

EDITORIAL

Personality and heart disease

A Steptoe, G J Molloy

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Personality traits are broad dimensions of individual differences between people that relate to the way in which we engage with our social worlds. They underpin the consistency with which we think, act and feel across different situations and over time. Adult personality traits are thought to be derived from early life differences in temperament; these are partly genetically determined and shape exposure to social experiences.¹ There have been many taxonomies of personality traits, but research over the past 20 years has converged on the view that there are five broad personality dimensions, each of which accommodates a number of lower-order traits. The five factors are: extraversion or positive emotionality (incorporating traits such as sociability, energy, shyness and dominance/subordination); neuroticism or negative emotionality (including lower-order traits such as proneness to anxiety, irritability, sadness, insecurity and guilt); conscientiousness (factors such as reliability, carefulness, persistence and self-control); agreeableness (cooperativeness, consideration, generosity, kindness and politeness); and openness to experience (imaginativeness, insight and aesthetic sensitivity). Individuals vary on all these dispositions, so each person is thought to have a particular combination of trait strengths. Personality traits predict a range of outcomes with moderate consistency, including quality of social and family relationships, marital status and satisfaction, occupational choices, political attitudes and criminality.²

PERSONALITY AND HEART DISEASE

The role of personality in coronary heart disease (CHD) first came to prominence nearly 50 years ago with the concept of type A behaviour, a compound of hostility, impatience, competitiveness and dominance.³ When type A behaviour was studied in different countries and social groups, it was found not to be a robust predictor of CHD,⁴ and later work has focused on negative affectivity traits such as depression, anxiety and anger-hostility.⁵ A body of observational epidemiological and experimental studies has linked these dispositions to cardiovascular morbidity and mortality, and a number of intervening behavioural and biological mechanisms have been proposed to explain the association. However, findings have not been consistent across all of these negative affective traits, and a conceptual debate continues about whether anger, anxiety and depression are

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distinct phenomena, or whether they reflect a general disposition towards negative moods and dysphoria. The strongest evidence has emerged for depression, which seems to be both an independent predictor of future CHD and a determinant of morbidity, adaptation and quality of life after an acute coronary syndrome and coronary artery bypass surgery.⁶ The pathways through which a depressed mood might be related to cardiovascular disease include biological processes such as heightened vascular inflammation, endothelial dysfunction and disturbed autonomic tone, and behavioural factors such as physical inactivity, smoking and failure to adhere to medication and clinical advice.⁷

TYPE D DISTRESSED PERSONALITY

Type D or the distressed personality type was formulated by Denollet⁸ in response to the findings that depression and low perceived social support are related to cardiovascular morbidity and mortality. He proposed a personality type that might predispose people to depression and social isolation by combining two personality traits, namely negative affectivity (the tendency to experience negative emotions) and social inhibition, or the tendency to inhibit self-expression in social interactions. Type D personality has been shown in a series of studies to predict adverse clinical outcomes in patients after acute coronary syndrome and revascularisation, and in patients with chronic heart failure.^{9–10} It has also been associated with heightened proinflammatory cytokine activation in patients with heart failure,¹¹ and with disturbances in cortisol secretion after acute coronary syndrome.¹²

The article by Schiffer *et al*¹³ (see page 814) highlights a particular behavioural mechanism that might partially explain the link between type D personality and health outcomes in heart failure. The study found that patients with type D personality with chronic heart failure stated that they would be less likely to report cardiac symptoms such as swollen legs and feet or shortness of breath to clinical staff than would other patients. Interestingly, this tendency of individuals with type D personality not to consult clinical staff was not because they did not experience symptoms; in fact, their symptom reports were greater than those of other patients, suggesting that their reluctance was a consequence of increased levels of social inhibition. This behaviour may increase the likelihood of adverse clinical outcomes by jeopardising appropriate adjustments in clinical care. This may be a pathway through which the

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Abbreviation: CHD, coronary heart disease

relationship between type D personality and cardiovascular morbidity could be explained. The findings were, unfortunately, limited to self-report, and objective corroboration of failure to consult appropriately would be valuable in future works.

This kind of study is critical for a fuller understanding of the influence of personality on cardiovascular outcomes and, also, for the development of practical intervention strategies that aim to reduce the excess risk conferred by type D characteristics. In the case of heart failure, it may be that patients with type D personality require more detailed information about the consequences of ignoring symptoms and encouragement or guidance with consultation behaviour after the onset of symptoms. Another avenue for future research would be to attempt to change potentially damaging behaviour patterns, as has been attempted for type D individuals with CHD.¹⁴

DO WE NEED ANOTHER PERSONALITY TYPE?

There has been vigorous debate among psychosocial researchers about the validity and usefulness of the type D construct. One issue is whether it adds to the better-established evidence concerning depression, since the negative affectivity component of type D strongly overlaps with depression. The second question is whether type D is really a stable personality type rather than a response to illness, since, in most studies, it is assessed in patients with diagnosed cardiovascular disease; perhaps the knowledge of having a serious illness affects people's moods and confidence in social interactions. More broadly, we need to understand better the interpersonal context of individual characteristics such as type D. Personality traits are latent constructs that predict action and feelings in people's personal lives and in their interactions with society at large, but this is not to say that individuals with particular dispositions will always behave in a predictable way. Understanding the role of the social context is crucial in defining the influence of personality on cardiovascular health.¹⁵ The social context of the family life of a patient with heart failure is of particular importance.¹⁶ It is likely that consultation behaviour in this condition, where symptoms such as breathlessness and fatigue will be obvious to the patient's closest family members, will often be a consequence of an interactive process between a patient and his or her spouse or informal carer, rather than being some unilateral decision-making process.

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