

# Stressed Out by Election Results-Take a Deep Breath



**Hodges, Kelvin, Misra, Shamita and Jane A McElroy\***

*Family and Community Medicine Department, University of Missouri-Columbia, USA*

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**\*Corresponding author:** Jane A McElroy, Family and Community Medicine Department, University of Missouri, Columbia, USA, Tel: 573-882-4993; Fax: 573-884-6172; Email: [mcelroyja@health.missouri.edu](mailto:mcelroyja@health.missouri.edu)

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## Opinion

A report by the American Psychological Association showed that 52% of the population reported the 2016 presidential election as a somewhat or very significant source of stress [1]. Acute stress is known to cause short-term increases in blood pressure (BP) and can act as a trigger for cardiac events [2]. Furthermore, approximately 15% of Americans have uncontrolled high blood pressure and another 30% have undiagnosed high blood pressure [3]. Therefore, those with undiagnosed or uncontrolled high blood pressure may be at increased risk of cardiovascular events during times of high stress, such as following the 2016 election. One strategy to counteract life stressors is controlled yogic breathing exercises (e.g., pranayama breathing). In a review of randomized control trials, Innes and colleagues (2005) reported a reduction in blood pressure among yogic practitioners of which pranayama breathing is one component [4]. However, the frequency of the proposed intervention (twice a week to daily practice) as well as the type of yogic postures or breathing techniques varied by study making generalizations difficult. Also, due to limited information available on mechanism of action of yoga interventions, it becomes difficult to disentangle the influence of the individual effect of the three core aspects of yoga: Pranayamic breathing, yogic postures, and meditation [5,6].

A randomized intervention trial that began in October 2016 evaluated the effect of pranayama breathing on BP among uncontrolled hypertensive participants. This provided an opportunity to investigate the effect of the 2016 election on BP as part of the larger study. A political survey

was adapted from the Harris' Stress in America survey [1]. Self-reported political stress was ascertained by asking about stress level on a 5-point scale, with 1 being extremely stressed and 5 being not at all stressed, at three different times: November, before the election; in the two months after the election and before inauguration; and in February 2017. Blood pressure measurements using standard clinical protocols were obtained from participants at the beginning of study for six consecutive weeks, at a one month, and three month follow-up. To assess the effect of politics on blood pressure, only participants (n=22) receiving no study intervention were used in this analysis. This study was approved by the University of Missouri Health Sciences Institutional Review Board and all participants signed written consents. The mean age of participants was 59 years with slightly more females (56%), employed in the labor force (61%), married (87%), white (96%), and obese (BMI  $\geq 30$  kg/m<sup>2</sup>: 48%). In February, politics was rated the most stressful factor (mean 2.9) among 10 other socioeconomic stressors (e.g., work, family, health). For participants who reported high political stress (n=13) before the election, their blood pressures peaked one week following the election (systolic BP: 157.0 mm Hg; baseline systolic BP: 152.2 mm Hg). In contrast, the BPs of those who reported low political stress (n=9) did not change appreciably over the weeks. Furthermore, for those with high political stress before the election, their systolic BP readings one week after the election were significantly different compared to those with low stress (134.9 mm Hg,  $p < 0.01$ ). The mean BP readings were within one point mm Hg between baseline and 3 month follow-up for these 22 participants. The results of this opportunistic study to

evaluate the effect of the 2016 political climate on systolic blood pressure suggest that people who reported feeling stressed by the 2016 election showed an increased systolic BP one week after the election compared to those who reported feeling less stressed about the election. The authors were unable to find any research articles that address this episodic phenomena of 2016 political climate and effect on blood pressure. The rise in blood pressure was not sustained indicating that the 2016 election had an acute effect (3 month follow-up systolic BP: 151mm Hg).

Breathing exercises and yoga practice can be effective tools to maintain optimal blood pressure even in times of considerable uncertainty, such as the current political climate. As partisanship increases, the effects of stress associated with the political climate may become more pronounced or widespread. Furthermore, strategies implemented to counteract stress, such as pranayama breathing, may provide a low-cost scalable intervention for the population. Looking forward, elections may provide an opportunity to study stress and its health effects on a population. In this politically charged world, future answers to

these questions may prove relevant.

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