It is well known in the literature that human behavior can change as a reaction to disease observed in others, and that such behavioral changes can be an important factor in the spread of an epidemic. It has been noted that human behavioral traits in disease avoidance are under selection in the presence of infectious diseases. Here we explore a complimentary trend: the pathogen itself might experience a force of selection to become less ``visible", or less ``symptomatic", in the presence of such human behavioral trends. Using a stochastic SIR agent-based model, we investigated the co-evolution of two viral strains with cross-immunity, where the resident strain is symptomatic while the mutant strain is asymptomatic. We assumed that individuals exercised self-regulated social distancing (SD) behavior if one of their neighbors was infected with a symptomatic strain. We observed that the proportion of asymptomatic carriers increased over time with a stronger effect corresponding to higher levels of self-regulated SD. Adding mandated SD made the effect more significant, while the existence of a time-delay between the onset of infection and the change of behavior reduced the advantage of the asymptomatic strain. These results were consistent under random geometric networks, scale-free networks, and a synthetic network that represented the social behavior of the residents of New Orleans.