ARTICLE

The stressed sex?

Daniel Freeman and Jason Freeman consider men, women and mental health

'Women become insane', opined the Victorian psychiatrist G. Fielding Blandford, 'during pregnancy, after parturition, during lactation; at the age when the catamenia [periods] first appear and when they disappear…'

Today, the idea that one sex may be more prone to mental illness than the other has become taboo. But what does the evidence really tell us?

questions

Why might men and women differ in overall rates of mental health problems in the current environment?

What could be done to change gender imbalances in mental health problems?

resources

Freeman, D. & Freeman, J. (2013). *The stressed sex: Uncovering the truth about men, women, and mental health*. Oxford: Oxford University Press.

Over recent years a lively debate has been taking place regarding psychological differences between the sexes. However, conspicuous by its absence has been any discussion of differences in mental health between men and women. Who is more likely to develop mental health problems: men or women?

The conventional view, illustrated by the World Health Organization, is that 'Overall rates of psychiatric disorder are almost identical for men and women' (WHO, 2012). Feminist critics, however, consider that women are more likely than men to be diagnosed with a psychological problem, though they see it principally as the result of women's rational behaviour being mistakenly stigmatised as mental illness (Showalter, 1987). And yet, among the mainstream of mental health professionals, psychologists and psychiatrists the question of gender differences receives surprisingly little attention. There's a marked reluctance to look at the bigger picture: to do, as the phrase has it, the maths. If women truly are more vulnerable to psychological problems at present, that's a major public health issue – one that should inform treatment, guide research and perhaps necessitate social change.

What do the data tell us?

What's the best way to discover how common psychological disorders are in men and women? The answer is to look to the results of epidemiological surveys. In *The Stressed Sex* (Freeman & Freeman, 2013) we looked for studies that fitted the following criteria:

- *National validity* – Studies had to present data on a nationally representative sample of the adult population. Surveys that covered just a particular region or city, or that didn't use bona fide sampling techniques, failed to make the cut.
- *Variety of disorders* – Studies needed to include at the very least drug-related disorders, alcohol problems, depression and anxiety disorders (these being the archetypal 'gendered' disorders: the latter two are typically regarded as more common in women and the former as more prevalent in men). In fact, studies that cover this bare minimum of disorders also tend to include many more conditions.
- *Established techniques* – Studies had to have used established, reliable and valid psychiatric interviews assessing recent problems – by which we mean that the assessments can be trusted to produce the sort of conclusions that a clinician might arrive at were they to assess the participant in person based on DSM or ICD criteria. In practice, these requirements limited us to surveys carried out since the 1980s.
- *Sex-specific information* – To be included, studies had to give separate figures for men and women. Obviously, deducing anything about gender and mental health without this key information would be impossible.

We found 12 national surveys that meet these criteria (see box opposite). Per our inclusion criteria, each provides information on rates of anxiety, depression and substance-related disorders. But arguably just as significant are the disorders they exclude. For instance, precisely none of the surveys reported on the prevalence of sleep or sexual disorders. Yet research suggests that both these types of problem are more common in women than men. Historical artefact though it may be, the absence of these very widespread conditions from

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the surveys leaves a hole in the overall data on gender and mental health.

One of the most striking results to emerge from the surveys is much more indicative of similarity between the sexes than difference. Again and again, these studies show a worryingly high rate of psychological problems across the population as a whole: that is, for both men and women. In the UK and US around one in four people meet the diagnostic criteria for a psychological disorder in the previous 12 months. These kinds of figures have become commonplace in the news in recent years, but they still shock. Yet if overall rates of psychological problems are alarmingly high in the population in general, our surveys agree that the sexes differ in the type of problem they're likely to develop. Every one of the 12 studies reports that women are more likely than men to suffer from anxiety and depression. Men, on the other hand, have a greater propensity for abuse of, and dependence on, alcohol and illegal substances. When it comes to other disorders, the surveys vary in their coverage. But it seems clear that women are more likely to develop borderline personality disorder and eating disorders, while rates of conduct disorder and anti-social personality disorder tend to be higher in men. Perhaps surprisingly, there aren't large differences between adult men and women in rates of ADHD. Psychotic disorders such as schizophrenia appear to be fairly evenly distributed between the sexes.

But here's the big question: What do the studies tell us about *overall* rates of psychological problems in men and women? Are women more at risk – or is it men? Alternatively, is the World Health Organization correct when it states that rates are identical?

The results are clear. Eight of the 12 surveys indicate that rates of psychological disorder are significantly higher among women than men. But it is not just about quantity. Let's look at the most comprehensive in terms of disorders assessed: the Mental Health Supplement of the German National Health Interview and Examination Survey. Carried out between 1997 and 1999, the German study gathered data on more than 60 of the disorders listed in DSM-IV, including anxiety, depression, substance-related disorders (alcohol and illicit drugs), somatoform disorders, eating disorders, pain disorder and psychosis (Jacobi et al., 2004). It is the survey best placed to provide an answer to our question. One in four of the men interviewed (25 per cent) had experienced at least one of the disorders in the previous 12 months. This in itself is an eye-opening statistic, but it's dwarfed by the figure for women, which came in at a staggering 37 per cent. So the study that seems best equipped to answer our question produces an unequivocal result.

The US National Comorbidity Survey Replication (NCS-R) (Kessler et al, 2005) covered a smaller range of problems, but told a similar – albeit less dramatic – tale to the German study. Focusing on anxiety, depression, so-called impulse control problems such as ADHD and conduct disorder, and substance-related disorders (alcohol, drugs and nicotine), the NCS-R reported that 34.7 per cent of women had met the DSM-IV criteria during the previous year, as compared to 29.9 per

National surveys

Twelve epidemiological surveys of mental health met the inclusion criteria for Freeman and Freeman (2013):

UK
OPCS Survey of Psychiatric Morbidity 1993 (*N* = 10,000)
Psychiatric Morbidity Among Adults Living in Private Households 2000 (*N* = 8800)
Adult Psychiatric Morbidity Survey 2007 (*N* = 7461)

Other European countries
Mental Health Supplement of the German National Health Interview and Examination Survey (*N* = 4181)
Netherlands Mental Health Survey and Incidence Study (NEMESIS) (*N* = 7076)

USA
National Comorbidity Survey (NCS) (*N* = 8098)
National Comorbidity Survey Replication (NCS-R) (*N* = 9282)

Australia and New Zealand
Australian National Mental Health Survey 1997 (*N*= 10,641)
National Survey of Mental Health and Wellbeing 2007 (N = 8841)
New Zealand Mental Health Survey 2003 (*N* = 12,992)

Other countries
Chile Psychiatric Prevalence Study (*N* = 2978)
South African Stress and Health Study (*N* = 4351)

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cent of men. The forerunner of the NCS-R, the National Comorbidity Survey (NCS) (Kessler et al, 1994), was carried out in the early 1990s and therefore based its assessments on the earlier psychiatric handbook, 1987's DSM-III-R. The NCS collected statistics on the prevalence of disorders including anxiety, depression, substance use, anti-social personality disorder and psychosis. What it found was that 12-month rates were higher in women than men (31 per cent versus 28 per cent).

Travel several thousand miles south from the US to Chile and the picture that emerges is essentially the same, with 25 per cent of women and 19 per cent of men having experienced a psychological disorder in the previous 12 months (Vicente et al, 2006). The Chilean survey was conducted in the 1990s and, like the US NCS, used the criteria set out in DSM-III-R. As usual, the disorders assessed vary a little from the other surveys; in this case, participants were quizzed about their experience of anxiety, depression, substance use (including nicotine), antisocial personality disorder, psychosis, somatoform disorders and eating disorders.

Across the Pacific, the Australian National Survey of Mental Health and Wellbeing (Slade et al., 2009) assessed the prevalence of anxiety, depression and problems with alcohol and illicit substances, using the rules set out in the 10th edition of the *International Classification of Diseases and Health Related Problems* (ICD). Once again, women were significantly more likely than men to have experienced a disorder in the previous year – 22.3 per cent compared to 17.6 per cent. The New Zealand Mental Health Survey is entitled 'Te Rau Hinengaro' (the Maori term for 'the many minds', a reference to the huge variety of psychological states we all experience in our lives) (Oakley Browne et al., 2006). Te Rau Hinengaro collected data on rates of anxiety disorders, mood disorders such as depression, alcohol and drug problems, and eating disorders. What it found was that women were not simply more vulnerable to psychological disorders: their symptoms were often more disruptive and distressing than those of men with the same problem. In the 12 months leading up to the survey, nearly one in four women (24 per cent) met the DSM-IV criteria for at least one of the disorders; for men the figure was significantly lower – albeit still high – at 17 per cent. Severe problems were likely to affect 5.4 per cent of women and 3.9 per cent of men.

And what about the UK? The 1993 and 2007 UK surveys (Meltzer et al., 1995; McManus et al., 2009) also indicate that women are more prone to psychological problems than men, but in both cases this is a finding that required a little spadework by us to unearth. The 1993 OPCS Survey of Psychiatric Morbidity, for example, doesn't actually provide a figure for total prevalence by gender. But when we analysed the original data, we found that 21.7 per cent of women had experienced anxiety, depression, psychosis, alcohol dependence or drug dependence in the previous 12 months. The figure for men was 19.5 per cent: not a massive difference for sure, but it turned out to be a statistically significant one nevertheless. (Like the Australian survey, the OPCS study used the criteria set out in ICD-10.)

But the UK surveys also provide a useful reminder of the need to scrutinise the detail for oneself. For instance, the APMS asks participants about their alcohol use over the previous six months, and their consumption of drugs over the previous year. However, it employed a very different time frame for anxiety and depression, focusing on how people had been feeling during the previous seven days. And what might seem like just a methodological quirk turns out to have a direct bearing on the question of gender and mental health. Alcohol and drug problems, after all, are more usually seen in men. Anxiety and depression, on the other hand, tend to affect a greater number of women. Were anxiety and depression to be tracked over a longer period, we can be pretty sure not only that the figures for prevalence of these disorders given in the APMS would be significantly higher, but that the scales of mental illness would tip further in the direction of women.

> "women experience something like 20–40 per cent more mental ill health than men"

The data indicate that women experience something like 20–40 per cent more mental ill health than men. And remember that the surveys don't cover common conditions such as sleep and sexual problems, both of which are much more prevalent among women. We urgently require a more comprehensive study to substantiate what we think seems to be occurring. In our view, though, the current survey data indicate that gender is an important factor in a significant proportion of mental disorders as they are currently defined and classified.

As we've seen, not all of the surveys come to the same conclusion. But that's to be expected given the size of the difference, the range of conditions covered in the survey and differences in methodology of surveys. Another way to obtain a more reliable picture of the situation is to survey larger numbers of people, or to combine the results of several studies. As it happens, the World Health Organization is running just such a project right now. There is an interesting analysis from surveys conducted in 15 countries, drawn from both the developed and developing worlds, and including more than 70,000 people. Among the 15 studies were some that we included in our selected dozen surveys but also others we excluded, either because they didn't cover the full range of substance problems, or weren't fully national in scope, or didn't report a figure for total rates of disorder by gender. The study looked at the lifetime risk of developing one of the 18 disorders, which is a less reliable assessment. Nevertheless the picture is a familiar one. Across all age groups, women had a greater chance of developing a disorder than men (Seedat et al., 2009).

Are differences due to under-reporting?

But could it be that these differences aren't real at all? Perhaps all they show is that women are more willing to recognise and report symptoms. Or that they have better memories for psychological problems. Maybe men are reluctant to admit that something might be wrong. We're reminded of an interview with the rock band Pink Floyd at the height of their success in the 1970s. By this point, relationships within the all-male group were reputed to have become somewhat strained. 'Are there some difficult moments?', asked guitarist David Gilmour rhetorically, 'Yes.' 'How do you get around them?' said the journalist. 'We pretend they're not there,' responded bassist Roger Waters. 'We certainly don't face up to them in an adult way, if that's what you mean.'

There's undoubtedly some truth to this argument. We can never, after all, know exactly how many men are not reporting psychological problems (nor, for that matter, how many women are keeping difficulties to themselves). Very few scientific studies have attempted to measure men's reluctance to admit to 'unmasculine' feelings or experiences. In fact, we've come across just one. It was small, involving 23 women and 17 men (Pierce & Kirkpatrick, 1992). They were asked how much they feared a number of objects and situations, including rats, mice and rollercoaster rides. A month later, the participants were asked to retake the

survey. But this time there was a crucial difference. The students were informed that before filling in the questionnaire they were going to see a video of these objects and situations. During the video, it was explained, their heart rate would be monitored, allowing the researchers to determine just how scared the students really were. As it happened, only one sex had been underplaying their fears. On the second occasion, the men scored significantly higher for fear than they had before, while the women's ratings remained unchanged. Yet although this experiment provides some evidence that men really do play down their anxieties, it also found that women experienced more fear than men, even after the temptation to underreport problems had been removed.

Do women experience higher levels of stress because of the demands of their social role?

And, importantly, there are a range of social and psychological factors that especially impact on women that should lead us to expect differences in overall rates of mental health problems. The most obvious example is childhood sexual abuse. There's very strong evidence linking childhood sexual abuse to later mental health problems (e.g. Spataro et al., 2004). And sexual abuse largely affects girls, typically during early adolescence (e.g. Bebbington et al., 2009). Chronic strain is also likely to be an issue. A meta-analysis of 119 studies covering more than 80,000 people found that women reported greater exposure to stress than men, and especially in adolescence (Davis et al., 1999). Although the issue of under- and over-reporting again rears its head here, it's certainly plausible that women experience higher levels of stress because of the demands of their social role. Increasingly, women are expected to function as carer, homemaker and breadwinner – all while being perfectly shaped and impeccably dressed. Given that domestic work is undervalued, and considering that women tend to be paid less, find it harder to advance in a career, have to juggle multiple roles, and are bombarded with images of apparent female 'perfection', it would be surprising if there weren't some emotional cost. Think about the differing standards identified in a recent study by Judge and Cable (2011) of employees in Germany and the US. They showed that, as thin men get heavier, their earnings increase. Women – and especially thin women – actually earn less when they put on weight. Indeed Judge and Cable calculate that 'a woman who is average weight earns $389,300 less across a 25-year career than a woman who is 25 lbs below average weight'. For men, on the other hand, being very thin is no way to secure that promotion: 'a man who is 25 lbs below average weight is predicted to earn $210,925 less across a 25-year career than a man who is of average weight.'

Indeed there's evidence that the demands of the female role can have a negative effect on women's happiness from an early age. Lars Wichstrøm, a psychologist at the Norwegian University of Science and Technology, collected data on a representative sample of more than 12,000 Norwegian young people, aged 12 to 20. Among the 12-year-olds, there was no difference in rates of depression between boys and girls. But over the next couple of years, girls overtook boys. Why was this? Wichstrøm (1999) found that

> the gender difference could be explained, in part, by increased developmental changes for girls – pubertal development, dissatisfaction with weight and attainment of a mature female body, and increased importance of feminine sex role identification.

There are of course pressures on men too. Categorising mental health troubles as essentially a female problem would be wildly inaccurate. Men are more likely to kill themselves. But women are actually more likely to have suicidal thoughts and to try to kill themselves (e.g. Bebbington et al, 2009). The discrepancy in completed suicide rates is because men use methods more likely to lead to death, such as firearms or hanging, than women, who more often overdose. The reason for the differing methods is difficult to determine, with key factors hypothesised including level of intent, concerns about facial disfigurement, access to weapons and gendered differences in cultural scripts for suicide. We think that in tackling the question of imbalance in rates of mental health problems, we may actually shine a light on the causes of psychological problems in general. There's much uncertainty about these causes; but following the thread of gender may both lead us to other factors and help us understand how these factors interact to produce disorder.

A crucial piece of the puzzle

If these statistics prove to be anywhere near correct, we have a problem that demands urgent action. Of course, in this controversial area it may be that we will be accused of labelling women as somehow innately 'mad' or 'crazy'. This kind of language isn't helpful. Indeed it's based on a fundamental misunderstanding of mental illness. And it stigmatises everyday problems experienced by millions of people, male and female alike. These are problems that are usually neither innate nor inevitable, difficulties that wouldn't occur if it weren't for the contribution of social pressures. Whether or not women truly are more susceptible to psychological disorders in the current environment – and we certainly need more sophisticated epidemiological surveys to be sure – we gain nothing by simply assuming there's no case to answer. Difference need not be a pejorative concept. Given the extent of the burden on society and individuals alike, understanding what causes mental health problems, and thus being better placed to prevent and treat them, should need no justification. But our ability to do that is going to be hampered if we assume that gender is, at most, merely a marginal issue. In fact, it may often be a crucial element of the puzzle. Without gender, perhaps, the pieces simply won't link up.

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