

## **Mental ill health: Individual, non work-related risk factors**

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### **Genetics**

Heredity is an important risk factor for mental disorders (1-5). The first 100 years spent studying the genetics of behavior were straightforward. The aim was to determine the extent to which individual differences in the way people think, feel, and behave are due to variations in their genetic makeup. The basic approaches were to compare identical and fraternal twins, other family members, and adoptees that had been raised together or apart. Genes were shown to influence virtually every aspect of human personality, temperament, cognitive style, and psychiatric disorder. The effects of heredity were substantial, typically representing 30 to 70% of total variation, and highly replicable across societies and cultures. About the only characteristics that seemed not to be at least partially heritable were purely learned traits such as the particular language one spoke or the religion one believed in. The second century of behavior genetics has gotten off to a less satisfying start. The current aim is to identify the specific genes that contribute to individual differences and determine what they do in the brain. The results have been disappointing and inconsistent. The problem with this approach is the assumption that the rich complexity of human thought and emotion can be reduced to a simple, linear relation between individual genes and behaviors. This oversimplified model ignores the critical importance of the brain, the environment, and gene expression networks. Human behaviors, and the brain circuits that produce them, are undoubtedly the product of intricate networks involving hundreds to thousands of genes working in concert with multiple developmental and environmental events. Further advances in the field will require the development of techniques that measure the activity of many different genes simultaneously (1). Behavioral genetic personality research has moved from findings of genetic and environmental effects to new areas. Recently, multivariate methods have been applied to disentangle the genetic and environmental latent structure, and investigate covariance in mental disorders. Perhaps the most exciting recent developments are the investigations of situation variables, the studies of how genotypes influence how individuals select themselves into situations and other form of gene-environment correlations, and how genotype moderates the effect of situations and circumstances on behavior (gene-environment interaction). In the future, we will learn how personality, partly determined by heredity, influences our entire lives. We will better understand what we experience, how we interpret the experiences and how to react to them effectively. We will learn how our mental lives develop while we interact with the environment, and we will broaden our understanding of which genes are coding for mental health and mental disorders (2).

### **Socioeconomic status**

Low socioeconomic status is one of the main risk factors for mental illness (6-21). The prevalence of depressive symptoms in low-income, single mothers has been found to be high, ranging from 49% to 75%. The depressive symptoms have been attributed to low self-esteem, chronic, everyday stressors and negative thinking (6). In a study of within-person associations between changes in family income and women's depressive symptoms during the first 3 years after childbirth changes in income and poverty status

were significantly associated with changes in depressive symptoms. Income gains resulted in the alleviation of depressive symptoms. There was no evidence that depressive symptom changes influenced income by means of employment changes (7). A study using data from three waves of the Children of the National Longitudinal Surveys of Youth (1986, 1988 and 1990) examined the dynamic relationship between children's family histories of poverty and their developmental trajectories of mental health. Children who were poor in 1986 or had prior history of poverty had higher levels of depression and antisocial behaviour in that year. Rates of increase in antisocial behaviour were substantially higher for children with histories of persistent poverty during those years than for transiently poor or nonpoor children (8). Several studies suggest that the relative distribution of income within a society is an important determinant of health. Explanations for this association include the possibility that increased income inequality is associated with a society's lack of investment in social goods such as public education and accessible health care. In a study of women with young children in the USA, women in the lowest fifth of distribution of household income were at a substantially higher risk of depression and poor health than those in the highest fifth of distribution of household income and this risk was further increased in women who also lived in states with high income inequality (9). Global income has increased, but at the same time absolute poverty has been maintained and extended. Epidemiological studies have shown that poverty and other social inequalities are strongly associated with mental illness through a variety of mechanisms including poor nutrition, unhygienic living conditions, inadequate access to health care, lack of education and employment opportunities and dept. Mental illness in turn contributes to and results in poverty, resulting in a vicious circle. Therefore, structural adjustment programmes designed to reduce the burden of health and social expenditure of the state may inadvertently increase the burden of untreated mental illness and thus cost the society much more money than it saved by the reduction of its direct health expenditure (10). There has been an increase in income inequality in many industrial countries during the past two decades. Children are now the largest single group living in poverty in many countries. There has also been a feminization of poverty, as lone female parents have very high rates of poverty in all OECD countries, as well as in the USA. Poverty and low socioeconomic status are closely linked with mental health problems of children. However, increased risk of adverse health outcome is not confined to the extremes of poverty and low socioeconomic status. The outcome shows a social gradient with a finely graded distribution across the income range (11).

Lack of social support and lack of social contacts are among the risk factors for mental illness (12, 22-24). Social support has emerged as a critical buffer for stressful life events and a major predictor of emotional and physical well-being. Research has shown that women of lower socioeconomic status have fewer resources to cope with stressful live events and furthermore, that social support is differentially distributed by socioeconomic status (low socioeconomic status, less social support). In a study using data from the Worcester Family Research Project social support was examined further. A systematic examination of kin and nonkin support was carried out in a case-controlled study of sheltered, homeless, women and low-income, housed, single mothers in Worcester, Massachusetts. The precence of conflict with members of one's support network was highly predictive of adverse mental health outcomes. The impact of social support varied according to the specific type of social relationship. Sibling support and,

to a lesser degree, support from mother, highly predicted mental health outcomes, but support from friends was not significant in this respect (12). A longitudinal study with data collection in 1969 and 1993 revealed that perceived inadequacies in social contacts and practical obstacles to social relationships are among the risk factors for depression (22).

One of the roots of low socioeconomic status is lack of education and thus, a low level of education is a risk factor for mental health (25-27).

Homelessness and poor housing conditions are risk factors for mental health problems (14, 15, 28). Better living conditions and medical advances on the other hand mean that people are living longer, and this will result in the number of people with dementia rising rapidly over the next decades (10, 16).

Single environmental risk factors alone may have statistically significant effects on emotional development, but these effects are small compared to the effects of the accumulation of multiple negative influences, such as low socioeconomic status, severe marital distress, large family size, paternal criminality, maternal psychiatric disorder or admission of a child to foster care (19).

### **Marital status**

Marital status is well recognised as a key demographic variable associated with mental health (and physical health as well). Data from nine waves of the British Household Panel Survey, a stratified general population sample, were used to calculate age standardised ratios and 95% confidence intervals for mean General Health Questionnaire scores for groups with different partnership transition histories. Enduring first partnerships were associated with good mental health. Partnership splits were associated with poorer mental health, although the reformation of partnerships partially reversed this. The more recently a partnership split had occurred the greater the negative outcome for mental health. Women seemed more adversely affected by multiple partnership transitions and to take longer to recover from partnership splits than men. Single women had good mental health relative to other women but the same was not true for single men relative to other male partnership groups (29). Most research identifies marital disruption as a precursor for poor mental health but is generally unable to discount the potential selection effect of poor mental health leading to marital disruption. A study using data from nine annual waves of the British Household Panel Survey examined social selection and social causation as competing explanations. Mental health was measured using the general health questionnaire. Mental health was examined at multiple time points prior to and after a marital transition through separation or divorce and this process was compared to those who experience widowhood. All groups transitioning out of marriage had a higher prevalence of poor mental health afterwards but for those separated or divorced, poor mental health also preceded marital disruption, lending support to both social-causation and social-selection processes. The processes both preceding and after the transition to widowhood differed, with increased prevalence of disorder centering around the time surrounding the death itself (30). A study examines whether getting divorced is related to the subsequent incidence of DSM-III-R disorders across a 2-year period, controlling for the perceived quality of the marriage prior to the divorce. Data was used from 4,796 adults aged 18 to 64, who had participated in 3 waves (1996, 1997, and 1999) of a large-scale epidemiological study conducted in The Netherlands. Results

showed that getting divorced was prospectively linked to both the total and new case incidence of alcohol abuse and dysthymia, as well as to the new case incidence of social phobia. Adults who had divorced, however, were not more likely to develop a mental disorder if they had reported low levels of marital quality prior to the divorce. Thus, the marital discord underlying a divorce rather than divorce itself appeared to determine the onset of clinically relevant mental health problems (31).

### **Exposure to violence or disaster**

The results of a number of studies show that exposure to violence as a result of war, acts of terrorism or community violence is a risk factors for mental illness (32-43). The level of psychiatric morbidity proves to be higher in Northern Ireland than in Scotland or England and much higher than in the Republic of Ireland. In a secondary analysis of a nationally representative survey conducted in 1997, using answers from the General Health Questionnaire, 21.3% said that the Troubles had either “quite a bit” or “a lot” of impact on their lives or the lives of their families and 25.1% reported a similar impact on their area of residence. The likelihood of psychiatric morbidity increased the greater the extent to which the Troubles affected the respondent’s area of life. Neither demographic nor socioeconomic factors significantly diminished this relation. The conclusion of the study was that it is probable that mental health of the population of Northern Ireland has been significantly affected by the Troubles (32). The results of a study on Cambodian refugees in Utah indicate that experiencing higher number of traumas is associated with higher levels of post-traumatic stress disorder and major depression. The highest risk was associated with the loss of immediate family members during the Khmer Rouge regime (33). Similarly, exposure to disaster is a risk factor for mental illness (44-49). Childhood maltreatment (physical neglect, physical abuse, sexual abuse) and mental, physical and sexual abuse of women are also well recognized risk factors for mental illness (50-60), as well as bullying (61-62). The commonest type of bullying is general name calling, followed by being hit, threatened, or having rumours spread about one. In a study examining the mental health problems of children being bullied self reported anxiety, depression, and self esteem was assessed in bullied children and those who were not bullied and in bullies and those who were not bullies. Boys in year 8 in school with high anxiety and lying scores were most likely to be bullied. Girls in year 9 in school with low anxiety and lying scores were least likely to be bullied. Boys in year 10 with low anxiety and lying scores and high depression scores were most likely to be bullies. Girls in year 8 with high anxiety and lying scores and low depression scores were least likely to be bullies (61). In a school based survey of health, health behaviour, and behaviour in school which included questions about bullying and the Beck depression inventory there was an increased prevalence of depression and severe suicidal ideation among both those who were bullied and those who were bullies (62).

### **Postpartum mental health of women and effect on mental health of their offspring**

Pregnancy and delivery are well recognized risk factors for mental illness (7, 63-70). Perinatal mental health problems associated with pregnancy, childbirth and the first postnatal year are recognised as a major public health issue with 15% to 25% of childbearing women likely to develop a clinically significant mental health disorder in the interval between conception and the end of the first postpartum year. Perinatal disorders

include minor and major depression, anxiety disorders, post-traumatic stress disorder, bipolar disorder, schizophrenia, and puerperal psychoses. In addition to causing distress for women, maternal mental illness can have an adverse impact on the cognitive, emotional, social and behavioural development of infants. Parental relationships are often disrupted when one partner suffers from a mental illness and some mothers are required to assume the role of primary caregiver for infants and young children while battling with mental illness. Effects on the mother-infant bond have been shown to persist after resolution of the maternal mood disorder which has led to speculation that it may be 'sub-optimal' parenting behaviours that are the mediating variable rather than the psychiatric disorder as such (63). The postpartum period is a time of heightened vulnerability, in part due to hormonal changes that increase women's psychological reactivity to high-stress conditions. Maternal depression during infancy and early childhood has been documented as a risk factor for children's social-emotional development and mental illness later in life (7, 71).

### **Other risk factors**

Migration/immigration (59, 72-77)

Racial/ethnic background (78, 79)

Minority status (80)

Use of alcohol, tobacco or drugs (81-86)

Having a serious and/or chronic illness (87-107)

Chronic illness in a family member (108-114)

Having a parent with mental illness (19, 115-118)

Children in foster care (19, 119)

Teenage motherhood (120)

Induced abortion, miscarriage, fetal death and still-birth (121-124)

Premature menopause (125)

Infertility (126, 127)

Physical trauma (128-132)

Homosexuality (133-137)

Body dissatisfaction (138, 139)

Ambient neighbourhood noise (140)

Health professions studies (141-145)

Diet (146-148)

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