

PERSONALITY AND DISEASE IN RHESUS MACAQUES: SOME POTENTIAL NEUROIMMUNE MECHANISMS

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The idea that stable, individual dispositions are associated with disease dates back to Greek times, and modern treatments have confirmed relationships in humans between enduring personality characteristics (e.g., hostility) and disease outcomes (e.g., coronary heart disease). We have been examining the mechanisms by which personality factors such as nervousness and sociability are associated with disease-related outcomes in infant and adult rhesus monkeys, including diseases that occur naturally in our colony (colitis), as well as those that are induced (simian immunodeficiency virus infection). We have also focused on neuroimmune mechanisms that could mediate these relationships. These mechanisms include anatomic differences in lymph node structure, expression of genes in peripheral blood cells that code for molecules of the innate immune system, and hematologic measures of glucocorticoid sensitivity. Together, our results suggest that personality factors, which affect behavioral coping responses to adverse circumstances, can have consequences for health that might influence fitness. While these data have clear application to developing animal models for study of human-related diseases and for colony management purposes, they may also be applicable to understanding outcomes in relation to human-induced stresses in naturalistic situations, including habitat degradation, competition for resources with humans, and zoonoses.

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