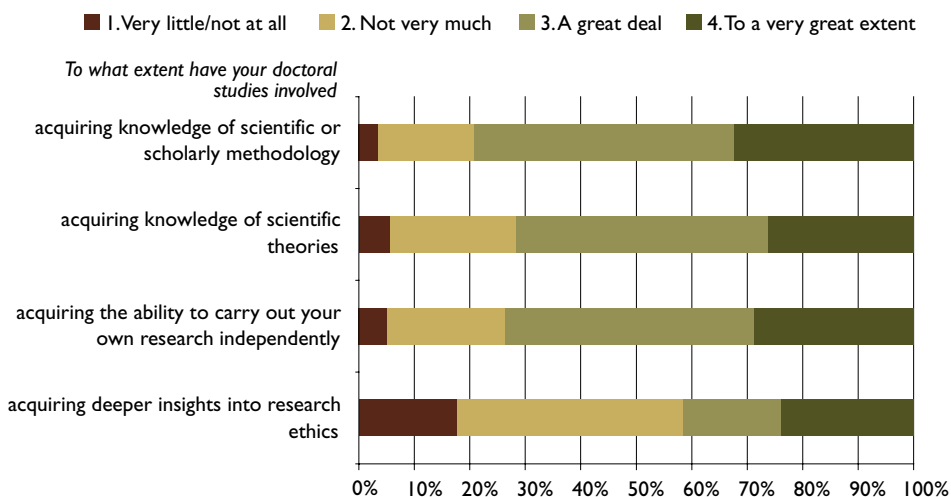


# Professional development

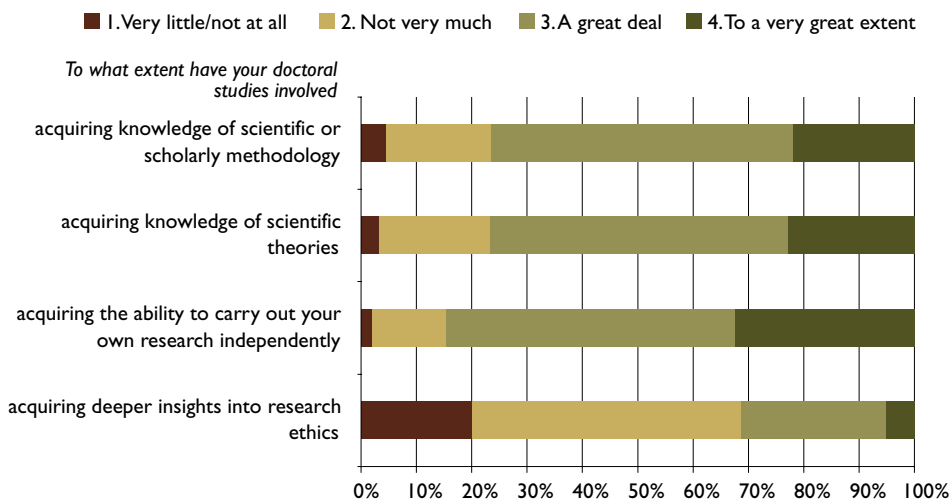
This index relates to the professional content of a career in research. Knowledge about scientific methodology and scientific theories constitutes the core of postgraduate study and is a necessary requirement for independent research. Awareness of research ethics is regarded as a quality issue both by the research community and elsewhere and the application of ethical standards is central to research.

The questions included in this index deal with the extent to which postgraduate studies have led to the acquisition by the students of knowledge of scientific methodologies and theories, the capacity to undertake independent research and heightened awareness of research ethics (figure 17).

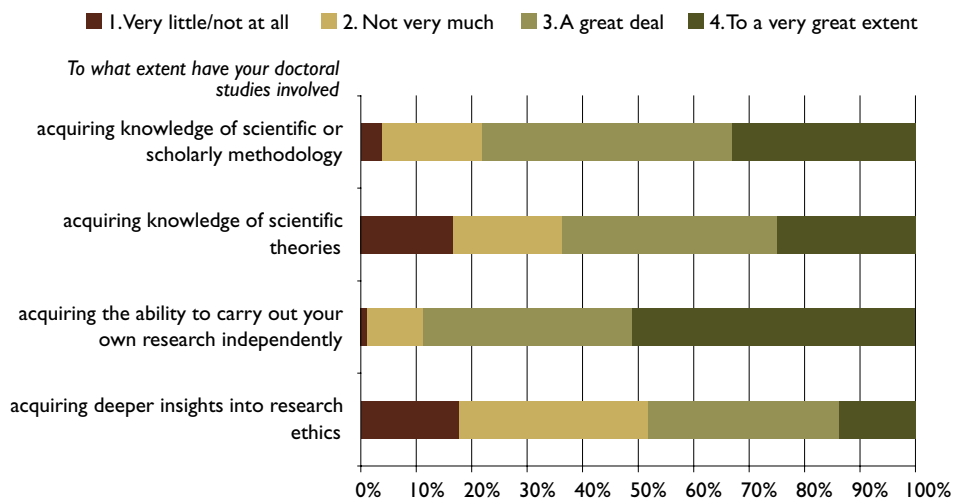
## Catalonia



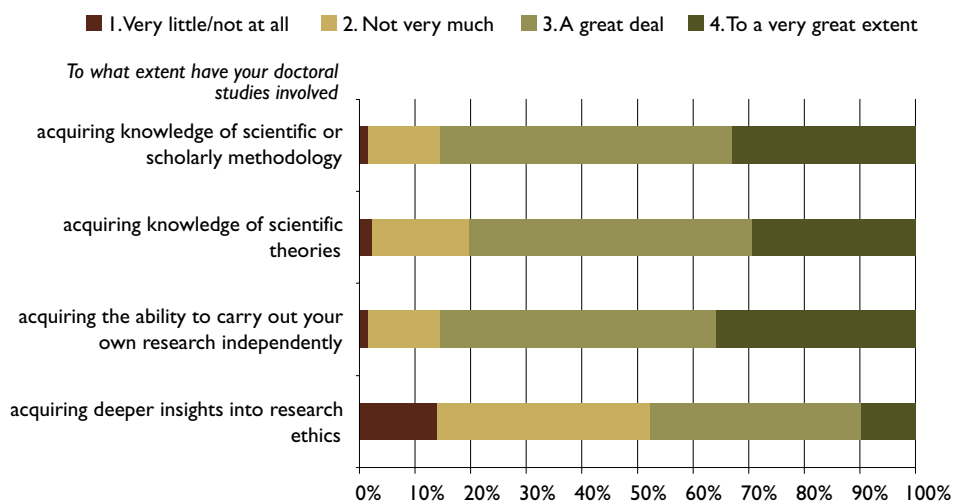
## Finland



## Ireland



## Sweden

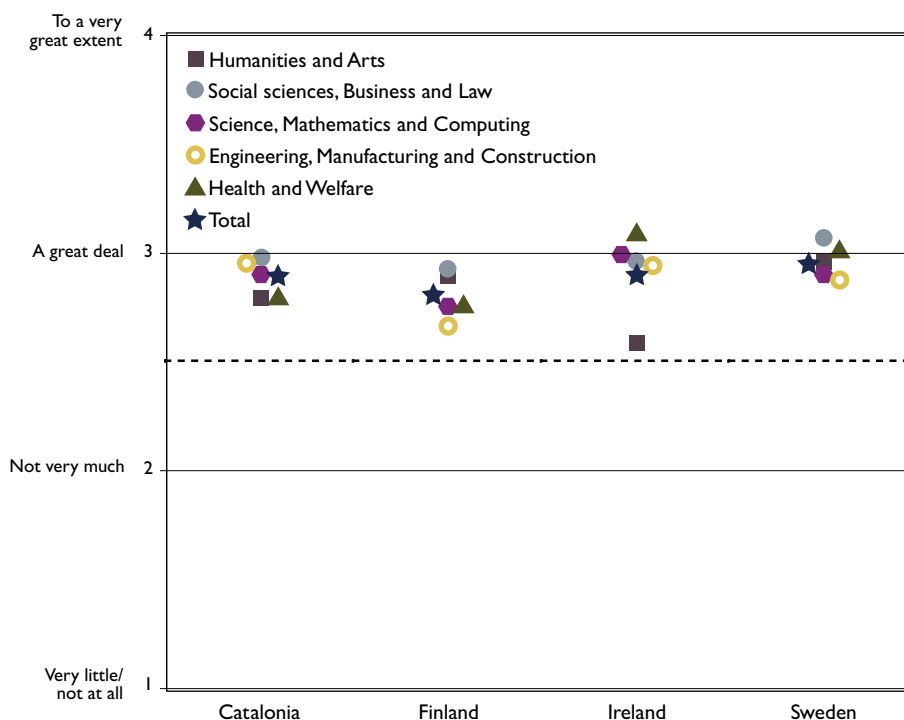


**Figure 17.** Professional development. Index items and distribution of responses by country.

The majority of postgraduate students in all four countries consider professional development to function satisfactorily (figure 18). Heightened awareness of research ethics is however one aspect of professional development that is attained by less than half of the students. The differences between the countries are on the whole insignificant in this dimension. But within Ireland you find a significant difference in the answers from postgraduate students in Humanities and Arts, who are less satisfied with the professional development compared with postgraduate students in other fields.

There are no major differences between the responses of women and men. In Catalonia there is some difference in the Social Sciences, where women are less positive, and in Science, where instead the men are less positive. Here,

however, there are only a small number of respondents so that the differences are uncertain.



**Figure 18.** Professional development by country and subject field.

## Ancillary questions

### Oral and written expression

However, it is not only knowledge of the kind described above that is significant for postgraduate students in their subsequent careers. The ability to express themselves well in speech and writing is important. In the questionnaires in Sweden, Finland and Ireland the students were asked about the extent to which their postgraduate studies had helped to improve their ability to write clearly and comprehensibly and whether their ability to present their material clearly and comprehensibly orally had increased.

Between one-third and one-quarter of the postgraduate students state that their studies have only led to minor improvement of their abilities to express themselves in speech and in writing. The response pattern varies slightly from country to country. Among the students in Ireland, 33 % considered that their oral ability had increased to only a limited extent, and 31 % felt the same about their writing skills. In Finland 34 % reported only limited improvement of their oral skills and 24 % of their written skills, while, finally, 27 % of the Swedish students felt the same about their oral skills and 25 % about improvements in their writing.

## Presenting and discussing their research

Presenting research and listening to reactions to it in various contexts is important. Affirmation and recognition contribute positively to personal development. Moreover, support in the form of critical feedback, for instance, and the possibility of discussing one's research is important for development as a researcher and for the quality of the thesis. The postgraduate students were asked whether they had taken part in various activities such as national and international conferences that were relevant to their research, whether they had presented their research to a more general audience in any context, if they had presented their research in publications or conferences, submitted sections of their theses in seminars or participated in any postgraduate student groups.

The participation of postgraduate students in national and international conferences relevant to their own doctoral studies varies from country to country (table 14). The students in Ireland were the most active participants in national conferences, 55 % compared to 54 % in Finland, 48 % in Sweden and 47 % in Catalonia. The difference is even greater where international conferences are concerned. Here 54 % of the postgraduate students in Sweden say that have participated in such events compared to Finland's 53 %, Ireland's 46 % and Catalonia's 33 %.

Responses to the questions on presentation of their own research in publications, conferences, and seminars or to more general audiences varied greatly between the different countries. Students in Sweden, 65 %, most frequently make presentations in publications and conferences while the Finnish students are those most frequently making presentations to more general audiences, 42 %.

Activity	Catalonia	Finland	Ireland	Sweden
Participation in one or more national conferences relevant to your post graduate studies	47	54	55	48
Participation in one or more international conferences relevant to your post graduate studies	33	53	46	54
Presentation of your research in a context which will make it more accessible for the general public	21	42	38	34
Presentation of your research through publication or at conferences	33	61	56	65
Submission of your research at some form of seminar at your department	26	57	53	65

**Table 14.** Percentage yes-answers whether the respondent had taken part in certain activities by country.

## Comments

Research ethics deals with problems and issues about how research can be conducted. How far, for instance, may one jeopardise the integrity and safety of other people in order to attain the knowledge that is sought? Research ethics also involves the researcher's own rectitude and candour. There is justi-

fication for the inclusion of these quality aspects of research in postgraduate programmes.

It is important for doctoral students to understand the value of good research ethics, not least in their future careers. Lack of knowledge and the failure to apply ethical standards could in the long run impair the confidence of fellow-researchers, the general public and the commercial sector in the research undertaken. It is disturbing that as many as half of the postgraduate students do not consider that they have enhanced their awareness of research ethics.

Another issue that is linked to the long-term public confidence in research is related to the capacity to present research in a context, which will make it more accessible for the general public. Postgraduate programmes do not seem to include training in this field to any great extent.