
Francesco Draicchio\textsuperscript{a}, Silvana Salerno\textsuperscript{b}, Federico Forzano\textsuperscript{a}, Sara Calicchia\textsuperscript{a}

\textsuperscript{a}INAIL – Department of Occupational and Environmental Medicine, Epidemiology and Hygiene, ITALY; \textsuperscript{b}ENEA, Rome, ITALY

1. Introduction

In 2013 the Italian Ergonomic Society (SIE) changed its name in Ergonomic Society and Human Factors. This change elicited a large debate within Italian professionals regarding mostly the holistic approach to human beings (Salerno and Draicchio, 2014; Sacco, 2014). Moreover the position paper of International Ergonomic Association (Dul J et al. 2012) stated the equivalence of the two terms: Ergonomics/Human factors. Similar changes occurred previously in United Kingdom Society that became “The Institute of Ergonomics and Human Factors”. In order to go deeply in understanding the meaning of these changes we made a word occurrence and co-occurrence study of the last two decades abstracts of Ergonomics, the official journal of The Institute of Ergonomics and Human Factors.

2. Method

All the abstracts published on “Ergonomics” from 1994 to 1998 and from 2009 to 2013 were analyzed. The resulting corpus was the input for the T-LAB 7.3.2 statistical analysis software (Lancia, 2002). We used the following functions “correspondence analysis”, “word associations” and “specificity analysis”. The correspondence analysis tool highlights similarities and differences between context units. The word associations identifies and measures key words association. The following key words were selected: ergonomics, efficiency, health, human factors and performance. Specificity analysis checks lexical units (words, lemmas or categories). Corpus coding lines were chosen to define two variables: “single year”, divided into 10 modalities (10 years) and “time” divided into “before” (1994-1998) and “after” (2009-2013).

3. Results

All 658 abstracts between 1994 and 1998 (interval A) and all 648 abstracts for the interval 2009-2013 (interval B) have been analyzed. Correspondence analysis for single year variable showed significant differences in the two time intervals. In the second time interval (2009-2013) we also found a significant issue dispersion and variability as if Ergonomics had expanded and diversified its field of interest.

Specificity analysis in order to track the evolution of some relevant issues. The differences (Table 1) in occurrence of the selected keywords (ergonomics, efficiency, health, human factors, performance) were:

<table>
<thead>
<tr>
<th>Key Word</th>
<th>1994-1998</th>
<th>2009-2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ergonomics</td>
<td>Interval 1</td>
<td>Interval 2</td>
</tr>
<tr>
<td>Efficiency</td>
<td>105</td>
<td>238</td>
</tr>
<tr>
<td>Health</td>
<td>30</td>
<td>46</td>
</tr>
<tr>
<td>Human Factors</td>
<td>16</td>
<td>73</td>
</tr>
<tr>
<td>Performance</td>
<td>295</td>
<td>405</td>
</tr>
</tbody>
</table>

*p<0.001

All the differences in occurrence were statistical significant with the exception of the key word “efficiency”. Word associations. The lemma “human factors” that in the first five years was associated with engineer, safety, system design and workstations, in the second five years resulted associated with ergonomics, sustainability, healthcare, risk and work. The lemma “health” in the first five years was more associated with...
the word occupational and safety and in the second five years with productivity and work. The word “performance” was more corresponding to the words human and subjective in the first five years and to the words task and system in the second ones. In the first period the word “ergonomics” was mainly associated with quality and human and in the second period to the words sustainability and human factors. Data analysis show, in the more recent period, an increase in the ergonomics items dispersion and variability. An increased specificity of performance together with a stronger association of health with productivity and ergonomics with human factors have also been found.

References