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## Commentary on “Associations between trauma exposure, PTSD and aggression perpetrated by women. A meta-analysis”

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We very much appreciate the opportunity to write a commentary on the article, “Associations between trauma exposure, PTSD and aggression perpetrated by women. A meta-analysis,” authored by Augsburger and Maercker (2020). This meta-analysis of 15 studies examined in women the relationships between aggression and trauma exposure (8 studies) as well as symptoms of posttraumatic disorder (PTSD; 11 studies). Although prior meta-analytic research has demonstrated that trauma exposure and PTSD are associated with aggression, gender differences have not been examined.

The authors present a strong case as to why it is important to examine these relationships in women. As they note, women are significantly more likely to develop PTSD following trauma. Furthermore, there are differences in the ways that men and women exhibit aggression. Given that previous meta-analyses on the relationship between PTSD and aggression have disproportionately represented men, it is reasonable to examine these relationships in women samples. A significant strength of the meta-analysis design of Augsburger and Maercker is that it examined associations of aggression with trauma exposure and with PTSD separately, given most individuals exposed to trauma do not develop PTSD. The article addresses important research questions to help better understand the impact of trauma exposure on women.

In their analyses, Augsburger and Maercker (2020) found, in women, a small effect size ( $d = .44$ ) for the association between traumatic events and aggression and a medium effect size ( $d = .60$ ) for the association between PTSD and aggression. The authors present these findings as providing support for identifying women who are at risk of behaving aggressively with the aim of clinicians engaging in early intervention. We agree this is an important goal, but several points need to be considered when interpreting results from the meta-analysis.

First, the effect sizes were all in the small-to-medium range, suggesting modest associations. Indeed, not all women who have experienced traumatic events or have symptoms of PTSD behave aggressively. In fact, most do not. Research has found that the prevalence of aggression among individuals with PTSD is elevated relative to those without the disorder, but the majority of those with PTSD are still not aggressive. To illustrate, findings from the National Comorbidity Survey indicated that, among individuals with a past 12-month

diagnosis of PTSD, the prevalence of violence in the past year was 7.5% compared to 2% for those without a psychiatric disorder (Corrigan & Watson, 2005). This means that while the rate of violence for PTSD was higher, 92.5% of individuals with PTSD reported no violence in the past year. Similar statistics would have been beneficial with respect to the meta-analysis, especially as incidence rates were reported for many of the articles used. It is informative to report a significant correlation between PTSD and aggression, but it is imperative that the finding is presented in the context that the majority of individuals with PTSD are not aggressive. It is unfortunate that these prevalence rates reported in the analyzed studies was not presented.

Second, methodological constraints within many of the studies that were included in the meta-analysis need to be considered and discussed. One concern is how aggression was measured across studies. Many included psychological aggression (e.g., verbal threats), and in some cases, this was not distinguished from behavioral aggression (i.e., the “mixed” aggression studies). Certainly, the impact of psychological aggression vs. physical aggression is different. But in the abstract, when the authors refer to “this violence,” it is suggested the aggression being reported is physical in nature, which was not the case. Finally, in some cases, the intent of the aggression could have been self-defense. It is possible that some women were abused or victims of domestic violence and defended themselves and endorsed what would be coded as “aggression” on the self-report measure. For these reasons, such measurement issues could artificially inflate the associations reported.

Third, because the timing of assessments was variable across studies in the meta-analyses, results need to be interpreted cautiously. All the studies used a cross-sectional design, and many assessed lifetime prevalence and frequencies of trauma exposure, PTSD symptoms, and aggression. That these variables are associated with each other does not indicate causality. In many of the studies, there is no way of knowing whether the aggression occurred before the trauma exposure or PTSD, during, or after. Furthermore, aggression against others can be considered a traumatic event itself (e.g., perpetration of violence) and can contribute to PTSD symptoms. In at least one of the studies included in the meta-analysis, aggression was assessed in the traumatic event assessment (Howard, Karatzias, Power, Mahoney, 2017). Interestingly, Howard and colleagues (2017) reported that nearly half of the women endorsed causing harm, injury, or death to another person as a traumatic event, stating “it is also possible to interpret the direction of causality such that violent offending leads to PTSD symptoms” (pg. 24).

Although the authors state that they were unable to “draw a final conclusion regarding causal-effect relationships,” (pg. 20) based on the use of cross-sectional research designs, there are several places in which the findings are presented as though causality or temporal order was established. In the first sentence of the discussion, the authors stated that they examined the associations between trauma, PTSD, and “subsequent aggression,” which is inaccurate because this was unassessed in the studies. Despite acknowledgement that timing and causality is unknown, the discussion of the results are presented as though the causality is implied; alternative explanations or directions of effects were not adequately presented.

Fourth, several statements in the paper could risk stigmatizing women with PTSD. For example, presenting prior meta-analytic studies (Orth & Wieland, 2006; Taft et al., 2011) as demonstrating “substantial” risk for violence exaggerates strength of their findings and uses language that may be misperceived and misinterpreted. Similarly, although the statement, “increased aggression associated with traumatic experiences and PTSD is ubiquitous and not limited to specific settings and contexts,” (pg. 20) is (we assume) referring to the lack of significant moderators in the analyses, this sentence could be interpreted to imply that aggression is ubiquitous (“constantly encountered” Merriam-Webster) among women who have been exposed to trauma and/or have PTSD. We work clinically with individuals with PTSD and have witnessed first-hand the negative impact that stereotypes and stigma can have on their self-worth and desire to present for help. The majority of our patients with PTSD are not violent, and adding information to this effect is important to help balance the aforementioned statements.

Overall, despite these concerns, the findings of Augsburger and Maercker’s meta-analysis suggested that there are associations between trauma exposure/PTSD and aggression that need to be better understood. One important variable missing in the studies is the assessment of anger. Meta-analytic research has found large effect sizes for the association between anger and PTSD (Orth & Wieland, 2006), and anger is often a precursor of aggressive behavior. Furthermore, several researchers have found that aggression risk was significantly higher among individuals with PTSD and posttraumatic anger, but not among those without posttraumatic anger (e.g., Blakey, Love, Lindquist, Beckham, & Elbogen, 2018). It would be useful in future research to examine gender differences in the temporal relationships between PTSD, anger, and aggression. Additionally, the current meta-analysis examined the associations between these variables among women samples, but the ability to examine differences between the genders in these relationships was non-existent (as no direct comparison to samples with men were conducted). This meta-analysis takes an important first step, and future research should compare men and women trauma survivors to determine if and how as well as the temporal relationships between trauma exposure, PTSD, anger and aggression operate differently.

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