

## **Risk Perception and Health and Safety Measures in Work Environments: effect of training on the pupils of two secondary schools**

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### **Abstracts**

**Industrial accident are a serious National issue. Despite recent government interventions this negative phenomena doesn't seem be improving. Italy needs a cultural change to improve risk management in the workplace. Education is a fundamental element in undertaking cultural change which is aimed at young people. We have studied the impact of education in the area of workplace safety in relation to the risk perceived by students from two technical secondary school institute. The questionnaire that was used both at the beginning and of course was the result of ISPESL's project “safety in the workplace” carried out collaboration with ARETES and ITI—IPIA “Leonardo da Vinci”, a secondary school in Florence. The test group was made of 105 students of which 94 were male and 11 female. Upon first examination of the variations in answers between the beginning and the end of course, a marked increase in the number of virtuous answers. In particular, answers obtained to the questionnaire at the end of the course demonstrate the students have a concept of risk less fatalistic and more correlated to behaviour that is prevalent in the workplace. So the course has been useful for the student and has helped to change their idea about risk. Inevitably the result of this is an enhanced awareness of the probability of an adverse event occurring during behaviour adopted in everyday life.**

**Keywords:** accident prevention, student, safety, behaviour

### **Introduction**

Industrial accident are a serious National issue. Despite recent government interventions this negative phenomena doesn't seem be improving. Italy needs a cultural change to improve risk management in the workplace. Education is a fundamental element in undertaking cultural change which is aimed at young people. We have studied the impact of education in the area of workplace safety in relation to the risk perceived by students from two technical secondary school institute, with the aim to set up actions able to improve in the young people the risks perception.

### **Methods**

In the school year 2007/08, the Prevention department of the Ragusa *Azienda Sanitaria Provinciale (ASP)* (Provincial Health Authority) began to promote health and security in the work place in two vocational secondary schools. The schools involved were the *Istituto per Geometri* (Institute for Surveyors) “R. Gagliardi” and the Ragusa *Istituto Tecnico Industriale Statale* (State Industrial Technical School). Fifth year students from the two schools took part in a 36-hour training course. It was decided to investigate whether the course influenced the behaviour of the students and if so which aspects of their daily lives were affected. 104 students were recruited from the two schools, 100 males and 5 females. They were given a questionnaire taken from the project “Safety in the Classroom” realised by the Florence ITI-

PIA “Leonardo da Vinci” in collaboration with *the ISPESL* (Superior Institute for Prevention and Safety at the Work Place). The students filled in the questionnaires both before and after the course. 193 questionnaires were examined: 102 filled in at the beginning of the course and 93 at the end.

## **Results**

Table 1 shows the main findings. Among the various parameters examined, it can be seen that there is a significant difference between the answers relating to risk perception given at the beginning and end of the course. The Odds Ratio calculation gave a value of 1.87, which indicates that the final data, despite the smallness of the sample, is different from that found in the entry questionnaire. This numerical evidence is also supported by the very positive comments made by the students in the appropriate section of the questionnaire – these cannot be reported here for reasons of space. As regards other questions a positive increase was found in ‘virtuous’ answers indicating a safer attitude at the end than at the beginning, even if this difference was not statistically different. Such questions include:

- Are you able to avoid risks to yourself? With an OR of 1.87;
- Are you able to assess risks? OR = 1.33.

Figure 1 presents the answers given to questions 15 and 16 of the questionnaire regarding the value attributed to behaviour (question 15) and behaviour adopted (question 16). The differences between the answers given at the beginning and the end are represented in yellow for question 15 and green for question 16. The values to the right of zero represent an increase in ‘virtuous’ replies at the end while the values to left of zero represent an increase in less ‘virtuous’ replies. It can be seen that the questions do not exclusively regard the work environment but cover all behaviour during daily life. Obviously the change in attitude varies according to the behavioural risk suggested by the question. In fact, while there was no increase in ‘virtuous’ answers relating to “not paying on public transport”, there is a big increase in ‘virtuous’ answers regarding “listening to music at a high volume”. This, in our opinion, indicates that even if risk perception changed as a result of the notions assimilated during the course, this does not influence all the forms of behaviour considered to involve risk by the questionnaire. A possible explanation of this result could be that the course was based on a series of concepts limited to explaining the main risks in the work place and how to assess and eliminate them. In our opinion, this explains why the course had less influence on behaviour such as “not paying for a ticket”, which does not have a direct effect on the health of the student, than on other behaviour that had a direct effect on health, where the change was clearer.

## **Conclusions**

In the light of the above and the data analysis presented, it can be concluded that the training received by the students of the two schools influenced the change in their risk perception. The enthusiasm shown by the students during the course is analogous to that noted in previous years. Finally, also legislators have noticed that Safety and Health in the work place training should be carried out at school and have provided for this with Legislative decree 81/08. *INAIL* (National Insurance Institute for Accidents at Work) has invested in this type of training for years even if the funding for it is not distributed uniformly throughout the whole country. Currently Health and Safety training for secondary school pupils is not regulated and depends on the individual initiatives of operators in the school or National Health Service sectors.

**Graph.1 – Differences between high risk perception in exit test compared with modified behaviour at the end of the course. Difference between exit test (n° 91) and entry test (N° 102)**

