self-identified by the respondents. In the survey for this study, the question concerning marital status was sourced directly from the National Institutes of Health PhenX Toolkit. This platform provides various materials for survey research studies. This version included more comprehensive marital status selections, such as "widowed," which was not part of the selections in the studies by Khazaei *et al*. or Ntatamala since being "widowed" could be very different from simply being "single." The survey in this study asked respondents the number of children they have, which was necessary for uncovering its effect on PTSD for men and women, respectively, as the roles of women often include more family obligations than men, such as caring for children.[12] The survey also included questions relating to the respondent's lifestyle on a scale of agreement ranging from "strongly disagree" to "strongly agree." These questions were formulated according to a Gallup poll conducted in 2019, in which respondents recognized that compared to men, women are more likely to do the laundry, prepare meals, and care for children daily in a household.[13]

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The third and last part of the survey took inspiration from a study by Khazaei *et al*. to determine the prevalence of PTSD among the participating EMTs. They used the PCL-5 survey, a PTSD Checklist based on the Diagnostic and Statistical Manual of Mental Disorders 5th edition (DSM-5). The PCL-5 survey contains a total of twenty questions, which is three more than the older PCL-4 version. These additional items were added to align with the updated DSM-5 edition, with updated DSM-5 symptoms, including persistent trauma-related negative emotions, persistent blame, and reckless or self-destructive behavior. Of the remaining seventeen items, the wording of thirteen was revised to better align with the DSM-5 modifications to clarify symptom expression.[20] These changes make the PCL-5 survey more advantageous than PCL-4.

To further support the use of the PCL-5 survey, in a study examining the psychometric properties of the PCL-5 survey in firefighters, EMTs, and police officers, the results "indicated that PCL-5 scores showed strong internal consistency and convergent and discriminant validity".[21] Internal consistency is a method of determining if all the questions on a test or survey are measuring the same thing.[22] For instance, if a test is about algebra, all the questions on the test should be relevant to algebra. Convergent validity refers to whether the results of a test designed to assess a specific topic or construct agree with the results of other tests that assess the same topic.[23] Discriminant validity is the other side of the coin and determines whether a test designed to measure a particular element does not correlate with other tests that measure different elements.[23] In the study by Morrison *et al*., convergent validity was determined by correlating the PCL-5 survey results with those from other tools measuring PTSD.[21] Discriminant validity was determined by correlating the PCL-5 survey results with measures of other constructs such as anxiety, depression symptoms, and alcohol abuse.[21] In all the correlations, the PCL-5 survey displayed expected and appropriate end results, validating its adoption by the author in this study.

The PCL-5 survey also has two optional portions: the Life Events Checklist and Criterion A, which gather information about different events participants have experienced, including earthquakes, etc. Since the two components were not directly related to this study's scope or demographic nature, they were excluded to keep the survey at a manageable length. Only the basic version of the PCL-5 survey was used to determine the severity of PTSD in the participants.

The survey was developed on the online Google Forms platform. The settings were selected so that no Google email accounts were collected from the participants, thus keeping the survey anonymous. Also, participants were given the ability to edit their answers immediately after submitting the form in case inaccurate information was accidentally submitted. The author of this paper is an EMT cadet at a local ambulance station. The Google Forms link was shared on various personal Facebook accounts of the employees at the ambulance station. It was also shared on a Facebook group of EMTs around New Jersey and through the New Jersey EMS Council. Paper copies were also distributed at the author's ambulance station to ensure the survey was accessible to those with difficulties using electronic technology.

Surveys provide a significant first step by offering the researcher concrete numbers to run statistical analyses.[24] The data were analyzed via independent t-tests using the JASP analytical program. T-tests determine whether there is a statistical difference between the averages of the two groups.[25] This aligns with the purpose of this study --- to analyze how different factors contribute to PTSD severity among men vs. women. T-tests were also used by Iranmanesh *et al*. to analyze PTSD among paramedic and hospital emergency personnel.[26] A t-value of the absolute value of 1.96 or more indicates statistical significance, and this can be conveniently cross-checked with the p-value simultaneously generated by JASP, with 0.05 or below indicating statistical significance. P-values measure the probability that an observed difference between groups is due to chance and if the difference would present itself again if the study were repeated. The correlational analysis did not fit well with this research study because there could be a correlation between various factors for men and women, respectively. Still, it would be challenging to compare how these correlations are different for men and women, thus defeating the purpose of this study. The data collected from the PCL-5 survey can all be quantified by associating a numerical value with the extent of severity, namely, 0 = Not at all, 1 = A little bit, 2 = Moderately, 3 = Quite a bit, and 4 = Extremely. The total PTSD severity score equals the sum of all twenty items on the survey, resulting in the highest possible score of 80. A cutoff score between 31-33 indicates meeting PTSD criteria.[27] The higher end of the range (33) was chosen as the cutoff score for this study to replicate the study by Khazaei *et al*.[3] For analysis, the data was first split based on categories like "married" and then further isolated into sub-groups of "married men" and "married women" for t-test analyses. The averages of each sub-group were plotted in bar charts or line graphs to illustrate comparisons.

To mathematically analyze the questions relating to lifestyle in the survey, the answers were also quantified so that 0 = Strongly disagree, 1 = Disagree, 2 = Neither agree nor disagree, 3 = Agree, and 4 = Strongly agree.

Results

There were 103 responses in total to the distributed questionnaire. Among them, 33% of respondents (34 out of 103) identified as women, 66% (68 out of 103) as men, and less than 1% (1 out of 103) as nonbinary. Nearly a third, or 27% of respondents (28 out of 103), met PTSD criteria with a score of 33 or more. The PTSD for different genders was compared regarding various potential determining factors, and t-test results were tabulated to determine the statistical significance of the factors evaluated. The average PTSD severity among men, women, non-binary, and all respondents was compared and displayed in Figure 1. Table 1 shows the t-test results comparing PTSD between men and women. Unfortunately, a t-test could not be performed for the one non-binary response as a minimum of two data points were required to run a t-test.

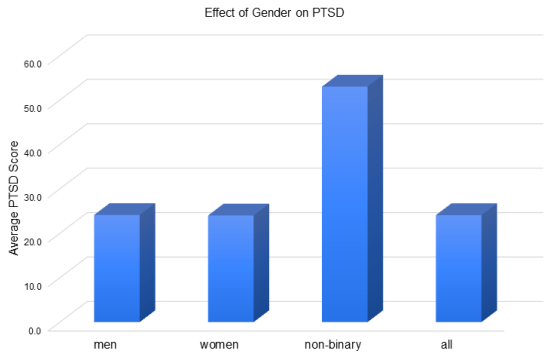

Figure 1: Effect of Gender on PTSD. There was no obvious difference in PTSD between men and women. However, the one non-binary submission appeared significantly higher than most other participants. Even though this one respondent may not be a comprehensive representation of the non-binary population, it could present areas for further research.

Table 1: Results of t-test Examining PTSD in Men vs. Women. There was no statistically significant difference in PTSD between male and female EM Ts.

	t	df	p
PTSD men vs women	0.03	100	0.976

A t-value of absolute value 1.96 or more indicates statistical significance, and this can be conveniently cross-checked with the p-value, where a number of 0.05 or below indicates statistical significance. The value of df in the t-test, or degrees of freedom, indicates the number of independent values that can vary in a statistical analysis without breaking any constraints. In Table 1, neither the t-value of 0.03 nor the p-value of 0.976 met statistical significance.

Figure 2 displays the average PTSD in respondents of various marital statuses for men and women, while Table 2 contains the results of the t-tests.

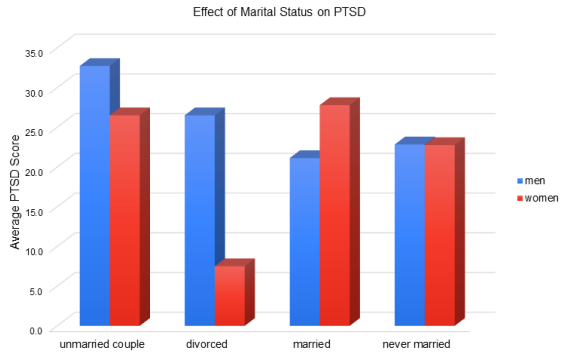

Figure 2: Effect of Marital Status on PTSD. For unmarried couples or divorcees, men tended to have higher PTSD severity. However, for those in a marriage, women tended to have higher PTSD severity, though these differences did not meet statistical significance.

Table 2: Results of t-test Examining Effect of Marital Status on PTSD. The PTSD differences in different marital statuses were insignificant.

	t	df	p
Member of an unmarried couple	0.617	20	0.544
Divorced	0.924	2	0.453
Married	-1.116	38	0.272
Never married	0.012	30	0.991

Family duty combines responsibilities, including cleaning, doing the laundry, caring for children and elderly relatives, and cooking. These responsibilities were analyzed for men, women, and all genders in association with the average PTSD in the respective groups, as displayed in Figure 3.

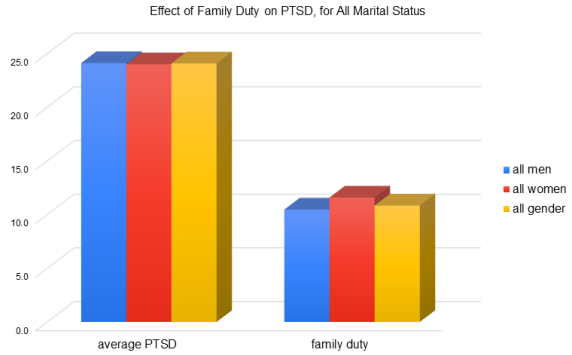

Figure 3: Effect of Family Duty on PTSD for All Marital Statuses. There was no difference in the amount of family duty held by men or women, resulting in no discernible difference in PTSD between genders.

However, encouraged by the differences observed in PTSD in different marital statuses (Figure 2), the researcher examined married men and married women and their relationship with family duties, as summarized in Figure 4. Table 3 contains the t-test results used to determine statistical significance between these groups.

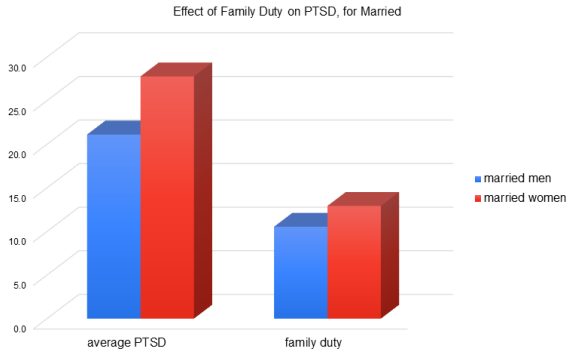

Figure 4: Effect of Family Duty on PTSD for Married EMTs. There was a discernible difference between the family duties performed by married men and women, with females responsible for more family duties. A similar trend was also displayed for PTSD, with married women experiencing higher severity than married men.

Table 3: Results of t-test Examining Effect of Family Duty on PTSD for Married Men and Women. The difference in family duties between men and women was statistically significant.

	t	df	p
Married men vs women PTSD	-1.116	38	0.272
Family duties	-2.120	38	0.041

The more severe PTSD in married women than married men, though statistically insignificant, positively correlated with more family duties for women, which showed statistical significance ($t > |1.96|$, $p < 0.05$, Table 3).

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Having a backup plan for childcare in the event of a call and its correlation with PTSD were compared for men and women in Figure 5.

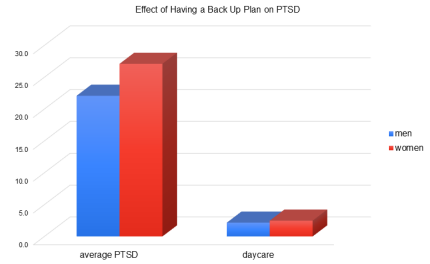

Figure 5: Effect of Having a Backup Plan on PTSD. There was no difference in the accessibility of childcare between men and women if they got an ambulance call, based on responses to the prompt "When I get a call, I have a backup plan for childcare." Both groups had ratings slightly higher than two, translating to "neither agree nor disagree."

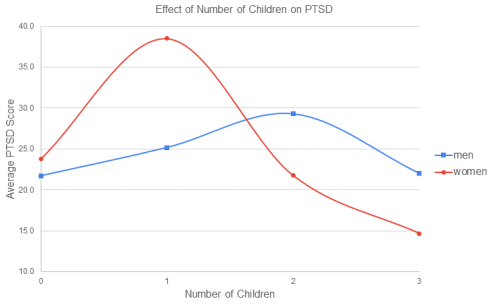

Figure 6: Effect of Number of Children on PTSD. Men and women with no children had similar PTSD scores, whereas women with one child have noticeably higher PTSD than men with one child. For those with two or three children, men have more PTSD than women, indicating that the number of children affects genders differently.

Figure 7 demonstrates the effect of having previous stress management training on PTSD, and Table 4 represents the results from the t-tests.

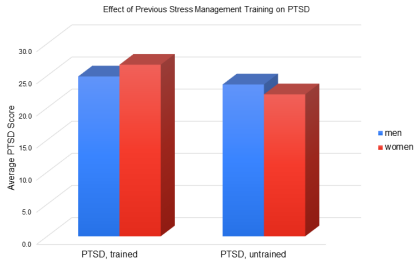

Figure 7: Effect of Previous Stress Management Training on PTSD. The PTSD among trained women was slightly higher than that among trained men, while the opposite was true for untrained EMTs.

Table 4: Results of t-test Examining Effect of Previous Stress Management Training on PTSD. No statistical differences were found between men and female EMTs, with and without previous stress management training.

	t	df	p
Does not have previous training	0.302	60	0.764
Has previous training	-0.286	38	0.777

Years of working experience were compared in relation to PTSD visually and statistically in Figure 8 and Table 5, respectively.

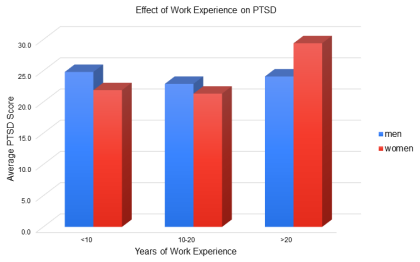

Figure 8: Effect of Years of Working Experience on PTSD. Among EMTs with less than twenty years of working experience, men experienced higher PTSD, whereas, for EMTs with more than twenty years of work experience, women experienced higher PTSD.

Table 5: Results of t-test Examining Effect of Years of Working Experience on PTSD. The differences in PTSD levels displayed by men and women showed no statistical significance for any work experience groups.

	t	df	p
<10	0.533	52	0.596
10-20	0.204	24	0.840
>20	-0.558	20	0.583

The effect of the number of hours worked per week by EMTs on PTSD was compared in Figure 9 and statistically analyzed in Table 6.

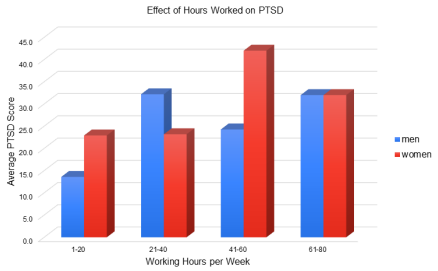

Figure 9: Effect of Hours Worked per Week on PTSD. Women working 1-20 hours or 41-60 hours per week had higher PTSD than their male counterparts. Conversely, men working 21-40 hours had higher PTSD than females with the same number of hours.

Table 6: Results of t-test Examining the Effect of Working Hours per Week on PTSD. There were no statistically significant differences between PTSD in men and women with various numbers of working hours per week.

	t	df	p
<20	-1.696	27	0.101
21-40	1.419	30	0.166
41-60	-1.515	23	0.143
61-80	Not enough responses	Not enough responses	Not enough responses

Figure 10 and Table 7 analyze the effect of employment status on PTSD between men and women, including paid, volunteer, and retired EMTs.

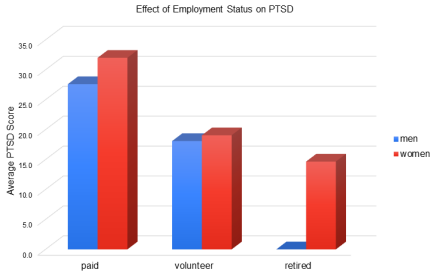

Figure 10: Effect of Employment Status on PTSD. In each case, female EMTs had higher PTSD than men with the same employment status.

Table 7: Results from t-test Examining Effect of Employment Status on PTSD. No statistically significant differences were found between men and women EMTs for any of the groups examined based on employment status.

	t	df	p
Paid	-0.711	57	0.480
Volunteer	-0.198	37	0.844

Discussions

An overall analysis of the data in this study demonstrates that nearly a third, or 27%, of respondents meet PTSD criteria. This aligns with the findings of previous studies, including one by Khazaei *et al.*, who determined a 22% prevalence within their EMT population,[3] and Ntatamala & Adams, who found a 30% prevalence.[8] Thus, the PTSD among EMTs in New Jersey is significantly higher than PTSD among the general population, which is only around 6%, a phenomenon attributed to the nature of the job and the type of traumatic experiences associated with the field of emergency medicine.[6]

The prevalence of PTSD in female and male EMTs working in New Jersey is quite similar. However, evaluation of PTSD resulting from various PTSD-determining factors reveals moderate to significant differences between men and women EMTs, providing a more in-depth understanding of the PTSD prevalence among EMTs in New Jersey.

Marital status, one of the determining factors evaluated in this study, has also been studied previously. Khazaei *et al.* found that EMTs who are married have higher levels of PTSD.[3] Even though they did not analyze females and males individually, their conclusions about the general effect of marriage on PTSD support the findings of this study. Garcia & Umberson and Cleary & Mechanic directly support the finding that married women experience more stress than married men, though their study did not target PTSD.[28,29]

An explanation for higher stress in married women could be that women are responsible for more household duties, which showed a statistically significant difference from men based on the data in this study. This corroborates the findings of many previous studies as well.[30] As recognized by Cleary & Mechanic, housewives experience more stress than women who do not have children due to more significant amounts of housework.[29] The uniqueness of this research is that these greater responsibilities were tied to higher levels of PTSD among married female EMTs than their male counterparts.

However, in Cleary & Mechanic's study, compared to housewives, employed women with children had more stress.[29] A similar finding is illustrated by this study in that women EMTs without any children had similar levels of PTSD as men. In contrast, an apparent disparity appeared when female EMTs had higher PTSD than men, with both groups having one child. The combination of stress from work and childcare can push a female EMT to experience more PTSD than men. However, it is unclear why women in this study with two or three children experience less PTSD than men, an avenue that can be explored in future research.

With such stress, EMTs must learn how to recognize PTSD, cope with it, and stay healthy. Khazaei *et al.* determined that EMTs with no previous stress management training have higher levels of PTSD.[3] However, this study contradicts their finding, namely, both men and women EMTs without previous training exhibit lower levels of PTSD. Those who have received training may be more aware of the symptoms of PTSD and, therefore, better at identifying them. Having experienced PTSD could also be why they received the training in the first place, for them to better prepare against and know how to cope with future traumatic experiences.

Another contradiction between this study and Khazaei *et al.*'s study is in terms of EMT work experience. Khazaei *et al.* found that EMTs with ten or fewer years of work experience tend to have more PTSD,[3] while this study finds that women with more than twenty years of experience have higher levels of PTSD, with men maintaining relatively the same between different groups. This difference could be explained by the fact that this study purposely included female participants, a sample group that Khazaei *et al.* lacked.[3] The inclusion of women in this study makes the conclusion unbiased and, therefore, more convincing, especially since the female gender is a factor that has been linked to greater levels of physical and emotional exhaustion.[31] The positive correlation between work experience and PTSD in women observed by this study could be explained by accumulated traumatic experiences resulting from greater years of work experience.

Similar to the findings about years of work experience, this study also finds that women who worked long hours (41-60 hours per week) experience the greatest PTSD. Though analyzed slightly differently, this finding is similar to that of Khazaei *et al.* They found that EMTs who had worked more than eight shifts per month had the greatest PTSD, defining a shift as 24 hours. For this study, 50 hours per week can be translated into approximately 200 hours per month, which equals 8.33 shifts, corroborating the findings of Khazaei *et al.*[3]

A positive correlation was observed between being formally employed as a paid EMT and higher levels of PTSD. This may be attributed to the fact that paid EMTs, on average, work more than double the hours of volunteer EMTs and thus have higher chances of encountering traumatic experiences.

Building off existing literature, the new understanding from this study is that although the prevalence of PTSD among female and male EMTs working in New Jersey is similar, various determining factors cause higher rates of PTSD in female EMTs than their male counterparts. Among these factors, responsibilities relating to family duties show statistically higher amounts in married women than men.

The results of this study were not unexpected, as previous studies have shown that there is a biological difference between

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how men and women react to stress[11]. These findings can act as guidelines in emergency medicine for healthcare providers and policymakers as they attempt to provide wellness support for EMTs. Various PTSD-determining factors affect men and women differently and should be considered when developing preventative methods to help EMTs most effectively. For example, it would be recommended that programs targeting female EMTs should include a component relating to handling family duties. This component may not be as effective for lowering levels of PTSD in male EMTs. Help given to EMTs will also have broad-ranging effects on people around them, including their family members, friends, and patients.

In many of the comparisons (bar graphs) in this study, a visually discernible difference in PTSD can be noted in the groups investigated. Still, most of the t-tests did not yield statistically significant results. This is most likely due to the limited number of responses collected. When the responses were divided into various groups for analyses, each group needed more data to run effective t-tests. This also reveals a limitation of this study: the limited number of responses collected. However, it is still important to visually determine how various characteristics affect PTSD among male and female EMTs for a deeper understanding. With approximately 26,000 EMTs currently in New Jersey[32] and a 95% confidence interval, the optimal size for this study to ensure accurate results should be 379 respondents.[33] The ultimate sample size of a little over 100 respondents in this study makes it difficult to extrapolate the results to a broader population. The results are probably most representative of the region immediate to where the author lives, as the author's local ambulance station sent out the survey and thus did not accurately represent the entire state of New Jersey or the United States. Additionally, with a larger sample size, there could be more determining factors in addition to family duties that could yield statistically significant results. This would enrich the overall new understanding of this research. Another limitation is that respondents can be inaccurate in their responses, intentionally or not, so a larger sample size could offset these issues. Therefore, future research with a greater sample size is recommended to resolve previously described issues.

Another area of future research involves studies with more gender identifications. There was one nonbinary participant in this study, and their PTSD severity was significantly higher than that of the rest of the participants. Though they cannot represent the entire nonbinary EMT population, this data presents a promising avenue for further research regarding how the nonbinary gender status contributes to PTSD severity and the PTSD-determining factors among EMTs.

Conclusion

In this study, we examined the prevalence of PTSD and its determining factors in female EMTs working in New Jersey and compared them to their male co-workers. Among all the respondents, 27% met PTSD criteria, higher than the general population. Although the prevalence of PTSD among female and male EMTs was similar, an apparent disparity was displayed between some demographic groups broken down by PTSD-determining factors such as marital status, household responsibilities, and age. Among these factors investigated, obligations relating to family duties showed statistically higher levels in married women, directly correlating with the higher levels of PTSD observed in this group.

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