

Association of low resting heart rate in men and increased violent criminality

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A low resting heart rate in late adolescence was associated with increased risk for violent criminality in men later in life, according to an article published online by *JAMA Psychiatry*.

Low resting [heart rate](#) is related to antisocial behavior in children and adolescents. Low resting heart rate (RHR) has been viewed either as an indicator of a chronically low level of psychological arousal, which may lead some people to seek stimulating experiences, or as a marker of weakened responses to aversive and stressful stimuli, which can lead to fearless behavior and risk taking. Not much is known about RHR as a predictor of severe violence. A better understanding of individual-level biological risk factors in the cause of violence could help prevention and

intervention efforts.

Antti Latvala, Ph.D., of the Karolinska Institutet, Stockholm, and the University of Helsinki, Finland, and coauthors examined the association of RHR in late adolescence to predict violent criminality later in life using data on 710,264 Swedish men born from 1958 to 1991 with up to 35.7 years of follow-up. RHR and blood pressure were measured at mandatory military conscription testing when the men were an average age of 18 years old. There were 40,093 men convicted of a violent crime during nearly 12.9 million person-years of follow-up.

The authors found that compared with 139,511 men with the highest RHR (greater than or equal to 83 beats per minute), the 132,595 men with the lowest RHR (less than or equal to 60 beats per minute) had a 39 percent higher chance of being convicted of [violent crimes](#) and a 25 percent higher chance of being convicted of nonviolent crimes when the analysis models accounted for an assortment of variables.

"Our results confirm that, in addition to being associated with aggressive and antisocial outcomes in childhood and adolescence, low RHR increases the risk for violent and nonviolent antisocial behaviors in adulthood," the authors conclude.

In a related editorial, Adrian Raine, D.Phil, of the University of Pennsylvania, Philadelphia, writes: "In this issue of *JAMA Psychiatry*, in an exceptional study based on data on 710,262 Swedish [men](#), Latvala and colleagues document that low RHR at age 18 years predicts adult violence more than 30 years later. ... We now have knowledge that a person's lower RHR raises, albeit weakly, the odds of an individual committing future offenses beyond his or her control. Can the criminal justice system continue to turn a blind eye to the anatomy of violence?"

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