Personality self-representations of patients with hand injury, and its relationship with work injury

N. Chau1, A. d'Houtaud1, M. Gruber1, N. Monhoven1, C. Gavillot2, D. Pétry2, E. Bourgkard1, S. Guillaume1,2 & J-M. André2
1INSERM U115, Faculté de Médecine, Vandoeuvre-lès-Nancy, France; 2Service de Réadaptation Fonctionnelle de l'Hôpital Jeanne d'Arc, Institut Régional de Réadaptation de Nancy, Nancy, France

Abstract. This study compared the personality self-representations of 288 hand injured patients with those of 959 young people (15–25 years old) randomly selected from the general population (noted GP), and with those of 336 unemployed people of all ages in professional training (U) in Lorraine (north-eastern France). The relationship between patients' personality self-representations and injury was also investigated. Personality self-representations included 14 questions: in your own opinion are you sociable?, at ease with others?, serious?, careful?, dynamic?, optimistic?, worried?, irritable?, clumsy?, solitary?, organised?, ambitious?, do you have a sense of responsibility?, and many plans? The patients had similar self-representations to GP except for the items non clumsy (odds ratio adjusted on age and sex OR = 2.40, p < 0.05) and optimistic (OR = 1.70, but 0.05 < p < 0.10). The frequencies of non irritable, non clumsy and non solitary people were higher in patients than in the U group (OR about 2.40, p < 0.01). By contrast, the other items were more favourable for the U group except for the items sociable, organised and having many plans. Self-representation items were significantly related to some socio-demographic data. The work injured workmen having one or more previous work injuries during the last five years were more at ease with others than the other subjects. Among the work injured workmen who had had no previous work injury during this time, the people aged 29 or less (the highest risk age class) were more optimistic than the others (71% vs 49%, p < 0.05); a difference was also found for the items at ease with others, careful, dynamic, and non worried, but it was not significant possibly due to the small number of subjects. The sum of these five items differed between the two age groups (3.29 ± 1.49 vs 2.55 ± 1.68, p < 0.05). These simple items would provide an interesting approach in terms of personality which could explain in part the excess of work injuries in young people, though the work requirement still seemed to be the highest risk factor.

Key words: Hand lesion, Injury, Personality self-representations, Patients

Introduction

Prevalence of injuries is still high in France. The decrease in work injuries noted between 1955 and 1987 stopped several years ago, and an increase has been observed for several professional sectors [1–2] particularly due to the modification of work processes and to the appearance of new ones. Upper limb injuries are the most numerous (39% in 1990) [1]. The highest risk level was found in young people (<29 years old) [3, 4], and a study in USA showed the gravity of injuries in adolescents [5]. Several investigations reported that these injuries mainly concerned manual workers and workmen who have a modest education level [3, 4, 6, 7].

Among the various risk factors (work conditions, work requirement, work environment, lack of training and of information, etc) we wonder whether the personality of the subjects (which is possibly linked with risk taking, inadequate risk assessment, lack of vigilance, enthusiasm) could play a role, especially in delaying injury occurring in the presence of potential risk factors. It should be noted that most investigations on injuries concerned the children and the adolescents [8–20], and not the employed people. In addition, personality, behaviour, and risk taking were sometimes discussed but these studies did not include any personality item. Indicate that personality has been proposed as a factor in defining groups at risk for some diseases [21].

The aims of this study were: (1) Comparison between personality self-representations of patients with a hand injury and those of the general population and of unemployed people in training at various professional training centres in the Lorraine area (north-eastern France); (2) Analysis of the relationship between personality self-representations and various socio-demographic factors of these patients;
and (3) Examination of the relationship between self-representations and the presence of one or more previous work injuries during the last five years and the age at which the work injury occurred in workmen. In this investigation, we used a standardized questionnaire which had been tested on several populations from the same area because it seemed to be suitable and more acceptable for our population having a generally weak education level. It included 14 items: sociable, at ease with others, serious, sense of responsibility, careful, dynamic, optimistic, worried, irritable, clumsy, solitary, organized, ambitious and having many plans.

Materials and methods

The sample studied consisted of 532 patients seen during one year (from 1 April 1991 to 31 March 1992) at the rehabilitation centre of the Jeanne d’Arc Hospital (in Lorraine: 2.3 millions inhabitants, northeastern France), and living in France.

The protocol of the study comprised two standardized questionnaires. The medical questionnaire included various socio-demographic data (sex, birth date, socio-occupational category (SOC) coded according to the INSEE classification [22]), origin and date of the lesion occurrence, previous work injuries during the last five years, medical information. It was filled out by the physician during the medical examination.

The second questionnaire was an auto-questionnaire. It included family conditions, living alone, type of residence, proprietor, obtained diploma(s), wage, job, requirement of work, domestic activities (house-keeping, pottering about the house, gardening), and of sport and spare-time activities, functional ability. It also comprised the 14 questions about self-representations of personality: in your own opinion are you sociable?, at ease with others?, serious?, careful?, dynamic?, optimistic?, worried?, irritable?, clumsy?, solitary?, organised?, ambitious?, do you have a sense of responsibility?, and many plans? It was filled out by the patients at their arrival at the rehabilitation centre, before the medical examination.

The second control group included 336 unemployed persons (noted U) in training (mean duration equals 3 months; there were number of occupations) at various professional training centres (mainly subsidized by the Government and district councils) in eight towns geographically spread throughout Lorraine. The study took place from January to February 1990. The questionnaire was also given to each subject and then collected by an investigator at the centres. Therefore, the subjects in training in various firms and thus not being in the centres during this period were not contacted. All the people involved participated in the study.

Statistical methods. The comparison between the distributions according to age, sex, SOC and origin of the lesion in the patients who participated in this study and those of the patients who did not was carried out using the $\chi^2$ independence or Fisher’s exact probability test [23]. Their mean ages were compared with the method of variance analysis for one factor [23]. To compare the personality of the patients and that of each control group, we also used the $\chi^2$ independence or Fisher’s exact probability test. Furthermore, we calculated the odds ratio (OR) adjusted on age ($\pm 2$ years) and sex and used the Mantel and Haenszel test [24].

For the personality items the non responses complicated the analyses. Consequently, we grouped them with the responses yes or no according to the results obtained by an analysis conducted with the correspondence factorial analysis method [25]. This method was also used to examine the relationship between all the personality items. The results found will not be presented in order to alleviate the text. It should be noted that, this was in fact consistent with a previously intuitively made grouping based on the results found in former surveys. The mean value of a variable was given with the standard deviation (SD). All the analyses were conducted with the LOGIST [26] and the SAS [27] programs.

Results

The medical questionnaire was filled out by the physician for all the patients involved (532 subjects). The questionnaire about personality was filled out by 54% of them only. Table 1 shows that the subjects who participated and those who did not had similar sex, age, SOC and origin of the lesion. However, the patients who participated were slightly younger than the others ($36.7 \pm 16.0$ vs $40.0 \pm 20.2$ years, $p = 0.04$).

The characteristics of the patients who participated are presented in Table 2. As expected, most of the subjects were men (77%), young people (60% were less than 40 years of age), workmen (62%) and employees (15%), with a low education level (19% had no qualification), and a modest wage. The fre-