

SEX DIFFERENCES IN REPORTING AND RATING OF LIFE EVENTS: A COMPARISON OF DIABETIC AND HEALTHY SUBJECTS*

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(Received 1 October 1979)

Abstract—Both diabetic and healthy women rated life events as more upsetting and requiring more adjustment than did the male groups of subjects. This sex difference was also apparent among the healthy subjects in the reported number of life events experienced. Diabetic women, on the other hand, did not differ from the men; they reported fewer experienced life events than the healthy women. The results are discussed in relation to other studies of sex differences in psychophysiological responses to stress.

This paper discusses an investigation of differences in the perceived magnitude of life events and in the reported experience of life events between men and women and between a chronically ill diabetic population and a control population of healthy subjects.

METHOD

Subjects

One hundred and fourteen diabetic patients from the outpatient clinic at the Nottingham City Hospital took part in the study. The subjects were divided by sex and treatment into four groups—insulin treated diabetics (45 male, 32 female); tablet treated diabetics (18 male, 19 female); controls (30 male, 30 female). Ages ranged from 16 to 81 yr. The sample included a range of occupations from professional to unskilled workers as well as housewives and those who had retired from work. Sixty control subjects, 30 male and 30 female were also studied. The sample was drawn from the hospital staff and included porters, cleaners and laboratory staff as well as doctors and nurses. In addition, adult education students formed a substantial proportion of this control group in order to balance for the number of housewives and retired people in the diabetic population. Ages ranged from 18 to 67 yr.

The life events inventory

The version of life events inventory employed by Lundberg, Theorell and Lind [1] was used. The events were rated for "upsetting" or for "adjustment" using analogue scales. Subjects gave their estimate of the amount of adjustment or upset involved with each event as a mark on a 100 mm horizontal line. These estimates were later converted into numerical data. Subjects were also required to indicate those events which they had experienced during the previous 12 months.

Four life change scores were computed from the results:

- (i) mean life change ratings of all 46 items,
- (ii) sum of ratings of experienced events,
- (iii) number of experienced events,
- (iv) mean rating of experienced events.

RESULTS

Three-way analysis of variance examining type of rating instructions (upsetting vs adjustment), sex, and treatment (insulin-requiring diabetics vs tablet-treated diabetics vs controls) showed that, contrary to the findings of Lundberg, Theorell and Lind [1], there were no differences between the ratings of the "upsetting" and "adjustment" scales.

Sex differences were apparent in the mean ratings of life events. Women rated the events as more upsetting/requiring more adjustment than men ($F = 7.678$; d.f. 1, 163; $p = 0.00624$). This was particularly apparent for the healthy controls and for the tablet-treated diabetics (Fig. 1). The insulin-requiring diabetic women gave lower, male-like ratings of life events. The interaction between sex and treatment was not statistically significant for the mean ratings of life events. The difference in mean ratings of the three treatment groups was not significant.

Using the measures of *experienced events* [(ii), (iii) and (iv)] there were no significant main effects of sex. There were, however, significant differences between the treatment groups, [(ii) $F = 4.673$; d.f. 2, 163; $p = 0.01064$ and (iii) $F = 9.267$; d.f. 2, 163; $p = 0.00015$, (iv) n.s.]. The differences here were

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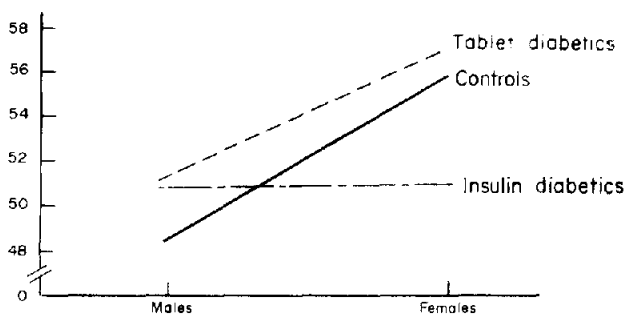


FIG 1.—Mean ratings of all life events.

mainly due to the female controls reporting more experienced life events than the male controls or the diabetics of either sex (Fig. 2). The interaction between sex and treatment groups was high, especially for the sum of experienced events [(ii) $F = 5.361$; d.f. 2, 163; $p = 0.00556$ and (iii) $F = 2.780$; d.f. 2, 163; $p = 0.06497$, (iv) n.s.].

However, since the mean ratings of experienced events were not affected by the interaction between treatment and sex of subjects it would appear that the significant differences in sum of ratings of experienced events were mainly due to differences in the number of events reported to have been experienced over the previous year.

Similarly, the mean ratings of experienced events were unaffected by treatment effects showing that the significant difference between the sum of ratings of the three treatment groups was due to the significant difference in number of experienced life events reported.

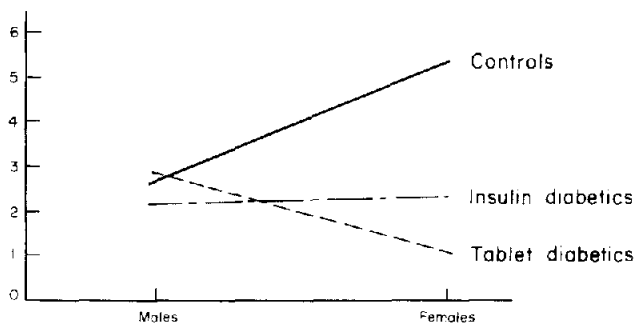


FIG 2.—Number of experienced events.

DISCUSSION

The sex differences found among the control subjects are interesting in relation to the findings of other researchers who have observed sex differences in response to stress. Frankenhaeuser, Johansson and their colleagues have studied sex differences in neuroendocrine and psychological function during stressful conditions. They have consistently found that females, unlike males, showed little increase in adrenalin excretion in reaction to a variety of different stresses (Frankenhaeuser *et al.* [2, 3], Johansson [4], Johansson and Post [5]). On the other hand there is evidence to suggest that women are more inclined than men to verbalise their experience of stress (Frankenhaeuser [2], Ekehammar [6]). Thus, it appears that while men tend to respond physiologically and with little overt expression of their feelings, women tend to respond verbally with little physiological change. In the present study the female controls reported that they had experienced more life events than the males and also rated life events in general as more upsetting and requiring more adjustment. The female diabetics, and particularly those requiring insulin, responded in a similar manner to the male groups, showing lower sum totals of upset and adjustment to experienced life events and, in particular, fewer experienced events than the female controls. In addition, a further part of this study [7] showed that the physiological disturbance associated with life events (increased incidence of glycosuria and prescription change) was similar in both male and female diabetics.

Various explanations may be suggested to account for these results. It is implausible that women actually do experience significantly more such life events than men. It is perhaps more likely that their thresholds for recognising and reporting the experience of these life events are lower than those of men. Similarly, diabetic women may not have actually experienced fewer life events than healthy women. They may simply be failing to recognise certain experiences as the life events loosely described in the inventory. It is possible that diabetics assess the impact of life events by using their disorder and its fluctuations as a standard for comparison. That standard being a difficult one to surpass, few other events are perceived as significant. Such an explanation would account for the lower ratings of life events by diabetics and for the higher threshold of reporting of experienced events. Further, it may be suggested that using the demanding nature of the disorder as a standard by which to judge other events, obliterates any inherent sex differences, cultural or hormonal.

There is another explanation which takes into account both the lower male-like ratings by female diabetics and the sex difference in healthy subjects. It is possible that women in general tend to be more sensitive to the physiological changes associated with emotion than men and, because in Western society it is socially acceptable for women to do so, they are more likely to express their experiences of emotion overtly. Diabetic women, however, may be less capable than healthy women of gauging their physiological emotional responses since much of the feedback is not related to their emotional state but to faulty metabolic control. Hence, physiological changes associated with emotional response may be interpreted in terms of their disorder. Such an explanation would suggest that the lack of sex differences in diabetics' ratings is due to the nature of the diabetic illness and particularly the disruption of hormonal reactions involved in stress responses and would not be found generally among chronically ill patient groups. It is not possible to choose between these explanations from the data of the present study. It remains to be shown whether this lack of sex difference among diabetic subjects was due to illness in general or to diabetics in particular.

Acknowledgements—This research was financed by a grant from the Medical Research Council. The author wishes to thank Dr. J. M. Macfie for organising facilities at the Nottingham City Hospital and Dr. Tom Cox for his support and encouragement during the course of this research.

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