For practical applications c_v is always greater than c_P

$c_p - c_v = \frac{Tv\beta^2}{k} \rightarrow c_v = c_p - \frac{Tv\beta^2}{k}$. For practical applications $\frac{Tv\beta^2}{k}$ is almost always greater than zero, meaning $c_v < c_p$. Thus the statement that $c_v > c_p$ is false.