
Evaluation of the ‘Salus & Co.’ captures and cartoon strips

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Contents

| | | |
|----------|--|-----------|
| 1 | Introduction | 1 |
| 1.1 | Background | 1 |
| 1.2 | The strips and captures | 2 |
| 1.3 | Evaluating the images | 3 |
| 2 | Summary Findings | 9 |
| 2.1 | Summary statistics | 9 |
| 3 | Interpretations of the ‘Salus & Co.’ captures | 13 |
| 3.1 | Capture 241 | 13 |
| 3.2 | Capture 210 | 15 |
| 3.3 | Capture 219 | 17 |
| 3.4 | Capture 13 | 19 |
| 3.5 | Capture 216 | 22 |
| 3.6 | Capture 203 | 24 |
| 3.7 | Capture 17 | 26 |
| 3.8 | Capture 8 | 28 |
| 3.9 | Capture 222 | 31 |
| 3.10 | Capture 230 | 33 |
| 3.11 | Capture 229 | 35 |
| 3.12 | Capture 221 | 37 |
| 3.13 | Capture 26 | 39 |
| 3.14 | Capture 1 | 41 |
| 3.15 | Capture 23 | 43 |
| 4 | Interpretations of the ‘Salus & Co.’ strips | 46 |
| 4.1 | Strip 6 | 46 |
| 4.2 | Strip 7 | 48 |
| 4.3 | Strip 21 | 50 |
| 4.4 | Strip 13 | 52 |

| | | |
|----------|---|-----------|
| 4.5 | Strip 11 | 54 |
| 4.6 | Strip 118 | 56 |
| 4.7 | Strip 12 | 58 |
| 4.8 | Strip 17 | 60 |
| 4.9 | Strip 14 | 62 |
| 4.10 | Strip 9 | 64 |
| 5 | Overall comments on the ‘Salus & Co.’ approach | 66 |
| 5.1 | Positive feedback | 66 |
| 5.2 | Concerns about the images | 67 |
| 5.3 | Strips versus captures | 70 |
| 5.4 | Suggested improvements | 70 |
| 6 | Conclusions | 72 |
| 6.1 | Overall levels of understanding | 72 |
| 6.2 | Ease of understanding | 73 |
| 6.3 | Improving understanding levels | 73 |
| | Appendix 1: Distribution of captures and strips across surveys | 75 |
| | Appendix 2: Details of survey respondents | 77 |
| | Appendix 3: Additional information from the EU-OSHA panel data about survey participants | 80 |
| | Appendix 4: Demographics of cognitive interviewees | 84 |
| | Appendix 5: Non-response to open questions | 85 |

1 Introduction

This report presents the findings of a project commissioned by the European Agency for Safety and Health at Work (EU-OSHA) to evaluate 25 of its ‘Salus & Co.’ strips and captures, designed to communicate messages about occupational safety and health (OSH) without the need for text. The work was conducted on behalf of the Agency by the Institute for Employment Studies (IES).

1.1 Background

In 2010, EU-OSHA established that it wanted to build on the success of the NAPO character¹, to which it had contributed but did not own², by developing its own cartoon strips and images in order to communicate messages about OSH. Previous work by EU-OSHA on workplace health promotion and stakeholder consultation (eg Workplace Health Promotion Expert Group) identified a need for simple visual materials when communicating such messages, as these ensure the largest diffusion of messages at pan-European level without the burden of translations and adaptations.

In addition to communicating about general OSH topics, the images also covered a number of priority areas: workplace health promotion, mental health and health promotion amongst young workers. The images also celebrate days or events in the International/European calendar focused on OSH or health promotion issues, such as ‘World No Tobacco Day’. It was therefore envisaged that the scope of the strips and captures would go beyond traditional health and safety at work topics

¹ www.napofilm.net/en/napos-films provides further details on this initiative.

² The Napo films are the property of the production company Via Storia and the Napo Consortium, which funds and produces the films on behalf of a small group of European health and safety organisations.

and also include messages about workplace health promotion. It is intended that more topics will be covered in the future and that the images will be broadened out to include other areas related to workplace health.

The Agency worked with OSH experts, medical doctors and artists to develop the images. Once the topics had been determined, artists were given a set of guidelines for their work, namely that the images needed to have no text, be self-explanatory and be ethical (ie not offend or exclude anyone). For the cartoon strips there was an additional requirement: that the first image should present the problem and the final image a solution. All captures and strips were required to be simple, clear and correct. Working within these guidelines and with the required topics, artists were then free to make their own suggestions for the presentation and visual content of the images. Staff from within the OSH team at EU-OSHA then worked with artists to develop the final images from the artists' suggestions. Other EU-OSHA colleagues, in particular the communications team, have also been involved in discussions about the development of the images.

The purpose of the 'Salus & Co.' images is to encourage people to think about OSH issues and improvements in their health. The aim is to raise awareness of a range of different health promotion opportunities and OSH problems that exist, and then educate the audience by advising on how best to deal with these issues, including the steps that individuals can take to protect themselves. In addition to raising awareness and educating, the images also aim to stimulate debate and discussion about OSH amongst those who are already aware of the issues.

1.2 The strips and captures

Twenty strips and 50 captures have been commissioned in total. Of these, one-third demonstrate good practice, one-third highlight bad practice and the final third focus on specific OSH-awareness or health promotion events. It should be noted that the intention of the Agency is to situate any event promotion captures and bad practice captures within a specific context (likely some explanatory text or other publicity for the event, or by asking a question to start discussion, eg in Facebook) in order to aid reader understanding.

Three different characters have been developed which feature in the images, each with different strengths and weaknesses. When EU-OSHA launches the strips and captures, it will provide an explanation of the 'Salus & Co.' characters on the website, detailing who each one is and their relationships to each other. Where character relationships play an important part of the story and message, the intention is that this should be clear from the images. It is not always important, however, for people to understand the relationships between the characters in order to understand the messages within the image/s.

The main intended audience for the images is workers, who EU-OSHA plans to reach through both direct methods and intermediaries. The images should be particularly attractive to younger people, but the messages they contain should be equally applicable to all. It is intended that the captures will be used in textbooks, fact-sheets or websites and possibly Facebook, whilst the strips will be used in different media including websites, reports and posters (ie in places where there may not be a health and safety context). The Agency also plans to make the images freely available on its website for use by the general public, and will be providing information to such users about how, and where, the images can be used.

1.3 Evaluating the images

In commissioning the strips and captures, EU-OSHA was aware that wordless communication is a difficult exercise. At the end of 2010, the Agency undertook an internal evaluation of the first 25 images produced (10 cartoon strips and 15 captures), which led to a few revisions. In spring 2011, IES was commissioned to conduct an external evaluation to ensure that the ‘Salus & Co.’ messages underpinning the images were understood by different types of target audiences at EU level. The external evaluation looked at the images in isolation, in a size that allowed them to be clearly seen by the research participants. It did not test the appropriateness of different mediums for distributing the images.

The methodology for the evaluation included two main elements: an online survey of OSH-mail participants and face-to-face cognitive interviews with 15 university staff and students. Each of these is discussed in turn below.

1.3.1 Online survey

An online survey was developed to test each of the strips and captures.

Method

The survey was emailed to the EU-OSHA Panel – a group of *OSHmail*¹ subscribers.

¹ *OSHmail* is an electronic newsletter issued by EU-OSHA.

The EU-OHSA Panel¹ consists of 2,697 contacts, with email addresses and a separate file providing background information on Panel members. Please note that of these contacts, 2,475 had active email addresses.

Images were split into five groups, each containing a unique set of three captures and two strips. The Panel group was also randomly divided into five equally-sized groups, and each group was allocated a different set of five images to assess. A link to the appropriate survey was then sent to each Panel member. Five images was felt to be an appropriate number for each individual to review without the task becoming too burdensome.

The survey presented each image separately and asked each respondent to write what they believed to be the intended meaning of the strip or capture in their own words. On the next page of the survey the respondent was then given the intended meaning (in text provided by EU-OSHA) and asked to rate how easy or difficult the image had been to understand on a scale of 1 to 5 (with 1 being very difficult and 5 being very easy). The respondents were also asked to leave any general feedback on the images at the end of the survey once they had been presented with their five different images. Data was also collected on individual respondents regarding their age group, gender, and their professional role in relation to OSH (ie whether they were an employee/employer/OSH researcher etc.) and whether they have any formal responsibility for health and safety. Respondents were also asked to rate their awareness of OSH issues on a scale of 1 to 5 (with 1 being very low and 5 being very high).

Each version of the survey was available for the participant to complete in five different languages: English, French, German, Italian or Spanish. The survey was live and available for completion for one month, from the end of May 2011 to the end of June 2011. Over this period, a total of 1,161 responses were received, representing an excellent response rate of 46.9 per cent. However, 159 respondents only completed the questions about the demographics and did not complete any of the questions about the captures and strips. These cases were removed from the dataset, making the adjusted sample size 1,002 and response rate 40.5 per cent. Overall, the response rate compares favourably with other surveys conducted with the Panel survey, which typically achieve between 10 and 20 per cent. Each different set of images was therefore assessed by approximately 200 respondents (Table A1.1 in Appendix 1 provides a detailed overview of the images contained

¹ The EU-OSHA panel is made up of a subsample of *OSHmail* subscribers who have agreed to participate regularly in web surveys and other activities designed to improve and inform the work of EU-OSHA.

in each of the five surveys and the number of respondents completing each of these).

Open-text responses to the meanings of the strips or captures were content analysed and categorised into common themes. Please note that categories with less than five responses were coded into 'other'. Quantitative analysis of this grouped data was then conducted. This allowed the researchers to identify the different ways in which the images had been interpreted, rather than simply assessing them as 'right' or 'wrong'.

The responses given for each image were compared with the original intended message as provided by EU-OSHA. Please note that the images are expected to produce a range of responses, some of which may deviate away from the intended message and relate to other OSH practices. Whilst these may be valid in their own right, the aim of this evaluation was to see whether audiences understood the general theme of the images. We have been fairly flexible in our assessments, and have accepted as correctly understood those responses that seem to be on the right track (eg safe working at height, demonstrating use of personal protective equipment (PPE)), even if they have not matched the intended message precisely.

Profile of respondents

As outlined above, the population used for the online survey was the EU-OSHA Panel. Over three-quarters of respondents to the survey were male (77.4 per cent), and 96.1 per cent were over the age of 30. Just over half of the respondents (56.5 per cent) completed the survey in English. Spanish and Italian accounted for around one-sixth of respondents each (16.3 per cent and 14.7 per cent respectively), whilst there were fewer respondents who completed in German or French (see Table A2.1 in Appendix 2 for more details on the language respondents used to complete the survey). It should be noted that all EU-OSHA Panel members regularly complete surveys sent to them by EU-OSHA in English.

Respondents were asked about their employment profile and a drop-down list provided. Whilst more than one of each code could have applied at the same time (eg you could be both an employee and a researcher), respondents were asked which of the labels best described their status. Employees made up the largest group of respondents (constituting 40.5 per cent of the sample), followed by employers or managers (29.8 per cent). Please refer to Table 1.1 below.

Table 1.1 Respondent type

| | Frequency | % |
|---|-----------|-------|
| Employee | 406 | 40.5 |
| Employer or manager | 299 | 29.8 |
| Self-employed | 121 | 12.1 |
| Researcher | 97 | 9.7 |
| Trade union representative | 43 | 4.3 |
| Representative of an employer’s association | 36 | 3.6 |
| Total | 1,002 | 100.0 |

EU-OSHA Salus online survey

The majority of respondents (82.5 per cent) had responsibility for OSH in their role. Most rated their awareness of OSH issues as either ‘very high’ (42.1 per cent) or ‘high’ (43.7 per cent). A full breakdown of the sample profile can be found in the Appendix 2. Additional information on the sample from the panel dataset is contained in Appendix 3.

Limitations in the survey data

It is important to note that the main data available detailing how well survey participants understood the images was the text-based open responses they provided. Some participants may have been able to more fully understand the messages of the images they were presented with than they were able to articulate in writing. This is likely to be particularly true if the respondent was using a second rather than their first language to complete the survey. It is also likely that some respondents abbreviated their responses such that the analysis failed to fully appreciate the level of understanding achieved. To overcome this limitation, the ratings provided by individual respondents of their understanding of the images has been used to triangulate the analysis of the open responses.

Non-response

It should also be noted that, for most images, there was a high level of non-response (as much as 20 per cent in some cases) to the open questions about image meaning. It would appear that this reflects the difficulty respondents have encountered in interpreting the images and/or communicating their understanding in writing. There was a significant negative correlation between level of non-response and ease-of-comprehension scores provided, whereby those

images that received a high proportion of non-response tended to be seen as more difficult to understand¹. For most images, ease-of-comprehension scores were lower for those who decided not to try to describe the meaning, compared to those who did give a response. Due to low numbers it was difficult to assess the statistical significance of these differences², but some significant differences were found (please see Appendix 5 for more details).

1.3.2 Cognitive interviews

Face-to-face cognitive interviews were also conducted to further explore understanding of the images.

Method

Cognitive interviews were conducted with 15 students and staff from the University of Sussex. A population of students was specifically chosen because they are young and likely to have some experience of work but limited understanding of OSH. Young workers are one of the audiences for the 'Salus & Co.' images, but are not well represented in the EU-OSHA Panel (as described in section 1.3.1). Participants were recruited via an advert placed on the University Careers Service website. Interviews lasted around 45 minutes and the respondents were given an incentive of £50 to participate. The characteristics of the interviewees are in Appendix 4.

Cognitive interviewing is a form of in-depth interviewing which pays explicit attention to the mental processes respondents use when responding to text questions (eg survey questions) or images. It includes both an examination of their emotional response, cognitive understanding and the time elapsed between presentation and response. In this research, the cognitive interviews collected the participants' interpretations of the images, and recorded how participants thought through the images, how they reached their conclusions and how they thought the images could be improved.

¹ Pearson's $R = -0.53$, $p = 0.003$.

² Please note that many of those who omitted the text questions about the images also omitted the relevant ease-of-comprehension question.

As with the online survey, the images were split into the same five groups. This meant that each image was considered by at least three different respondents, whilst some images were examined by four.

Profile of participants

The sample of interviewees consisted of 13 students and two members of staff from the University of Sussex. All but two of the 15 interviewees were under the age of 30; six were aged between 18–20, four between 21–25 and three between 26–30. The sample included seven males and eight females. All of the respondents had some previous experience of the workplace. Seven students were not working at the time of the interview whilst six were working part time alongside their studies.

Eleven of the interviewees had received health and safety training in previous/current jobs as part of inductions or as part of their studies (particularly those studying science subjects). Only one interviewee, a member of staff at the University, had any responsibility for health and safety in their current role, whilst another had held some formal responsibilities for health and safety in the past. Ten of the 15 interviewees rated their awareness of OSH as 'medium' with the remaining third rating it as 'high'.

2 Summary Findings

This chapter of the report presents a summary of the quantitative findings from the survey from the ratings provided by respondents on how easy they found the 'Salus & Co.' images to understand.

2.1 Summary statistics

After providing an open-text response for each image outlining what they understood each image to mean, respondents received the intended meaning in text (as provided to the research team by EU-OSHA). They were then asked to rate how easy or difficult the image had been to understand on a scale of 1 to 5 (with 1 being very difficult and 5 being very easy). Mean scores for each strip and capture are presented in Table 2.1. The overall comprehension score for all images was 3.0 (ie neither easy nor difficult). Most of the mean ratings were clustered into two groups, around 2.3-2.8 (ie towards 'quite difficult') and around 3.2-3.4 (ie towards 'quite easy').

Captures tended to be easier to understand than the strips; 10 of the captures had a mean score of over 3.0, whilst only three of the strips scored over 3.0. The mean score for all captures was 3.1, whilst the mean score for all strips was 2.8.

Table 2.1 How easy the picture was to understand

| | Survey 1 | | | | | Survey 2 | | | | | Survey 3 | | | | | Survey 4 | | | | | Survey 5 | | | | |
|----------------------------|------------|----------|------------|-----------|------------|-----------|-----------|------------|-----------|------------|-----------|-----------|----------|------------|------------|------------|-----------|------------|-----------|------------|-----------|-----------|----------|----------|-----------|
| Picture # | 241 (c) | 6 (s) | 210 (c) | 7 (s)* | 219 (c) | 13 (c) | 21 (s) | 216 (c) | 13 (s) | 203 (c) | 17 (c) | 11 (s) | 8 (c) | 118 (s) | 222 (c) | 230 (c) | 12 (s) | 229 (c) | 17 (s) | 221 (c) | 26 (c) | 14 (s) | 1 (c) | 9 (s) | 23 (c) |
| Mean score | 3.3 | 3.3 | 3.4 | 2.4 | 2.5 | 3.8 | 2.4 | 2.5 | 3.3 | 3.4 | 3.9 | 2.6 | 3.1 | 2.7 | 3.3 | 2.5 | 2.8 | 4.3 | 3.4 | 2.5 | 3.5 | 2.9 | 3.1 | 2.7 | 1.7 |
| % | | | | | | | | | | | | | | | | | | | | | | | | | |
| Very easy | 17.1 | 14.5 | 18.8 | 5.4 | 4.7 | 26.9 | 5.7 | 5.3 | 15.3 | 12.8 | 43.8 | 8.7 | 11.0 | 6.8 | 10.5 | 8.8 | 7.7 | 53.6 | 21.7 | 7.4 | 25.6 | 7.5 | 12.2 | 6.0 | 2.2 |
| Quite easy | 26.2 | 33.9 | 33.7 | 12.9 | 13.6 | 36.1 | 17.5 | 17.4 | 35.3 | 33.7 | 26.1 | 15.8 | 32.5 | 20.8 | 35.6 | 17.1 | 28.6 | 27.3 | 35.6 | 13.1 | 30.8 | 22.6 | 30.0 | 24.2 | 2.8 |
| Neither easy nor difficult | 29.9 | 28.5 | 25.4 | 16.1 | 29.0 | 25.5 | 18.0 | 17.9 | 23.2 | 31.0 | 14.3 | 20.9 | 22.5 | 25.0 | 30.9 | 16.6 | 16.5 | 12.0 | 14.4 | 25.0 | 19.0 | 28.0 | 22.2 | 23.1 | 12.9 |
| Quite difficult | 20.9 | 17.7 | 16.6 | 44.1 | 31.4 | 10.1 | 29.9 | 41.6 | 15.8 | 20.3 | 9.4 | 31.6 | 25.7 | 29.2 | 16.8 | 33.2 | 30.8 | 5.5 | 17.8 | 28.4 | 16.4 | 32.3 | 25.0 | 29.1 | 29.2 |
| Very difficult | 5.9 | 5.4 | 5.5 | 21.5 | 21.3 | 1.4 | 28.9 | 17.9 | 10.5 | 2.1 | 6.4 | 23.0 | 8.4 | 18.2 | 6.3 | 24.4 | 16.5 | 1.6 | 10.6 | 26.1 | 8.2 | 9.7 | 10.6 | 17.6 | 52.8 |
| Missing (N) | 4 | 5 | 10 | 98 | 22 | 4 | 18 | 22 | 22 | 25 | 2 | 9 | 14 | 13 | 14 | 2 | 13 | 12 | 15 | 19 | 4 | 13 | 19 | 17 | 21 |
| Total (N) | 191 | 191 | 191 | 191 | 191 | 212 | 212 | 212 | 212 | 212 | 205 | 205 | 205 | 205 | 205 | 195 | 195 | 195 | 195 | 195 | 199 | 199 | 199 | 199 | 199 |

Scale: 1 = very difficult, 2 = quite difficult, 3 = neither easy nor difficult, 4 = quite easy, 5 = very easy.

Column percentages add up to 100.

*Please note that there was a high number of missing cases for this variable, for reasons that remain unclear.

Source: IES Salus survey results on behalf of EU-OSHA

Table 2.2 below shows a condensed list of those strips and captures with mean ease-of-comprehension scores over or under 0.5 from the mid-point of 3.0, 'neither easy nor difficult', ie those tending towards fairly easy or fairly difficult.

Table 2.2 Strips and captures tending towards easy or difficult

| Picture no. | Capture or strip | Mean score |
|-------------|------------------|------------|
| 229 | (c) | 4.3 |
| 17 | (c) | 3.9 |
| 13 | (c) | 3.8 |
| 219 | (c) | 2.5 |
| 221 | (c) | 2.5 |
| 21 | (s) | 2.4 |
| 7 | (s) | 2.4 |
| 23 | (c) | 1.7 |

Scale: 1 = very difficult, 2 = quite difficult, 3 = neither easy nor difficult, 4 = quite easy, 5 = very easy.

Source: IES Salus survey on behalf of EU-OSHA

The three most easily understood images were all captures, specifically:

- Capture 229: Work–life balance (mean score 4.3)
- Capture 17: Use a seat belt whilst driving (mean score 3.9)
- Capture 13: Switch off electricity before changing a light bulb and use appropriate equipment (mean score 3.8).

There were five images that tended towards difficult ratings. These were:

- Capture 23: Conducting risk assessments is not simple, workers' contributions are needed – by far the most difficult to understand (mean score 1.7)
- Strip 7: Management support leads to stress reduction and improved performance. It is better to support than criticise and rebuke (mean score 2.4)
- Strip 21: Support from colleagues and management leads to better work environment and therefore better mental health and well-being (mean score 2.4)
- Capture 221: It is important to conduct risk assessments and look for hazards in the workplace (mean score 2.5)
- Capture 219: It is important to teach occupational health and safety issues to children whilst they are still at school (mean score 2.5).

EU-OSHA had highlighted to the research team in advance that, in their view, four of the images would be more difficult to interpret than others and would need to be placed in context if ever used. Of these, two were in fact rated amongst the most difficult to understand (**Capture 219** and **Capture 221** as described above). Another achieved a comprehension score below 3.0 (ie below the mid-point on the scale): **Capture 216** – The woman demonstrates a good example to her employees by arriving on a construction site fully equipped with all the necessary protective equipment, eg helmet, hearing protection, safety vest. However, **Capture 222** – Risk assessments should be carried out before starting construction work – was in fact given a comprehension score of 3.3 suggesting it was relatively easy to understand despite the Agency's concerns.

3 Interpretations of the ‘Salus & Co.’ captures

This chapter describes the results of the survey and cognitive interviews for the captures, looking at each image in turn. Each subsection presents the image, alongside a summary table with the range of interpretations received. A similar discussion of the strips takes place in Chapter 4.

3.1 Capture 241

Figure 3.1: Smoking cessation day



Source: EU-OSHA

Table 3.1 Smoking cessation day

| Interpretations of meaning | % |
|-----------------------------------|------------|
| No smoking day | 26.2 |
| No smoking from this date onwards | 20.4 |
| Give up smoking on this day | 13.1 |
| Quit smoking | 9.4 |
| Do not smoke at work | 3.1 |
| Other | 10.5 |
| Don't know | 7.9 |
| No answer | 7.9 |
| Unclear response given | 1.6 |
| <i>Total (N)</i> | <i>191</i> |

EU-OSHA Salus survey results

Just under one-tenth of survey respondents left no answer to this capture (7.9 per cent), whilst another 7.9 per cent explicitly stated that they did not know the meaning.

For those who did leave a response, the main interpretation of the capture was that it was about smoking cessation, and the majority of respondents made reference to this in some way. As such, the overall meaning of the message was understood.

There were variations in the fine distinctions of the meanings. Just over one-quarter (26.2 per cent) recognised that the capture was about promoting a single ‘no smoking day’, eg ‘31 May is non-smoking day and you must destroy your packet of cigarettes’, and some picked up on the fact that the date indicated in the picture is World No Tobacco Day, eg ‘31 May, International Anti-tobacco Day’. As indicated in the briefing information IES received from EU-OSHA, this image may need to be placed in context for people to correctly connect it with a specific health promotion event.

Some survey respondents interpreted the capture further than was originally intended, and saw it as promoting smoking bans or suggesting that smoking would be prohibited from this day forward, for example:

‘As of today smoking is prohibited.’

‘Today we don’t smoke any more! A ban has started today against smoking!’

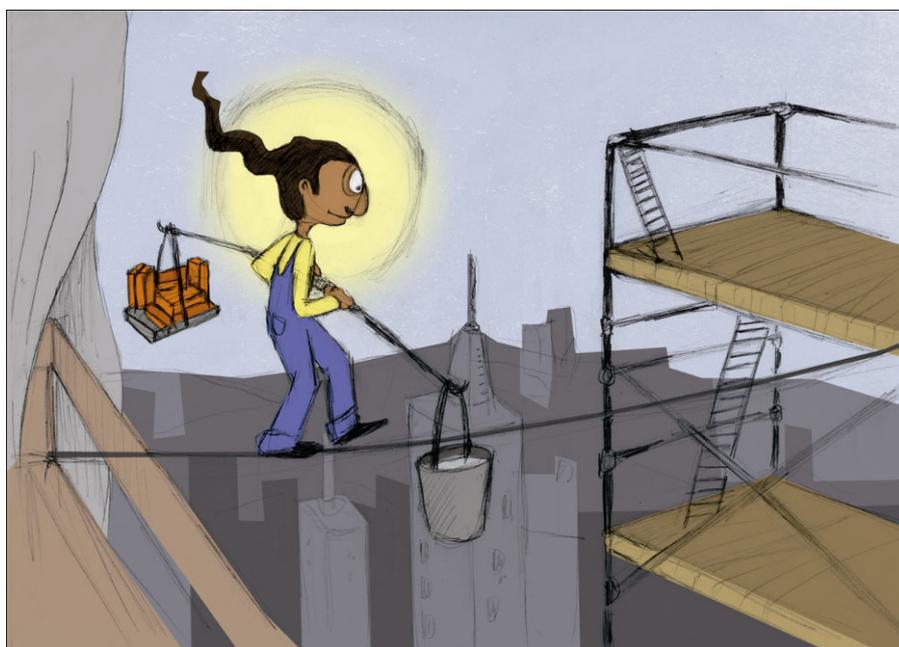
Others thought the capture was encouraging people to set a date to quit smoking, eg ‘Make a date to quit smoking’, ‘Set a date for quitting smoking’.

The participants in the cognitive interviews who were shown this capture similarly identified that it was about smoking cessation and the feedback received was that it was *'pretty clear'*. Like the survey respondents, they were unsure whether the message was specifically about stopping smoking for one day or from that day onwards. Some of the interviewees felt that the image was aimed at people in organisations where smoking is permitted.

Therefore, although there were variations in the nuance of the interpretations, the overall message about not smoking was fairly easy to understand. The mean ease-of-comprehension score for this capture was 3.3, ie on the whole it was considered to be between *'neither easy nor difficult'* to understand and *'quite easy'*.

3.2 Capture 210

Figure 3.2 Unsafe working at height, with a high risk of a fall



Source: EU-OSHA

Table 3.2 Unsafe working at height, with a high risk of a fall

| Interpretations of meaning | % |
|--|------------|
| Use safety equipment (including at height) | 14.1 |
| Do not take risks (particularly at height) | 12.0 |
| Do not behave like you're in a circus | 9.9 |
| Danger of heights | 7.9 |
| Use a safe means of access | 7.3 |
| Assess risks and take safety precautions | 4.7 |
| Walking a tightrope | 3.7 |
| Other | 20.9 |
| Don't know | 4.2 |
| No answer | 10.5 |
| Unclear response given | 4.7 |
| <i>Total (N)</i> | <i>191</i> |

EU-OSHA Salus survey results

Just over one-tenth of the survey respondents (10.5 per cent) did not leave a response to this capture, and a further 4.2 per cent explicitly stated in the text box that they did not know the answer.

As Table 3.2 above shows, the message from this capture was interpreted in a number of different ways, although in most cases the interpretations mentioned working safely at height. Some examples of the messages included:

'Wear a harness when working at height, be aware of carrying loads.'

'Use proper tools or fall protection when working at heights.'

Some respondents specified that the message was to not take risks when working at height, eg *'don't take risks while working at height'*.

The inclusion of a worker walking a tightrope appeared to confuse some participants as a number made reference to the circus in their interpretations, eg:

'The workplace is not the circus ring.'

'Work is not a circus, tightrope walkers belong in the circus.'

It is unclear whether these individuals correctly understood that the issue was about working at height specifically.

There were also a number of 'other' responses which included interpretations focused on general health and safety advice such as *'At work, safety standards must*

be complied with', or broader interpretations which took the image of balancing on a tightrope as a metaphor, such as:

'That it's possible to find a balance no matter what the burden, or that you should use a lifeline.'

The face-to-face interviewees were mostly correct in their interpretations of the image and again, the capture was taken to be 'pretty clear'. The interviewees understood that the image depicted incorrect behaviour and identified several things that the person was doing incorrectly: working unsafely at height, balancing heavy weights and not wearing safety gear.

One criticism the interviewees made of the image was that it is unrealistic; the behaviour is so extreme that it is never likely to occur. There were also comments that the image does not show the worker falling or looking anxious, which could be a better way of highlighting the dangers involved.

Although respondents could identify that the image demonstrated bad practice, the extreme nature of the capture meant that most respondents took a general message about safe behaviour from the image rather than a specific message about work at height. The mean ease-of-comprehension score given for the capture was 3.4, so on the whole it was considered to be somewhere between 'neither easy nor difficult' to understand and 'quite easy' on this scale.

3.3 Capture 219

Figure 3.3 It is important to teach occupational health and safety issues to children whilst they are still at school



Source: EU-OSHA

Table 3.3 It is important to teach occupational health and safety issues to children whilst they are still at school

| Interpretations of meaning | % |
|--|------------|
| Slips, trips and falls | 12.6 |
| Label dangerous goods | 11.5 |
| Teach children about hazardous substances | 11.0 |
| Start health and safety education early on | 6.8 |
| Teach about the dangers, do not rely on labels | 6.3 |
| Keep children away from chemicals/hazardous substances | 5.2 |
| Danger of chemical substances | 5.2 |
| Other | 15.2 |
| Don't know | 7.3 |
| No answer | 17.8 |
| Unclear response given | 1.0 |
| <i>Total (N)</i> | <i>191</i> |

EU-OSHA Salus survey results

A relatively high proportion of the survey respondents (17.8 per cent) did not leave a response to this question, and 7.3 per cent explicitly stated that they did not know the meaning.

As with the previous capture, this image was interpreted in a number of different ways. The intended meaning of teaching children about OSH was understood by only 17.8 per cent of respondents (see categories 3 and 4 above). Some respondents interpreted the message as about teaching children about OSH in general, whilst others were more specific that it was about teaching children about chemical hazards, eg *‘Educate the children about chemical liquids’* and *‘Teach awareness of chemical hazards’*. Another group expressed that the message was about teaching others, without specifying that it was about teaching children specifically (category 5 above).

More frequently, the survey respondents interpreted the image in a different way to originally intended, and took the meaning to be a message about slips, trips and falls. Some of the responses gave some insight as to why this was, referring to the label on the jar being held plus the thought-bubble of one of the children showing someone slipping. Another common misunderstanding was that the capture was about labelling dangerous goods or chemicals, eg *‘A clear label and symbol for every hazardous product’* and *‘Jars should be labelled and their instructions read every time before they are used’*.

Participants in the cognitive interviews also understood the capture to be concerned with teaching about hazardous chemicals and slips and trips:

'The lady is holding something slimy which if she threw it on the floor would make people slip. The girl is imagining this.'

The inclusion of a child imagining someone slipping also made a number of interviewees think that a prank was being planned.

Overall the results suggest that this image was poorly understood by the respondents. The image received a mean ease-of-comprehension score of 2.5, which falls between 'neither easy nor difficult' and 'quite difficult'.

3.4 Capture 13

Figure 3.4 Electricity should be safely switched off before changing a light bulb. A safe ladder should be used instead of a stool



Source: EU-OSHA

Table 3.4 Electricity should be safely switched off before changing a light bulb. A safe ladder should be used instead of a stool

| Interpretations of meaning | % |
|---|------------|
| Electricity should be switched off/isolated before undertaking work | 23.1 |
| General hazards of electricity | 23.1 |
| Inform others when working on electrical equipment | 9.4 |
| Electricity should be switched off, plus a mention of safe equipment ie step ladder | 8.0 |
| Lockout-tagout | 6.6 |
| Only authorised/professional people should undertake electrical work | 5.2 |
| Conduct risk assessments to prevent accidents | 4.2 |
| Take precautions to avoid electric shocks | 4.2 |
| Other | 9.0 |
| Don't know | 0.5 |
| No answer | 4.7 |
| Unclear response given | 1.9 |
| <i>Total (N)</i> | <i>212</i> |

EU-OSHA Salus survey results

A relatively low proportion of survey respondents, just 4.7 per cent, did not leave a response to this question, and only 0.5 per cent explicitly specified that they did not know the meaning.

As the categories in Table 3.4 above show, most respondents understood part of the intended meaning of the capture, ie that it was about working safely around electricity. Examples included: *'Isolate equipment before undertaking any work on it'*, *'Isolate power before conducting electrical work'*, *'Electrical hazard'* and *'Electricity can kill - don't take the risk'*. Some of the respondents mentioned Lockout-tagout (LOTO) or lock and tag measures specifically, *'There are electrical hazards; a lockout-tagout procedure should be put in place'*, *'Use the LOTO procedure, follow safety rules'*¹

However, only a minority of respondents (8.0 per cent) also understood the other key part of the message to do with working safely at height. The responses of these individuals included:

¹ Lockout-tagout is a safety procedure whereby power sources to machinery are isolated and rendered inoperative before any repair is started.

'Isolate the power supply (so someone can't come in and turn on at the switch) before changing a light bulb and ... standing on stool to do this is also not a good idea.'

'Work with electrical equipment should only be done if you take measures preventing other people from accidentally turning the power on. In order to reach high places, you should use suitable means (such as ladders) and not stools or chairs. Don't improvise.'

The cognitive interviewees found this image straightforward and were quickly able to deduce the main part of the message, ie that electricity should be turned off before changing a bulb. Given more time, some of them were also able to decipher the other elements of the message, eg:

'Make sure someone knows if you are changing a light bulb.'

'The worker is also using a chair to change the light bulb and so this could be a secondary message that you should use the appropriate equipment.'

The interviewees found the image effective, and for some it made them think about their own actions *'it would not have occurred to me to tell anyone to not turn on the light'*.

Overall then, the results suggest that this image was well understood by the participants. The mean ease-of-comprehension score for this image was relatively high at 3.8, ie closer to 'quite easy' to understand than 'neither easy nor difficult'.

3.5 Capture 216

Figure 3.5 Demonstrating a good example to employees by arriving on a construction site fully equipped with all the necessary protective equipment



Table 3.5 Demonstrating a good example to employees by arriving on a construction site fully equipped with all the necessary protective equipment

| Type of answer | % |
|-------------------------------------|------------|
| Wear (correct) PPE | 18.9 |
| Put PPE before fashion | 14.6 |
| Managers should wear PPE | 10.8 |
| Demonstrates not wearing proper PPE | 10.4 |
| Don't be distracted | 4.7 |
| Wearing PPE attracts approval | 3.8 |
| Other | 11.8 |
| Don't know | 6.6 |
| No answer | 15.1 |
| Unclear response given | 3.3 |
| <i>Total (N)</i> | <i>212</i> |

EU-OSHA Salus survey results

Of all the survey respondents, 15.1 per cent did not leave a response to this question, and 6.6 per cent specified explicitly that they did not know the meaning.

Table 3.5 above shows that most respondents understood that this capture was about wearing personal protective equipment (PPE). On the whole, the image was seen to show an example of wearing correct PPE, eg *'Wear correct/appropriate PPE for the job – ensure you wear your PPE'* and *'Use the appropriate protective clothing for the job'*. There were slight variations in the nuance of the interpretations, with some respondents stating that the intended meaning was to put PPE before fashion, eg *'PPE is not a fashion statement but a protection statement'*, *'PPE before fashion'*. Only 10.8 per cent of survey respondents understood the other key part of the message, ie that it is also about managers setting a good example to staff. Examples of responses from this group included:

'If you are the employer and you give personal protective equipment to your employees, then you must give the good example and use them (in order for them to follow your example and use theirs too).'

'Everybody should wear the suitable PPE, also management.'

However, a sizeable minority (10.4 per cent) misinterpreted the image as showing an example of bad practice, because they felt that the woman was not actually wearing the PPE that she had but just carrying it, eg:

'Having the proper protection tools (jacket, ear protection) handily available but not using them.'

A minority of the 'other' responses included responses such as 'PPE' and 'Protection', but did not specify in detail what the message around PPE was.

There were also some misinterpretations of the capture relating to the fact that two men were watching a woman walk through a work site. Of the respondents, 4.7 per cent thought that the message was that men shouldn't be distracted by women on site. Some also thought that the image showed the woman being preoccupied with fashion rather than safety. This issue was also raised in the cognitive interviews:

'The woman is dressed like a manager and speaking from a female perspective then this is good to see. However, my first thought was connected to the fact that they may be sexually harassing her, due to the creepy looks they are giving.'

The face-to-face interviewees spoke about the image not being very clear in the first instance due to the expressions on the characters faces and the different types of clothing being worn by all three characters. After a short amount of time interviewees worked around to the fact that the image related to wearing correct PPE, although there were slight differences in the nuances as above, eg *'If you are given safety equipment, wear it'* and *'Put your high-vis etc. on straightaway'*.

Overall therefore, whilst the main message about PPE was understood in this image, there was confusion about whether it demonstrated good or bad practice and very few understood that it was about managers setting a good example. The mean ease-of-comprehension score given for this image was 2.5, ie between 'neither easy nor difficult' to understand and 'quite difficult', making it one of the more difficult images for participants to decipher.

3.6 Capture 203

Figure 3.6 A risk of slips, trips and falls. To avoid the risk, floors should be cleaned, spillages wiped up, obstacles removed and staff should look where they're going



Source: EU-OSHA

Table 3.6 A risk of slips, trips and falls. To avoid the risk, floors should be cleaned, spillages wiped up, obstacles removed and staff should look where they're going

| Interpretations of meaning | % |
|--|------------|
| Pay attention, watch your step | 24.1 |
| Slips, trips and falls/danger of wet floor | 14.6 |
| Put warning signs up correctly | 11.3 |
| Look where you're going; be aware of hazards | 10.8 |
| Clean up spills | 7.5 |
| Look where you're going; don't carry excessive loads | 4.7 |
| Other | 6.6 |
| Don't know | 1.4 |
| No answer | 15.6 |
| Unclear response given | 3.3 |
| <i>Total (N)</i> | <i>212</i> |

EU-OSHA Salus survey results

Of all the survey respondents, 15.6 per cent did not leave a response to this question, and 1.4 per cent specified that they did not know the meaning.

As Table 3.6 shows, most survey respondents were successful in understanding that this capture was about slips and trips, highlighting the slip hazard of the wet floor and/or the trip hazard of the sign left in the wrong place. Typical responses included *'Trip and slip danger'*, *'Wet floor hazard'* or *'The sign is not being used in the right place and it's a trip hazard.'*

As the EU-OSHA description of the meaning of the image shows, the message contains a number of different elements related to slips and trips and most respondents were successful in understanding at least one of these. Only a minority of respondents, 6.6 per cent, gave incorrect 'other' interpretations of the meaning.

The face-to-face interviewees recognised that there were a 'mix of things' happening in the image and were able to identify these different elements:

'Not looking where he is going, slippery when wet sign being a trip hazard, overloaded tray, spillage on the floor.'

The general feedback from the interviewees was that this capture was *'effective'*, *'simple'* and *'engaging'*. Overall, the results show that this image was fairly well understood by the participants. The mean ease-of-comprehension score for this image was 3.4, ie between *'neither easy nor difficult'* to understand and *'quite easy'*.

3.7 Capture 17

Figure 3.7 Use a seat belt while driving



Source: EU-OSHA

Table 3.7 Use a seat belt while driving

| Type of answer | % |
|--|------|
| Wear a seat belt | 26.3 |
| Driver and passengers to wear a seat belt, especially children | 23.9 |
| Secure other object in cars | 6.3 |
| Use a seatbelt/restraint appropriate for the user | 6.3 |
| Wear a seat belt and secure other object in cars | 3.9 |
| Help others to use their seat belts | 2.4 |
| Other | 19.0 |
| Don't know | 1.0 |
| No answer | 7.8 |
| Unclear response given | 2.9 |
| <i>Total (N)</i> | 205 |

EU-OSHA Salus survey results

Under one-tenth of survey respondents (7.8 per cent) did not leave a response to this question, and 1.0 per cent specified explicitly that they did not know the meaning.

As shown in Table 3.7 above, the intended meaning of this image *'use a seat belt while driving'* was deciphered by the majority of survey respondents. Most answers given referred to wearing a seat belt, although some respondents thought that there were additional messages around ensuring other passengers wear seat belts or securing other objects in the car. Many respondents took the image of a toy rabbit as a metaphor for a small child. Some typical responses are given below:

'Always wear seat belt when driving, also kids!'

'Always buckle up when driving. Don't forget the passengers.'

'All persons in vehicles should use restraints.'

In the 'other' category, there were a minority of responses that indicated the image demonstrating bad practice around putting children or animals in the front seat, or not paying attention whilst driving. Examples include:

'Don't put children in the car front seat.'

'Small children should have car seat, not the normal seat belts, because they do not help at all, on the contrary. Animals should not drive on front seat, but back.'

'Someone is not paying attention to traffic while driving.'

The face-to-face interviewees were quick to understand that the capture was about promoting the use of seat belts. Like the survey respondents, some took the image of the toy rabbit to portray protecting others in addition to oneself.

'If you are driving, have a seat belt on, as he has it on. If someone else can't put it on, do it for them.'

Overall the results show that the intended meaning of the image was well understood, although some took the image of the rabbit to signify children or animals as passengers. The mean ease-of-comprehension score for this image was 3.9, so on the whole survey respondents thought it was 'quite easy' to understand. This was the second highest mean score for any of the captures or strips.

3.8 Capture 8

Figure 3.8 Too much time pressure is stressful



Source: EU-OSHA

Table 3.8 Too much time pressure is stressful

| Interpretations of meaning | % |
|---|------------|
| Time pressure is stressful | 13.7 |
| Avoid chasing time/chasing time is stressful | 13.2 |
| Time management to help avoid stress | 12.7 |
| Take your time/no rush | 11.7 |
| Avoid being stressed/stress is bad for health | 10.7 |
| Time runs out/time flies | 7.8 |
| Accidents occur if you hurry | 2.4 |
| Other | 11.7 |
| Don't know | 2.9 |
| No answer | 12.7 |
| Unclear response given | 0.5 |
| <i>Total (N)</i> | <i>205</i> |

EU-OSHA Salus survey results

Of all survey respondents 12.7 per cent did not leave a response to this question, and 2.9 per cent explicitly stated that they did not know the meaning.

As Table 3.8 above shows, the majority of responses left by the survey respondents indicated that the woman in the picture was 'stressed' and many also made reference to time being the cause of this emotional state. As such, the overall sentiment of this capture was generally understood by under half of the respondents. The interpretations above show that there were slight differences in how respondents related the two factors of stress and time. The most common response was simply that the image demonstrates that time pressure is stressful (13.7 per cent) followed by explanations that the woman is stressed and that this is caused by her chasing time (13.2 per cent). Some typical responses that fell into these categories are highlighted below:

'Chasing time causes stress.'

'Running behind time is stressful.'

'Time pressure can make you panic.'

'Pushed for time and getting stressed out.'

A similar, but slightly different interpretation, was that better time management is important in reducing stress.

'Stress, importance of time management.'

'Time management always needed otherwise become stressed.'

Other responses showed slight misinterpretations of the capture, such as 'time flies' and accidents occur if you hurry (given by 7.8 per cent and 2.4 per cent respectively). Some gave quite philosophical answers such as:

'Once time has passed it can't be caught.'

'Time waits for no-one.'

'Don't leave 'til tomorrow what you can do today.'

In the face-to-face interviews, all respondents picked up on the fact that the woman was experiencing stress and that time was the causal factor. Two interviewees stated that the picture made them feel uncomfortable when they looked at it, as they could relate to the situation of being stressed due to time pressure.

Two criticisms of the capture made by the interviewees were that the *'picture doesn't say what to do – there is no solution, just a problem'* and some had concerns that the use of a woman would mean some men would not relate to it. Some thought that two images, one depicting poor time management and another depicting good time management, would provide a better way of illustrating the issue. Another interviewee felt that the personification of the clock was not necessary. A running clock suggests that *'time is running away from her rather than time pressure'*.

The results show that on the whole this image was understood by the participants. The mean score for this image was 3.1 which places it just above the 'neither easy nor difficult' score.

3.9 Capture 222

Figure 3.9 The man is drilling through the ceiling to a pool which will cause a leakage. Risk assessments should be carried out before starting construction work



Source: EU-OSHA

Table 3.9 The man is drilling through the ceiling to a pool which will cause a leakage. Risk assessments should be carried out before starting construction work

| Interpretations of meaning | % |
|---|------------|
| Think/check/plan before beginning work to avoid dangers | 41.5 |
| Conduct risk assessments before beginning work | 17.6 |
| Have permits/instructions before beginning work | 5.4 |
| Don't use electrical appliances around water | 4.9 |
| Other | 8.8 |
| Don't know | 4.4 |
| No answer | 15.6 |
| Unclear response given | 2.0 |
| Total (N) | 205 |

EU-OSHA Salus survey results

Of all the survey respondents, 15.6 per cent did not leave a response to this question, and 4.4 per cent explicitly stated that they did not know the meaning.

Over half of the respondents (59.1 per cent, categories 1 and 2 above) stated that the meaning of the capture was that people should plan or check their work environment before they begin any work, although only 17.6 per cent specifically mentioned conducting 'risk assessments'.

'Check out your surroundings before proceeding.'

'Before starting work you need to look at all possible risks.'

'Assess potential risks before carrying out work.'

'Before doing a job, ensure you are not causing damage to other people or buildings.'

A minority of respondents mentioned that this applied specifically to the construction industry, with most giving responses that were not industry specific.

Of all respondents, 4.9 per cent incorrectly (although validly) interpreted the image as condemning the use of electrical appliances around water, eg:

'Don't use electricity in unsafe places.'

'Use of equipment and safety of equipment – electricity and water do not mix!'

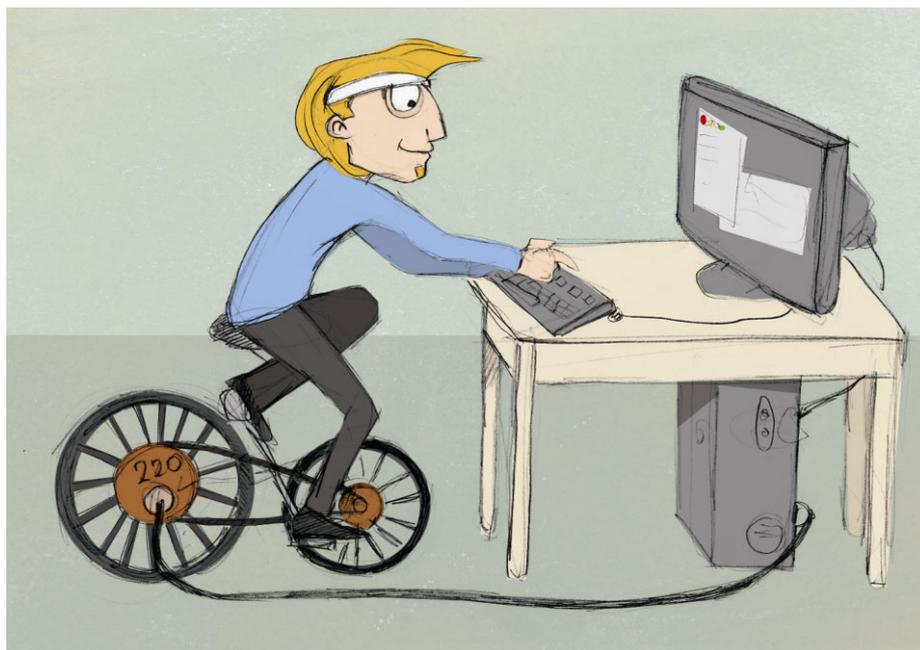
Other incorrect interpretations made by a minority, and categorised into the 'other' category, included that DIY shouldn't happen in aquariums. This was also the case in one of the face-to-face interviews, where the interviewee told how the presence of the fish in the picture led him to conclude this.

The cognitive interviewees gave mixed responses to the meaning of the capture, with some finding it easy and others more difficult to decipher. Two of the interviewees felt that the pool was drawn at a strange angle and it looked as though the worker was tunnelling underneath it, or that the pool was on the roof of a building. This had then confused them when they tried to understand the meaning. The other interviewees understood the meaning of the capture but felt that it was unrealistic and more should be done to ensure that it applied to real world situations. Some of the interviewees thought that different scenarios could be drawn to ensure that people do not assume that the message is around electrical or flooding risks or only relevant to the construction industry. Another interviewee felt that the picture should be re-drawn so it did not look like the worker could see through a transparent ceiling, as this begs the question as to why he would begin the drilling.

Overall, the results show that this image was fairly well understood by participants. The mean ease-of-comprehension score for this capture was 3.3, ie between 'neither easy nor difficult' to understand and 'quite easy.'

3.10 Capture 230

Figure 3.10 Physical activity is important to prevent health problems caused by sedentary work and physical inactivity



Source: EU-OSHA

Table 3.10 Physical activity is important to prevent health problems caused by sedentary work and physical inactivity

| Interpretations of meaning | % |
|---|------------|
| Green/renewable energy | 33.8 |
| Ergonomic issues/poor workplace equipment | 23.6 |
| Remain active during sedentary work/physical inactivity | 16.9 |
| Other | 7.2 |
| Don't know | 8.2 |
| No answer | 9.7 |
| Unclear response given | 0.5 |
| <i>Total (N)</i> | <i>195</i> |

EU-OSHA Salus survey results

Around one-tenth of survey respondents (9.7 per cent) did not leave a response to this question, and 8.2 per cent stated that they did not know the meaning.

As Table 3.10 above shows, the interpretations of this capture by survey respondents were diverse. The most common response was that the image was about green energy (given by one-third of respondents, 33.8 per cent), because the worker was seen as using the bike to convert the energy from his exercise to power the computer. Examples included:

'Computer powered by exercise.'

'Green electricity.'

'Use energy efficient equipment at the workplace.'

The second most common interpretation was that the image depicted poor ergonomics because the employee was hunched over his desk and sitting on an inappropriate chair positioned some distance away from the desk (this type of response was given by 23.6 per cent of respondents):

'Mind your health when working at the computer; use a chair of adjustable height at the right distance from the computer. Make sure the chair has good back support.'

'It's important to make sure you are sitting correctly before working at a computer. It is also essential to adequately position and isolate all electric cables connected to electric equipment.'

Some respondents combined these two interpretations, as follows:

'It's promoting both good and bad. Use of cycle power to run PC (sustainable) but poor ergonomics as seating is wrong and uncomfortable.'

'I think its referring to the ergonomics of workstations or perhaps saving energy.'

Only 16.9 per cent of the respondents correctly interpreted that this capture was promoting physical exercise.

The face-to-face interviewees similarly misinterpreted the image as being about sustainable energy rather than physical activity during sedentary work. When the correct meaning was provided, some felt that the picture would need to be completely changed for it to be effective, with the worker carrying out a different activity in a different setting, such as cycling to get to work, or cycling at lunchtime. Some felt it may be easier to communicate this message with a strip (ie a series of images) rather than a capture. One interviewee suggested removing the wire linking the computer to the bike and the voltage sign on the bike in order to reduce the chance of people linking the image to green energy.

Overall, the results show that the intended meaning of this image was difficult for participants to decipher. The mean ease-of-comprehension score for this capture

was 2.5, between 'neither easy nor difficult' to understand and 'quite difficult' on the comprehension scale.

3.11 Capture 229

Figure 3.11 There should be a balance between work and family life



Source: EU-OSHA

Table 3.11 There should be a balance between work and family life

| Interpretations of meaning | Frequency |
|--|------------|
| Importance of work/life balance | 74.4 |
| Difficult for women to balance work and family | 5.1 |
| Other | 5.6 |
| Don't know | - |
| No answer | 13.3 |
| Unclear response given | 1.5 |
| <i>Total (N)</i> | <i>195</i> |

EU-OSHA Salus survey results

Of all the survey respondents, 13.3 per cent did not leave a response to this question, although none of the respondents explicitly stated that they did not understand it.

Three-quarters of respondents (74.4 per cent) correctly identified the intended meaning of the capture and felt that it clearly portrayed the importance of

maintaining a balance between work and family life. Examples of responses included:

'Work-life balance is important.'

'It is essential to find a balance between your professional and private life.'

The use of a female character in the capture meant that a minority (5.1 per cent) focused on the difficulties that women face in balancing work and family, rather than applying the message to all.

'It is difficult to juggle your work with your private life. Women find this most difficult.'

'Combining work and family life. The eternal question for women; choosing between family and work.'

Some of the 'other' responses went slightly further than was intended to state that the purpose of the image is to persuade organisations to provide *'better flexibility at work for women, for the right to balance between work and family'* or that the picture shows a woman choosing between either starting a family or continuing with their professional career.

The face-to-face interviewees accurately ascertained the intended meaning of the capture with relative ease.

'Work-life balance – you should give the best to both.'

Interviewees felt that the image was very simplistic and clear. One woman stated that the message resonated with her as she worked while caring for a child and appreciated how hard this could be. She felt that the image highlights the fact that there should be a balance between work and other life, regardless of seniority within an organisation. However, there was concern that the image appears to be gender-specific, even though the issue of work-life balance is applicable to all.

Overall, the results show that participants found this capture easy to understand. The mean ease-of-comprehension score for the picture was 4.3, between 'quite easy' and 'very easy', making it the easiest image for respondents to understand.

3.12 Capture 221

Figure 3.12 It is important to conduct risk assessments and look for hazards in the workplace



Source: EU-OSHA

Table 3.12 It is important to conduct risk assessments and look for hazards in the workplace

| Type of answer | % |
|---|------------|
| Accident investigation | 17.9 |
| Hazard/risk identification | 17.4 |
| Wary of OH hazards such as slip/trip/fall | 10.3 |
| Clean up the workplace for safety reasons | 9.2 |
| Look after and maintain machines | 4.1 |
| Other | 7.2 |
| Don't know | 11.8 |
| No answer | 20.5 |
| Unclear response given | 1.5 |
| Total (N) | 195 |

EU-OSHA Salus survey results

One-fifth of survey respondents (20.5 per cent) did not leave a response to this question, and just over one-tenth (11.8 per cent) explicitly stated that they did not know the answer.

As Table 3.12 above shows, there was a diverse range of responses given for this capture. Only 17.4 per cent correctly identified it as being about hazard or risk identification. The most common misinterpretation, given by 17.9 per cent of respondents was that the image depicted an accident investigation, (ie where an accident had taken place and issues were being explored to prevent them from reoccurring). Examples of responses that fell into this category included:

'Accident investigation, must follow all of the clues to find the root cause.'

'All accidents must be investigated.'

'When something has gone wrong, you need to find the reason and learn from it.'

The general untidiness portrayed in the image also led a number of the respondents to assume it was meant to alert people to potential safety hazards such as slips and trips (given by 10.3 per cent of respondents) and the need to keep work stations clean and tidy (given by 9.2 per cent of respondents).

'A workplace's cleanliness is important for safety too.'

'Watch you don't slip on the oil spill.'

'Safety starts with a clean work area.'

'Slips, trips and falls are the biggest cause of accidents in the workplace and can be easily avoided.'

Amongst the 'other' responses were some that depicted the purple electrical sign as a monster or something dangerous being hunted by the female character.

Participants in face-to-face interviews also struggled to understand the intended meaning of the capture, and no-one managed to accurately decipher it. All of the interviewees described the picture as confusing with one stating that *'the message doesn't resonate, it's obtuse'*. They felt that the picture depicted an event which had already occurred, yet *'risk assessments are something done before something happens to look for the potential dangers'*. It was felt by one interviewee that it would be better to have *'a trip risk or something precarious about to fall or a blocked fire door'* as this would apply to more businesses than the manufacturing machinery currently depicted.

Overall, the results show that participants found it difficult to understand this image and few were able to decipher the meaning as intended. The capture received a mean ease-of-comprehension score of 2.5, ie between 'neither easy nor difficult' to understand and 'quite difficult'.

3.13 Capture 26

Figure 3.13 The worker's protective equipment and tools are too big. Equipment should be adapted to ensure it fits the worker



Source: EU-OSHA

Table 3.13 The worker's protective equipment and tools are too big. Equipment should be adapted to ensure it fits the worker

| Interpretations of meaning | % |
|--|------------|
| Wear correct size/appropriate PPE | 65.8 |
| Always wear a helmet | 7.5 |
| Wear PPE | 5.0 |
| Be wary of falling objects | 3.0 |
| Picture shows unsuitable work for women/poor male attitudes to women in construction job | 2.5 |
| Other | 4.5 |
| Don't know | 1.5 |
| No answer | 5.0 |
| Unclear response given | 5.0 |
| <i>Total (N)</i> | <i>199</i> |

EU-OSHA Salus survey results

A relatively low proportion of respondents left no answer to this question (5.0 per cent), whilst only 1.5 per cent explicitly stated that they did not know the answer.

Two-thirds of the respondents (65.8 per cent) correctly identified that the capture aims to encourage employees to wear correctly fitting and appropriate PPE.

'Correct fitting PPE should be worn.'

'It is necessary to ensure that the PPE is suitable for the individual.'

Others simply thought it was about wearing PPE per se. However, the exaggerated nature of the picture and the oversized spanner within the picture seemed to confuse some respondents, for example:

'It's confusing. I understand the bit about PPE being the correct size but why the spanner? Are you trying to say you cannot use large spanners?'

'It is difficult to say what the meaning is – work clothes fit or is it the tool?'

It would seem that the raised eyes of the woman also confused participants, as 3.0 per cent were led to believe it was about taking precautions around falling objects, eg:

'Construction work being carried out, beware of falling objects.'

A minority (2.5 per cent) also misinterpreted the image as demonstrating that sexist attitudes towards women exist in the construction industry.

'Older male attitudes towards females in the construction industry.'

'Dumb women in the workplace.'

Cognitive interviewees correctly identified that the meaning of this picture was about not wearing over-sized PPE and using inappropriate tools. However, it took them a little time to work this out and some felt that the image would be improved if there was also a second character in the picture wearing appropriately sized PPE and looking more at ease.

Overall, the results show that this image was well understood by the participants. The mean ease-of-comprehension score for this capture was 3.5, ie between 'neither easy nor difficult' to understand and 'fairly easy'.

3.14 Capture 1

Figure 3.14 Riding a motorbike unsafely (eg holding a pizza in one hand whilst riding) can lead to accidents



Source: EU-OSHA

Table 3.14 Riding a motorbike unsafely (eg holding a pizza in one hand whilst riding) can lead to accidents

| Interpretations of meaning | % |
|---|------------|
| Correctly/safely load cargo and don't overload | 26.1 |
| Use correct vehicle/tools/mode of transport for the job | 18.6 |
| Drive safely/both hands on handle bars | 12.6 |
| Don't drive and do other tasks at the same time | 10.1 |
| Other | 8.5 |
| Don't know | 5.0 |
| No answer | 13.1 |
| Unclear response given | 6.0 |
| <i>Total (N)</i> | <i>199</i> |

EU-OSHA Salus survey results

Of all the survey respondents, 13.1 per cent left no answer to this question, whilst 5.0 per cent explicitly stated that they did not know the meaning.

As Table 3.14 above shows, the most common interpretation given by respondents referred to correct loading and transportation of cargo (given by 26.1 per cent of respondents). A similar interpretation was around using the correct mode of transport/tools to enable you to conduct your job in a safe manner (given by 18.6 per cent of the respondents). Examples included:

'Ensure you have the appropriate equipment for the task in hand.'

'Stow loads in the proper place during transport.'

'Loads should be secured when carried around.'

'Make sure equipment is suitable for function.'

Only around one-quarter of respondents mentioned that the image was around driving safely or not driving while undertaking other tasks at the same time (3rd and 4th categories). A great many of these did not specifically state that the message was about motorcycles rather than vehicles in general.

The interviewees who took part in cognitive interviews also tended to focus on the correct storage of goods rather than the original intended meaning of driving motorcycles safely. Some thought that the image would be improved if the character driving the bike looked more worried about his safety. They also thought that showing more vehicles on the road would highlight the possible risk of accidents. Alternatively, some thought another image could accompany this one, which showed the results of an accident, ie *'the consequences of being distracted when driving.'* There was also some concern that the current image appears to be

focused on one profession (ie pizza delivery) whereas the message should be applicable to all.

Overall, the results show that, whilst only a few related the image to safe driving of motorcycles, most realised that this image was about driving safely. The mean ease-of-comprehension score for this capture was 3.1, so on the whole it was considered 'neither difficult nor easy' to understand.

3.15 Capture 23

Figure 3.15 Conducting risk assessments in the workplace is not that simple. Workers' contributions are needed as they have a better knowledge of their working conditions



Source: EU-OSHA

Table 3.15 Conducting risk assessments in the workplace is not that simple. Workers' contributions are needed as they have a better knowledge of their working conditions

| Interpretations of image | % |
|---|------------|
| Health and safety is not magic/does not magically appear | 20.1 |
| Safety signs should be observed | 8.0 |
| Health and safety should be learned and followed by all workers | 7.0 |
| Health and safety should be communicated well to workers | 3.5 |
| Risk assessments are not magic/magically appear | 2.5 |
| Teamwork is better for health and safety | 2.5 |
| Health and safety should be logical | 2.5 |
| Other | 8.0 |
| Don't know | 22.6 |
| No answer | 20.1 |
| Unclear response given | 3.0 |
| <i>Total (N)</i> | <i>199</i> |

EU-OSHA Salus survey results

Over two-fifths of the survey respondents either did not leave an answer for this question (20.1 per cent) or explicitly stated that they did not know the answer (22.6 per cent).

Of those participants who did respond, only one person succeeded in deciphering the complete intended message;

'Improving safety conditions shouldn't be a magic act. The company and employees need to be involved.'

However, a number of responses did pick up on certain elements of the meaning. The most common interpretation, given by 20.1 per cent of respondents, was that health and safety was not something which could be magically produced:

'Good results don't come out of a hat.'

'Health and safety is not magic.'

'Safety is not magic.'

'There is no magic formula for safety.'

However, only 2.5 per cent realised that this sentiment was about risk assessments specifically.

The second most common response was that health and safety signs should be observed (given by 8.0 per cent of respondents). Those respondents who focused on the workers tended to state either that health and safety should be learned or followed by workers (7.0 per cent) or that they should be communicated to in an efficient way to them (3.5 per cent), without understanding the point that employees need to contribute to health and safety processes themselves.

'Workers learning health and safety.'

'Safety signs are to be known by all workers.'

'Communicate good safety information to employees.'

All of the interviewees who took part in cognitive interviews also found the meaning of the picture confusing and difficult to ascertain. Even after being told the meaning, the interviewees did not really understand how the picture related to it. Some felt that the presence of the magician distracted from the intended meaning of the picture, and that it would be better if placed in a more realistic work setting. They were also confused by the ticked list of items, and the fact that this was being destroyed.

'She is ripping them up (health and safety messages) as she is not happy with them yet the workers are still smiling so this is contradictory.'

One interviewee thought it would be better if the image showed a progression from not knowing the answers to having the correct information following input from the workers.

Overall, the results show that this image was poorly understood by the participants. The mean ease-of-comprehension score for the image was 1.7, ie between 'quite difficult' and 'very difficult', making it the hardest image to understand of all the captures and strips included in the research.

4 Interpretations of the ‘Salus & Co.’ strips

This section describes the results of the survey and cognitive interviews in relation to each of the different strips tested, looking at each strip in turn.

4.1 Strip 6

Figure 4.1 Physical inactivity is unhealthy. Don't spend too much time in front of PC, it is better to exercise



Source: EU-OSHA

Table 4.1 Physical inactivity is unhealthy. Don't spend too much time in front of PC, it is better to exercise

| Interpretation of strip | % |
|---|------------|
| Don't spend too much time in front of PC, do exercise, get outside | 14.7 |
| Manage your time in front of PC screen at work & home and get some exercise | 11.5 |
| Dangers of too much computer use | 9.4 |
| If working with computers/screens do exercise/get outside | 7.9 |
| Don't forget to have leisure time | 6.8 |
| Exercise, don't work too much | 6.8 |
| Other | 22.0 |
| Don't know | 5.8 |
| No answer | 10.4 |
| Unclear response given | 4.7 |
| Total (N) | 191 |

EU-OSHA Salus survey results

Of all survey respondents, 10.4 per cent did not leave an answer for this strip, and 5.8 per cent explicitly stated that they did not know the answer.

As Table 4.1 above shows, most survey respondents understood that the intended meaning of the strip was to counteract physical inactivity and time in front of a PC with exercise. Most of the interpretations were correct, but there were slight variations in the extent to which they specified whether the message related to use of PCs at home or at work or both. Examples of responses given include:

'Not stay before PC too long time. Relax and exercise keep you healthy and fit.'

'Don't spend all the time glued to your VDU – get out in the fresh air and get exercise.'

'It's important to reduce the number of hours spent sitting still in front of the computer. Spend more time in the fresh air doing activities that improve well-being.'

'It may mean that you need to manage the amount of time in front of a PC screen at work and home and get some exercise.'

A smaller number understood single elements of the message, eg *'too much inactivity is bad for you'* or took different meanings such as *'Use proper posture and environment for display screen work. Keep healthy'* or *'work related stress – no work–life balance'*. These have been coded within the 'other' category.

The face-to-face interviews demonstrated that whilst some respondents understood the strip, this took them some time. One of the interviewees misinterpreted the strip as follows:

‘Do what you are supposed to do at the right time, ie not playing games when you should be asleep, or the next day you will be stressed.’

The interviewees felt that they could relate to this strip as they recognised that they themselves sometimes behave in this way. Many of the interviewees felt that this message is particularly pertinent to young people, who may be more likely to spend their free time using a computer.

Overall, the results show that this strip was fairly well understood by the participants, although the cognitive interviews demonstrated that it can take some time for participants to decipher the meaning. The mean ease-of-comprehension score for the strip was 3.3, ie between ‘neither easy nor difficult’ to understand and ‘quite easy’.

4.2 Strip 7

Figure 4.2 Management support leads to stress reduction and improved performance. It is better to support than to criticise and rebuke



Source: EU-OSHA

Table 4.2 Management support leads to stress reduction and improved performance. It is better to support than to criticise and rebuke

| Interpretations of strip | % |
|---|------------|
| Tidy up your workplace | 25.1 |
| Communicating with colleagues and managers has good results | 14.1 |
| Dangers of working in disorganised manner | 5.2 |
| Communicate about stress and workloads | 4.2 |
| Stress | 2.6 |
| Other | 17.3 |
| Don't know | 12.0 |
| No answer | 16.8 |
| Unclear response given | 2.6 |
| <i>Total (N)</i> | <i>191</i> |

EU-OSHA Salus survey results

Of all survey respondents, 16.8 per cent did not leave an answer for this strip, whilst a relatively high 12.0 per cent explicitly stated that they did not know the answer.

Table 4.2 shows that this strip was interpreted in a number of different ways. The most frequent meaning taken from this strip was that it was about having a tidy workspace with responses such as *'Keep your workplace tidy'* and *'Good housekeeping'* (as given by one-quarter of respondents, 25.1 per cent). Other respondents similarly referred to the dangers of working in a disorganised manner (5.2 per cent). A small proportion of respondents (coded in the 'other' category) similarly misinterpreted the strip as representing the 'Five Ss'; a workplace organisation methodology meaning *'sorting, straightening, systematic cleaning, standardising, and sustaining'*.

Just under one-fifth of the respondents recognised that the strip was highlighting the need for communication (18.3 per cent, categories 2 and 4 above). This included a group that interpreted the strip as demonstrating the benefits that come with good communication (14.1 per cent of all survey respondents):

'People and co-workers should talk in order to find solutions and solve problems.'

'You get better results by helping someone overcome their problems.'

Others thought it was concerned with communicating about stress and workloads (4.2 per cent) whilst a small proportion simply saw the reference to stress without providing any more information (2.6 per cent):

'Pressure at work is an obstacle to concentration and the ability to carry out tasks.'

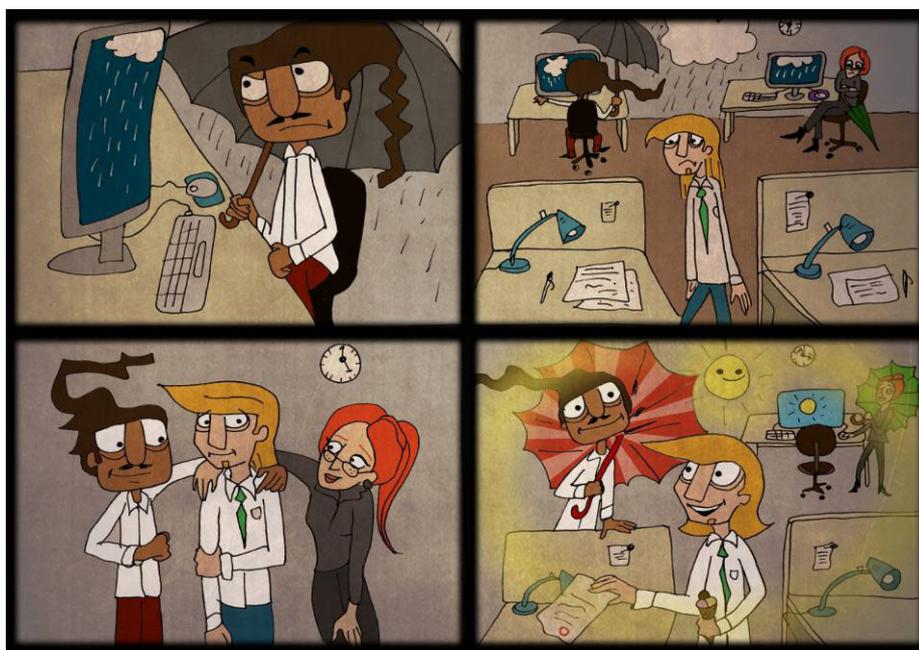
As such, whilst a minority appeared to understand some of the elements of the intended meaning, none showed that they understood the full message.

The face-to-face interviews demonstrated the difficulties that people had in understanding the strip and interpreting the meaning. They were often unclear about what was going on in each image. For example, one person thought the first picture was of a person in their bedroom, and some were unsure of the setting for the second image. The interviewees recognised that there was ‘*obvious conflict*’ in the first image and that this had been resolved by the last image, but they did not understand that the image was about management support.

Overall, the results show that this strip was poorly understood by the participants. The mean ease-of-comprehension score was 2.4 meaning, showing that most found it ‘quite difficult’ to understand¹. This strip had the second lowest mean score of all the images, and the lowest score of all strips.

4.3 Strip 21

Figure 4.3 Support from colleagues and management leads to better work environment and therefore better mental health and well-being



Source: EU-OSHA

¹ Please note that around half of the respondents did not provide an ease-of-comprehension score, for reasons which remain unclear.

Table 4.3 Support from colleagues and management leads to better work environment and therefore better mental health and well-being

| Interpretation of strip | % |
|---|------------|
| Working together and communicating with colleagues | 9.0 |
| Stress/depression | 8.5 |
| The work environment is important | 8.0 |
| Your mood can affect others | 4.7 |
| The working environment and weather can effect people's moods | 4.2 |
| The importance of work environment on psychosocial health | 2.4 |
| Workers can help to improve the work environment | 2.4 |
| Other | 17.4 |
| Don't know | 21.7 |
| No answer | 17.5 |
| Unclear response given | 4.2 |
| <i>Total (N)</i> | <i>212</i> |

EU-OSHA Salus survey results

Nearly two-fifths of the respondents either did not respond to this question (17.5 per cent) or explicitly stated that they did not know the answer (21.7 per cent).

There are three elements to the intended message of this strip: *support from colleagues and management*, the effect that colleagues and management can have on the *work environment* and the effect they can have on *mental health and well-being*. For those respondents who did leave a response, most seemed to understand at least one of these elements. For example, 9.0 per cent interpreted the strip as about working together and communicating with colleagues:

'Communicating about work stress is the start of the solution. Sharing information and issues helps.'

'Greater support and solidarity at work improves everyone's sense of well-being.'

'Communication and spending time together are important tools.'

As Table 4.3 shows, a number of the responses focused on the work environment and many showed an understanding that the strip related to mental health and well-being, although 8.5 per cent of respondents stated this without any clear understanding of the rest of the message:

'Something to do with stress.'

'Depressed person unhappy at work possibly stressed.'

There were a few responses that took the presence of rain and sunshine literally and thought the message related to the weather or to protecting equipment from moisture:

‘The equipment that uses electricity must be protected from water and moisture.’

‘Computer workstations should be protected if there is likelihood of regional bad weather or strong sunshine.’

The face-to-face interviewees all took the weather as a metaphor for mood:

‘The change of weather could signify the change in the mood.’

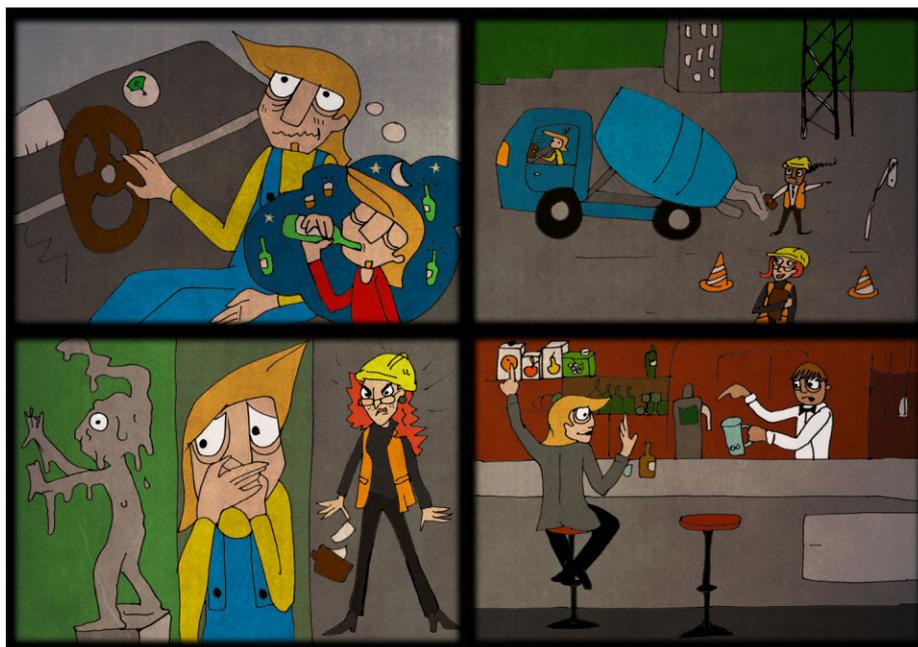
‘This is depicted by the cloud which could be metaphorical representation of his sad mood.’

The interviewees were able to relate to the message and understood that the mood of one person can affect the whole of the office environment. However, they did not understand the key aspect of the message about supporting colleagues.

Overall the results show that this message was not well understood by the participants. The mean ease-of-comprehension score for this strip was 2.4, meaning that it fell between ‘neither easy nor difficult’ and ‘quite difficult’.

4.4 Strip 13

Figure 4.4 Excessive drinking has a negative impact on health and work performance. It is better to choose non-alcoholic drinks such as fruit juice



Source: EU-OSHA

Table 4.4 Excessive drinking has a negative impact on health and work performance. It is better to choose non-alcoholic drinks such as fruit juice

| Interpretations of strip | % |
|--|------|
| No alcohol (or drugs) at work especially when operating machinery | 28.3 |
| Drinking alcohol outside work can have a negative effect on work performance | 17.5 |
| Alcohol has an effect on health and safety | 11.8 |
| Keep focused on the job | 6.6 |
| Other | 14.6 |
| Don't know | 3.3 |
| No answer | 15.6 |
| Unclear response given | 1.4 |
| <i>Total (N)</i> | 212 |

EU-OSHA Salus survey results

Of all the survey respondents, 15.6 per cent did not leave an answer for this strip, whilst 3.3 per cent explicitly stated that they did not know the answer.

Table 4.4 above shows that the three main interpretations of the strip from the survey respondents all related to the risks and dangers of alcohol. Over one-quarter of survey respondents (28.3 per cent) thought that the intended message was a warning about the dangers of alcohol *at work* and a message about not operating machinery whilst under the influence of alcohol or drugs. For example *'Drinking during work is dangerous'* and *'Alcohol and work does not mix'*. Another strong message to come out of the strip was how drinking *outside of work* can affect work performance, as given by 17.5 per cent of survey respondents:

'Be sure you have a good condition at work, drinking the night before influences your behaviour.'

'Don't drink alcohol a lot in the evening/night if the next day is a work day. Don't come to work if you have a bad hangover, that is not safe and accidents may happen.'

Even those answers which did not fall into these main categories were generally related to the dangers of alcohol, with some thinking it was a message to abstain from alcohol completely *'don't drink'* or not to drink and drive, or a message about *'stress/drinking alcohol in an attempt to overcome all life's problems'*.

The face-to face interviewees thought that each image in the strip was very clear, which made the overall message easy to grasp. Examples of their understanding included: *'Don't drink to excess the night before work'* and also *'don't operate heavy machinery if you're not up to it'*. On the whole they thought the strips worked well and that it was a sensible message, although one interviewee highlighted that the

consequences of drinking to excess would not be as dire for office workers as for those in the construction industry.

Overall, the results show that this strip was fairly well understood by the participants. The mean ease-of-comprehension score for the strip was 3.3, ie between ‘neither easy nor difficult’ to understand and ‘quite easy’.

4.5 Strip 11

Figure 4.5 Working together makes work easier, more enjoyable and less stressful



Source: EU-OSHA

Table 4.5 Working together makes work easier, more enjoyable and less stressful

| Interpretations of strip | % |
|-----------------------------------|------|
| Wear a helmet | 31.2 |
| Work as a team | 13.7 |
| Working together makes it easier | 11.2 |
| Wear a helmet and pay attention | 4.9 |
| Work together to do things safely | 2.9 |
| Other | 16.6 |
| Don't know | 7.8 |
| No answer | 10.2 |
| Unclear response given | 1.5 |
| <i>Total (N)</i> | 205 |

One-tenth of survey respondents (10.2 per cent) did not leave an answer for this strip, whilst 7.8 per cent explicitly stated that they did not know the answer.

The most common response, given by 31.2 per cent of the respondents, was that the message of the strip is to 'wear a helmet'. Another 4.9 per cent thought it was about wearing a helmet and paying attention. This clearly shows that a sizeable proportion of the respondents failed to understand the intended meaning. Understandably, some were confused about the relevance of messages about cycling helmets to the workplace:

'Everybody needs to wear helmets. But what has this to do with work?'

Just over one-quarter correctly identified that the message was about teamworking (see categories 2, 3 and 5). Typical responses from these individuals included:

'For a team to work, the members have to pull together.'

'More fun with teamwork.'

Unlike the survey respondents, the interviewees, in the main, correctly identified the message as being about teamwork.

'It is hard to say, it's not too obvious...teamwork makes things easier.'

In the cognitive interviews it was apparent that some participants had difficulty in identifying what was happening in the first three images, and only understood that the characters were cycling in the last image. Once the meaning was revealed, it was considered to be a positive image and one that would be good to see in a workplace. That the cyclists are all wearing helmets was seen to be an extra message.

Overall, the results show that this strip was not particularly well understood by the participants. The mean ease-of-comprehension score of this strip was 2.6, ie between 'neither easy nor difficult' to understand and 'quite difficult'.

4.6 Strip 118

Figure 4.6 Exposure to tobacco smoke is harmful to all



Source: EU-OSHA

Table 4.6 Exposure to tobacco smoke is harmful to all

| Interpretations of strip | % |
|--|------------|
| No smoking inside buildings/public places | 22.9 |
| Only smoke in designated areas | 17.1 |
| Always follow the safety messages and signs | 16.1 |
| Smoking can cause social disturbances/environmental risks for all people | 10.2 |
| Smoking is bad for your health and other people's health | 6.3 |
| No smoking | 6.3 |
| Other | 8.8 |
| Don't know | 1.0 |
| No answer | 11.2 |
| Unclear response given | - |
| Total (N) | 205 |

EU-OSHA Salus survey results

Of all the survey respondents, 11.2 per cent did not leave an answer for this strip, suggesting that they did not understand it, whilst 1.0 per cent explicitly stated that they did not know the answer.

As Table 4.6 shows, all of those who responded picked up that the message was about smoking. A small proportion (6.3 per cent) interpreted the message in line with the intended message¹ as being that smoking is bad for your health and other people's health, eg:

'Smoking is dangerous for your health and also those in the workplace.'

'Smoking is dangerous for you and those around you.'

Most understood the message about smoking somewhat differently. The most common interpretation, given by nearly one-quarter of the respondents (22.9 per cent), was that people should not smoke indoors, particularly following the new smoking legislation. Responses included:

'Comply with ban of no smoking inside the building.'

'Respect the non-smoking regulation.'

'No smoking indoors.'

'Laws which prevent people from smoking inside buildings.'

Other similar interpretations were that people should only smoke in designated areas (given by 17.1 per cent) or always follow the no smoking signs (given by 16.1 per cent of respondents).

'Don't smoke in prohibited areas.'

'Do not smoke in no smoking areas.'

'Always read the signs and follow instructions.'

Some respondents thought that the strip demonstrated that smoking can disrupt/pose a danger to the working environment because of fire alarms being set off, everyone having to evacuate the building and the risk of fire.

'Smoking can cost everybody time.'

'Smoking can set off fire alarms and cause everyone to needlessly evacuate buildings.'

All of the face-to-face interviewees stated that the intended meaning of the strip was to refrain from smoking indoors. Two of the interviewees further expanded

¹ Please note that after the research was conducted, EU-OSHA felt that the original meaning provided by them was a bit narrow in focus.

on this by stating that smoking indoors *'will set off an alarm and that will have consequences for you and others'* or *'disrupt other people and be a real hazard for everyone'*. The interviewees felt that the strip was not very effective at demonstrating the poor health consequences of smoking, as it is *'only showing the environmental hazards of smoking such as a fire risk, or setting off alarms'*.

Whilst most of the participants were clear that this message was about not smoking, most thought that the message was about complying with non-smoking rules and very few related it to the health-damaging consequences of smoking. A mean ease-of-comprehension score of 2.7 suggests that people found the intended meaning of the strip fairly difficult to ascertain, with the score falling between 'quite difficult' and 'neither difficult nor easy'.

4.7 Strip 12

Figure 4.7 High pressure at work and a lack of support from management has a negative impact on health and work performance. It is better to work together



Source: EU-OSHA

Table 4.7 High pressure at work and a lack of support from management has a negative impact on health and work performance. It is better to work together

| Interpretations of strip | % |
|--|------------|
| Teamwork/work together to achieve goals | 36.4 |
| Poor management leads to stress and poor performance | 7.7 |
| Too much pressure causes harm | 6.2 |
| Teamwork better than one person dictating what to do | 5.1 |
| Good management/cooperation needed for success | 3.1 |
| Use correct/better equipment | 2.6 |
| Other | 9.2 |
| Don't know | 9.7 |
| No answer | 15.9 |
| Unclear response given | 4.1 |
| <i>Total (N)</i> | <i>195</i> |

EU-OSHA Salus survey results

Of all the survey respondents, 15.9 per cent did not leave an answer for this strip, whilst 9.7 per cent explicitly stated that they did not know the answer.

As Table 4.7 shows, the majority of respondents appeared to understand parts of the intended message of the strip, even if they did not ascertain it in its entirety. The most common interpretation of the strip, given by over one-third of respondents (36.4 per cent), was that employees should work together in order to achieve their goals.

'Working together brings better results.'

'If [we] pull together it is more likely to be a success.'

'Collaboration can help you to reach your goal.'

However, these responses focused only on the work benefits and did not include the additional message about the benefits to health. The second most common response, that poor management has an affect on employees' health as well as their performance, was closest to the intended meaning, but given by only 7.7 per cent of respondents. Other interpretations focused more specifically on good management or cooperation.

A minority picked up on the metaphor of the boat but interpreted it slightly differently than originally intended (these are included in the 'other' category).

'Don't rock the boat or there could be accidents.'

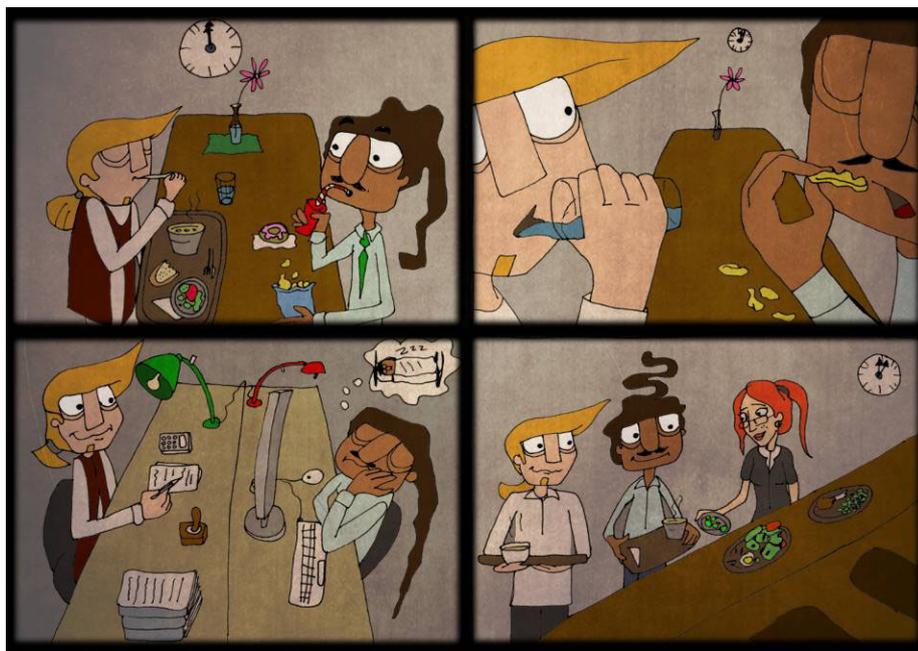
'We are all in the same boat so work together.'

The face-to-face interviewees also quickly understood that the message was about working as a team in order to accomplish the task successfully and to remain happy. They felt that the message would resonate with some managers, particularly those who take a more authoritarian approach, and thought it could influence them to change their management style. The clear focus on the stressed manager helps to emphasise the health benefits that this approach has for managers. One interviewee felt that it was unclear what emotions the people in the boat were trying to convey; fear of their manager, or struggling to do their work.

Whilst most of the survey participants understood part of the meaning of the strip, few respondents picked up on all the different elements, and some focused on the benefits to performance without recognising the health issues. The mean ease-of-comprehension score for the strip was 2.8, ie between 'neither difficult nor easy' to understand and 'quite difficult'.

4.8 Strip 17

Figure 4.8 Eating healthy foods is better for your health and work performance



Source: EU-OSHA

Table 4.8 Eating healthy foods is better for your health and work performance

| Interpretations of strip | % |
|---|------------|
| Eat healthily to be more productive | 51.3 |
| Poor diet/junk food impacts on work performance | 9.2 |
| Take a break | 6.7 |
| Other | 5.6 |
| Don't know | 8.7 |
| No answer | 18.5 |
| Unclear response given | - |
| <i>Total (N)</i> | <i>195</i> |

EU-OSHA Salus survey results

Of all the survey respondents, 18.5 per cent did not leave an answer for this strip, whilst 8.7 per cent explicitly stated that they did not know the answer.

The majority of respondents correctly identified the intended meaning of the strip. By far the most common response was that people should eat healthily in order to remain productive at work (as given by half of the respondents at 51.3 per cent). The second most frequent response was the reverse of this – if people eat poorly they are less productive at work (given by 9.2 per cent) – and is therefore also in line with the intended meaning. Examples of responses include:

'A bad diet keeps you feeling dull and lethargic.'

'A healthy diet helps you to concentrate and remain active longer.'

'A healthily lifestyle is important for your well-being at work.'

A minority of the respondents missed the healthily food aspect of the strip and thought instead that it was about taking breaks (6.7 per cent).

The face-to-face interviewees also found the strip easy to comprehend and enjoyed the comparison between the two characters, describing one as *'very active and alert'* and the other as *'sluggish'*. Having the two characters together in the strip enabled them to clearly identify what they should be doing (eating healthily) and what they should be avoiding (eating junk food). The interviewees thought the time on the clock signified that the message was about eating a healthy lunch, when actually it is important to eat healthily at other times of the day too.

Overall, the results show that this strip was fairly easy for participants to understand. The mean ease-of-comprehension score for the strip was 3.4, in between *'neither easy nor difficult'* and *'quite easy'*.

4.9 Strip 14

Figure 4.9 Have appropriate breaks and eat healthy meals



Source: EU-OSHA

Table 4.9 Have appropriate breaks and eat healthy meals

| Interpretations of strip | % |
|--------------------------------------|------------|
| Eat away from the workplace | 29.1 |
| Take breaks to relax, eat, socialise | 16.1 |
| Eat in designated areas | 11.6 |
| Take appropriate/regular breaks | 10.6 |
| Avoid stress | 6.0 |
| Other | 11.1 |
| Don't know | 2.5 |
| No answer | 10.6 |
| Unclear response given | 2.5 |
| Total (N) | 199 |

EU-OSHA Salus survey results

One-tenth of survey respondents (10.6 per cent) did not leave an answer for this strip, whilst 2.5 per cent explicitly stated that they did not know the answer.

Table 4.9 shows the interpretations of the strip. A number of respondents talked about eating away from the workplace (29.1 per cent) or in designated areas (11.6

per cent), but it is hard to deduce whether this was about taking a break, or just choosing a more suitable location, eg:

'Do not eat at your desk, eat in the canteen.'

'Do not eat at your workstation, eat in the canteen.'

'Food and drink only to be consumed in designated areas.'

Only around one-quarter of respondents explicitly stated that the strip was about taking breaks (categories 2 and 4 above):

'Make sure you take adequate breaks.'

'Remember to take daily breaks.'

Although a number of respondents saw the strip as about referring to food eaten at work, very few picked up on the fact that the strip was also promoting healthy food, despite the comparison between the unhealthy food in the first caption and the healthy food in the final caption.

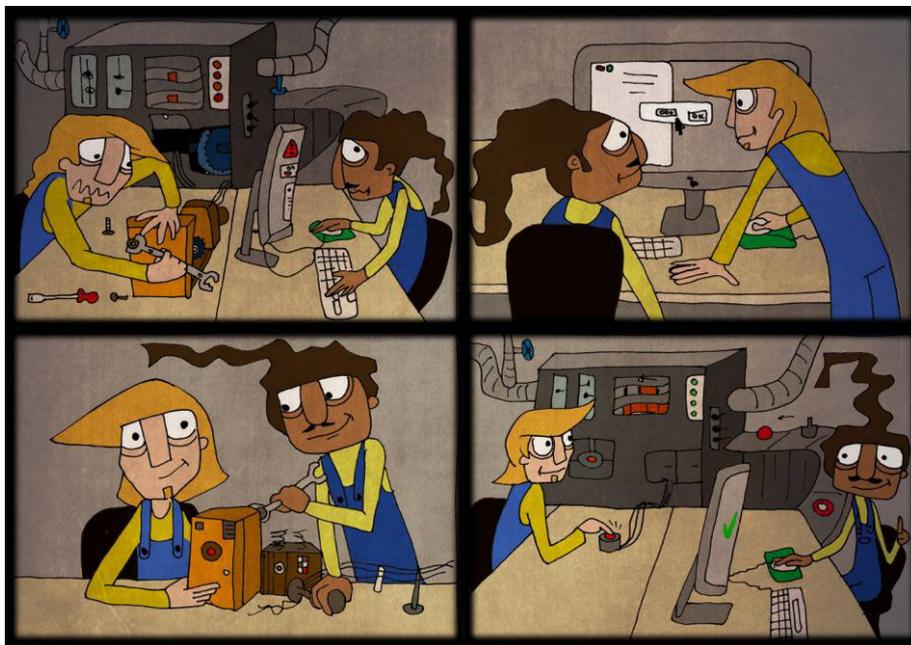
The face-to-face interviewees all agreed that the strip highlighted the need to eat away from your desk: *'don't eat at desk and eat together'*. However, only one interviewee also identified that the strip was promoting healthy eating.

The interviewees were unsure about the relevance of the mobile phone and the fact that the employee had bitten into it. They felt that this was fairly unrealistic and suggested an image of drinks being spilt onto IT equipment as more appropriate.

Overall, the results show that only a minority of respondents were clear that the message was about taking breaks, and very few identified that it was promoting healthy eating. The mean ease-of-comprehension score for this strip was 2.9, so overall respondents found it *'neither difficult nor easy'* to understand.

4.10 Strip 9

Figure 4.10 Colleague support and good teamwork reduces stress and improves work performance



Source: EU-OSHA

Table 4.10 Colleague support and good teamwork reduces stress and improves work performance

| Interpretations of strip | % |
|--|------------|
| Work as a team to complete the task | 35.2 |
| Read instructions or follow guidance materials | 11.6 |
| Ask for help if not sure how to do something | 9.0 |
| Ensure competent people with correct skills are on the job | 6.0 |
| Train staff to carry out job properly | 4.5 |
| Poor ergonomic work environment/ensure tidy workplace to do job properly | 3.5 |
| Other | 4.5 |
| Don't know | 9.0 |
| No answer | 13.1 |
| Unclear response given | 3.5 |
| Total (N) | 199 |

EU-OSHA Salus survey results

Of all the survey respondents, 13.1 per cent did not leave an answer for this strip, whilst 9.0 per cent explicitly stated that they did not know the answer.

As shown in Table 4.10 above, there were a diverse range of interpretations of this strip. The most common, given by just over one-third of the respondents (35.2 per cent) was that employees should work together as a team to complete the task at hand. This is relatively close to the original intended meaning, although it places little emphasis on the idea of reducing stress. Examples include:

'Teamwork makes it possible to do a better job.'

'Teamwork makes it easier to do the job more quickly.'

'Teamwork helps us all!'

Another response, given by 9.0 per cent, was to ask for help if not sure how to do something, which also emphasises the importance of working with colleagues, although these respondents also failed to mention the issue of stress in their answers. Most of the other responses were quite different to this, and therefore did not adhere to the intended meaning. Examples included:

'It is essential to receive suitable instructions on the task that is being performed.'

'Jobs are better executed if you use the instructions.'

'Ensure trained employees carry out the job.'

The face-to-face interviewees also interpreted the strip as demonstrating the need to work together as a team or to ask for help if you are unable to carry out a job successfully. Overall they viewed it as a happy and positive image which would inspire people to work together with their colleagues. However, like the survey respondents, they failed to identify the health element of the message – that cooperation can reduce stress – stating that the characters looked more confused by their tasks rather than stressed by them.

Overall, the results show that this strip was only partially understood by the respondents. Whilst a minority picked up on the issue of teamwork, none interpreted this as being beneficial for reducing stress. The mean ease-of-comprehension score for this strip was 2.7, ie between 'neither difficult nor easy' and 'quite difficult'.

5 Overall comments on the ‘Salus & Co.’ approach

At the end of the survey and at the end of the cognitive interviews, respondents were invited to leave overall comments on the strips and captures. This final chapter focuses on these responses.

There were 458 responses to the overall open text question in the survey, meaning that 45.7 per cent of the total sample provided a final comment on the ‘Salus & Co.’ approach. These were placed in a simple coding frame which separated out positive from more critical views, allowing for multiple views by individuals. Of all the responses provided, 12.1 per cent were coded as positive and the remaining 87.9 per cent provided suggestions on how to improve the images or were more critical. More detail on the feedback provided by respondents is discussed below.

5.1 Positive feedback

Many respondents, both to the online survey and the cognitive interviewees, fed back that they liked the use of cartoons to portray health and safety messages.

‘The idea of spreading prevention messages through pictures and cartoons is a good one.’

Cartoons were considered a good medium for communicating and popularising messages with non-traditional audiences such as young people.

‘This type of cartoon brings a safety message across to people very easily and not in such a formal way like most messages on safety, it could also be used to text to people to heighten awareness on safety including school kids.’

The face-to-face interviewees, who were generally younger and less experienced in OSH, were able to relate to a number of the images, even if the settings did not directly apply to their employment situations. Those that were highlighted were

Capture 13: the danger of electricity; Strip 6: highlighting the dangers of too much time in front of a PC; Capture 203: slips, trips and falls and Strip 13: the consequences of drinking too much alcohol.

Five survey respondents specified that they would like to use the strips and captures in their work:

'I would like to commend the EU-OSHA on this initiative as it is an excellent idea. I would like to see a suite of these prepared to help with the communication of safety messages. I would be glad to use such tools in communicating safety messages.'

Another positive comment given by some respondents related to the use of both male and female characters, although as discussed in the previous chapter, some thought this made the messages appear to be gender specific.

There were, however, qualifications to some of the praise, about the need for the images to be placed within a context, either in the way that they are used or through providing some accompanying text. Some of the images were also seen as complex and there was seen to be a need to simplify both the images, and the messages that underline them, as pointed out by the following respondent:

'I am convinced that the images, and the cartoons, are a good means of conveying information, but I am equally convinced that the message should be simple, direct and in context.'

5.2 Concerns about the images

The majority of those providing general feedback about the 'Salus & Co.' approach were more critical, or offered suggestions on how to improve the images. In particular concerns were expressed regarding:

- the style of the images
- difficulty in understanding the meaning, and;
- the appropriate audience for the images.

5.2.1 Style of images

One of the main criticisms made of the strips and captures referred to the aesthetics. Around 12 per cent of respondents directly stated, in some way, that they found the images unattractive, in either style or colour. A particular issue was that some respondents felt that a dark colour palette had been used with the result that the images did not draw the eye or attract attention as well as the same images would if using brighter colours.

'The graphics that have been used, including the use of dark colours, inspire negativity. I think a safety campaign should, in contrast, inspire positivity in order to involve and to convince the public. Personally, I feel that the images repel rather than attract.'

The style used by the artists was seen by some to be rough and sketchy, and some disliked the fact that they appeared to be 'hand-drawn':

'The hand-drawn style is not aesthetically pleasing. It would be better to have computer-generated drawings, a bit like the NAPO videos which are very well done.'

NAPO was mentioned a few times, as were other famous cartoon characters (eg Homer Simpson), which respondents felt would better appeal to a younger audience.

A small number of respondents simply did not like cartoons as a way of communicating messages about health and safety, as they thought the approach trivialised the issues raised.

5.2.2 Comprehension

Of all the survey participants, 166 (16.6 per cent) left open text comments stating that they found the strips and captures difficult to understand. They were considered too complex, and there was concern that they were attempting to say too much about different types of hazards in one image. The strip promoting better mental health (Strip 21) was a particular example of this:

'These images are way too complex for the messages they seek to convey. The management of stress image set is particularly poor.'

Possibly as a result of this complexity, many of the strips and captures have been interpreted in different ways (as described further in Chapters 3 and 4). The overall feedback from the respondents was that the images should have clear and simple messages.

'The cartoons appear a little busy with too much detail, taking away from the message.'

'Some of these images did not, for me, convey the message required. Images should be clear, unambiguous and only detail one risk/hazard message at a time.'

'I think that it's a good idea to use cartoons, provided that you don't want to convey complicated messages. In these examples, there are too many possible meanings for each cartoon, so there is a high risk of the message being lost.'

'The precise meaning of each picture should be completely clear.'

Where there is room for a number of interpretations, there is also a danger that people will misinterpret the images. Some respondents commented that for several images it was unclear whether they demonstrate good or bad practice. An example of this was Capture 216 (an image of a woman arriving at a work site carrying her PPE) which was singled out by many as being ambiguous and open to misinterpretation:

'The woman demonstrating the PPE would demonstrate it better by wearing it, not just turning up with it.'

One suggested way to get around this problem was to provide written descriptions alongside the images (although this clearly negates the original aim in developing 'Salus & Co.')

'Some images aren't easy to understand without the text to explain them. The message would probably be a lot clearer if you added the explanation text to each image in order to reinforce the message.'

A range of respondents felt that they should have been able to interpret the intended meaning in a short amount of time. However, some said that the meaning of the images was not always possible to guess straight away. In the cognitive interviews, whilst some images were understood quickly, it took people more time to understand others.

'The images require considerable reflection time and they do not give an immediate impression.'

'Some pictures need to be obvious at one glance; people do not always take time to study the meaning.'

Suggestions were made about improvements that could help the images to transfer meaning more quickly such as use of universal symbols, or simplistic pictograms like those used on road signs.

5.2.3 Audience

Due to the nature of the strips and captures (ie hand-drawn, cartoon-like images) and the content of the messages, some felt that they were better suited to a younger, less experienced audience (which is as EU-OSHA intended), although this is not necessarily a criticism, simply a comment on their use. A small number of respondents, however, thought that they were too complex for this group and that only those with a good understanding of health and safety would be able to interpret them correctly.

The importance of cultural awareness was raised by some respondents. For example, some commented on how the alcoholic drinks bar in Strip 13 would not

be appropriate for people from certain religious groups, and the impossibility of getting electric shocks from light fittings in Nordic countries (Capture 13). For others, the need to show sensitivity to different cultural groups was broader than this, although the respondents did not specify specifically which images they believed should be adjusted. Some left general comments about this issue:

'Some attention should be paid to the "common locations" found habitually in the geographic area in which they will be used. In every culture, the meanings of symbols or of the images used change, sometimes significantly.'

5.3 Strips versus captures

Opinions as to whether strips or captures worked better were evenly divided, although as seen in the analysis in previous chapters, captures tended to be considered easier to understand than strips. Each type of image was seen to have its benefits and drawbacks. Captures were considered good for conveying meaning, but conversely there were concerns that people may not spend sufficient time processing the messages and how they apply to them. A strip, meanwhile, was felt to enhance understanding, as stories tend to stay in the mind for longer, but the strips were often felt to require more commitment from the viewer to 'read' through and understand.

'The messages have to convey an "immediate" idea – in this context a single image/vignette would surely be the best way to "hit the target".'

5.4 Suggested improvements

This section summarises some of the suggestions for improvements made by both the online survey respondents and interviewees.

- **Change the look of the images:** make the colours brighter to attract attention and elicit positive feelings in the viewer. Change the pictures to make them more cartoon like and less 'sketchy' and 'rough'.
- **Use recognisable characters:** although with time, and with the extra information that will be on the website, the characters used may become familiar just as NAPO has.
- **Simplify the pictures:** make it more obvious where the focus is, use more universal symbols and emphasise the characters' facial expressions to clarify how the situation would make the character feel (eg stressed/anxious).
- **Simplify the message:** many of the explanations of the messages run to two sentences but a few respondents commented that the messages should be

simpler than this. Only one main point to each capture or strip and no other 'extra' messages.

- **Make the images realistic:** ensure that the image is a situation that people can relate to rather than being too extreme.
- **Make sure there is little scope for misinterpretation:** and in particular avoid images that may be misconstrued as promoting bad examples of behaviour.
- **Consider the use of text:** or do not use the images in isolation; provide context to aid understanding.
- **Define the audience:** and ensure that the different styles or characters appeal to the intended target audience, eg what appeals to a younger audience may not appeal to an older one.
- **Continue to use strips *and* captures:** they both suit different messages, but using two captures together might be more effective for demonstrating incorrect and correct behaviour.

6 Conclusions

6.1 Overall levels of understanding

The main purpose of the evaluation of the 'Salus & Co.' strips and captures was to assess the understanding of the messages they conveyed. The data available from the survey and the interviews demonstrates variable levels of understanding across different captures and strips. In the survey, very few respondents explicitly stated that they could not understand the images. However, levels of non-response were relatively high and the findings from the survey suggest that this was due to difficulty in understanding the images; those images with the highest level of non-response tended to also be rated as more difficult to understand.

Initial analysis of the responses that were provided shows that often many of the images were not understood as was originally intended by EU-OSHA. Nonetheless, analysing the more detailed responses to the open questions, it became clear that very few of the interpretations that people provided lacked any relevance to the message that EU-OSHA was hoping would be conveyed. Even where an interpretation of the image did not pick up on multiple messages, or the precise focus of EU-OSHA's interpretation, most people, in relation to most images, were able to provide an explanation which was relatively close to the intended meaning.

Another point is that even in cases where the intended meaning had not been conveyed to individuals, many responses were still nevertheless a valid interpretation of the image in question. Capture 222 provides an example of this, where some respondents felt the message was about not using electrical appliances around water, whereas the EU-OSHA interpretation was about risk assessment. Whilst off message, these respondents did provide a valid interpretation of the image. As such, the images may well fulfil their aim to stimulate debate about OSH issues even when individuals do not fully comprehend the intended meaning. Clearly, it is up to EU-OSHA to decide how

close the interpretations need to be for an image to be accepted as fulfilling its objectives.

6.2 Ease of understanding

Of the ease-of-comprehension ratings for each image from the survey, five of the captures and seven of the strips were given lower ratings (ie 2.9 or less on average out of a possible 5), whilst nine captures and three strips received higher ratings (ie above 3.0 on average out of a possible of 5). Only one capture received a rating higher than four. The captures were generally rated as easier to understand than the strips. The cognitive interviews also suggest that, whilst people were usually able to provide a valid/ correct interpretation of the images, this could take some time, and their ease of interpretation varied greatly according to the image in question.

Whilst people were generally able to provide a relevant interpretation of the images therefore, this was not always an easy process for them. This becomes problematic if the purpose of the image is to provide very clear instruction or guidance. It is clearly less so if the purpose of the images is to stimulate discussion or debate.

The environment in which the images are to be used will also be important in deciding whether the issues raised in this evaluation about ease of understanding are worth exploring further. If the images are used in situations where individuals have time to consider them (eg in educational settings or where an individual is doing their own research), the interpretation time required is less problematic than if they are to be used in the workplace (or other situations) where individuals are subject to more time pressures.

6.3 Improving understanding levels

The evaluation has provided a wide range of input from potential users on how the images could be improved. It should be noted, however, that throughout the evaluation the images have been presented without context. Providing such context, particularly for the more complex imagery, may help to solve some of the comprehension problems, although clearly the aim is to maintain wordless imagery as much as possible.

Focusing on the aspects of feedback that will help to promote better comprehension, rather than altering the approach, there are a number of themes which emerge. These include:

- altering aspects of individual images which have led to confusion (eg on Capture 230 having a generator hooked up to an exercise bike leading people to assume the image is concerned with green energy)
- examining how well good and bad behaviour is distinguished in the imagery (eg ensuring that the facial expressions of the characters reflect an appropriate negative or positive response to the action taking place)
- considering the use of a female character in certain situations, and whether this will lead to assumptions that the image in question is gender specific or about gender issues
- considering how abstract imagery is used (eg depicting complex hazards)
- examining how well humour, metaphors and/or the use of extreme situations to illustrate a point work in this context (eg characters biting into phones because they are hungry, balancing on a tightrope).

Perhaps the most important point to emerge about improving understanding is that of minimising the complexity of the images. Whilst this has undoubtedly been the focus of the development work so far, there are a number of images which attempt to convey very complex concepts. It is worth considering whether such concepts are appropriate for communication through this medium. The images which have proved most difficult to understand are those which address issues such as risk assessment, OSH education and mental health. There may be limitations which need to be accepted in how the approach is used in relation to such issues. Alternatively, textual information may need to accompany some of the images to aid comprehension (as EU-OSHA is already aware).

Appendix 1: Distribution of captures and strips across surveys

Table A1.1: The distribution of images between surveys and the response rate to each individual survey

| Survey | Image no. | Capture or strip | Edited description | No. of respondents |
|--------|-----------|------------------|---|--------------------|
| 1 | 241 | (c) | Smoking cessation day. | 191 |
| | 6 | (s) | Physical inactivity is unhealthy. Don't spend too much time in front of PC, it is better to exercise. | |
| | 210 | (c) | Unsafe working at height, with a high risk of a fall. | |
| | 7 | (s) | Management support leads to stress reduction and improved performance. It is better to support than to criticise and rebuke. | |
| | 219 | (c) | It is important to teach occupational health and safety issues to children whilst they are still at school. | |
| 2 | 13 | (c) | Electricity should be safely switched off before changing a light bulb. A safe ladder should be used instead of a stool. | 212 |
| | 21 | (s) | Support from colleagues and management leads to better work environment and therefore better mental health and well-being. | |
| | 216 | (c) | Demonstrating a good example to employees by arriving on a construction site fully equipped with all the necessary protective equipment. | |
| | 13 | (s) | Excessive drinking has a negative impact on health and work performance. It is better to choose non-alcoholic drinks such as fruit juice. | |
| | 203 | (c) | A risk of slips, trips and falls. To avoid the risk, floors should be cleaned, spillages wiped up, obstacles removed and staff should look where they're going. | |

| Survey | Image no. | Capture or strip | Edited description | No. of respondents |
|--------|-----------|------------------|---|--------------------|
| 3 | 17 | (c) | Use a seat belt while driving. | 205 |
| | 11 | (s) | Working together makes work easier, more enjoyable and less stressful. | |
| | 8 | (c) | Too much time pressure is stressful. | |
| | 118 | (s) | Exposure to tobacco smoke is harmful to all. | |
| | 222 | (c) | The man is drilling through the ceiling to a pool which will cause a leakage. Risk assessments should be carried out before starting construction work. | |
| 4 | 230 | (c) | Physical activity is important to prevent health problems caused by sedentary work and physical inactivity. | 195 |
| | 12 | (s) | High pressure at work and a lack of support from management has a negative impact on health and work performance. It is better to work together. | |
| | 229 | (c) | There should be a balance between work and family life. | |
| | 17 | (s) | Eating healthy foods is better for your health and work performance. | |
| | 221 | (c) | It is important to conduct risk assessments and look for hazards in the workplace. | |
| 5 | 26 | (c) | The worker’s protective equipment and tools are too big. Equipment should be adapted to ensure it fits the workers. | 199 |
| | 14 | (s) | Have appropriate breaks and eat healthy meals. | |
| | 1 | (c) | Riding a motorbike unsafely (eg holding a pizza in one hand whilst riding) can lead to accidents. | |
| | 9 | (s) | Colleague support and good teamwork reduces stress and improves work performance. | |
| | 23 | (c) | Conducting risk assessments in the workplace is not that simple. Workers’ contributions are needed as they have a better knowledge of their working conditions. | |

Source: EU-OSHA (meaning of images) and Salus online survey (response rates)

Appendix 2: Details of survey respondents

Table A2.1 Language completed in

| | Frequency | % |
|---------|-----------|-------|
| English | 566 | 56.5 |
| French | 55 | 5.5 |
| German | 71 | 7.1 |
| Spanish | 163 | 16.3 |
| Italian | 147 | 14.7 |
| Total | 1,002 | 100.0 |

EU-OSHA Salus online survey

Table A2.2 Survey number

| | Frequency | % |
|-----------|-----------|------|
| Edition 1 | 191 | 19.1 |
| Edition 2 | 212 | 21.2 |
| Edition 3 | 205 | 20.5 |
| Edition 4 | 195 | 19.5 |
| Edition 5 | 199 | 19.9 |
| Total | 1,002 | 100 |

EU-OSHA Salus online survey

Table A2.3 Gender

| | Frequency | % |
|--------------------|-----------|-------|
| Male | 774 | 77.4 |
| Female | 226 | 22.6 |
| No. of respondents | 1,000 | 100.0 |
| Missing | 2 | |
| Total | 1,002 | |

*EU-OSHA Salus online survey***Table A2.4 Age group**

| | Frequency | % |
|--------------------|-----------|-------|
| Over 30 years old | 957 | 96.1 |
| Under 30 years old | 39 | 3.9 |
| No. of respondents | 996 | 100.0 |
| Missing | 6 | |
| Total | 1,002 | |

*EU-OSHA Salus online survey***Table A2.6 Respondent type**

| | Frequency | % |
|---|-----------|-------|
| An employer or manager | 299 | 29.8 |
| An employee | 406 | 40.5 |
| Self-employed | 121 | 12.1 |
| A trade union representative | 43 | 4.3 |
| A representative of an employer's association | 36 | 3.6 |
| A researcher | 97 | 9.7 |
| Total | 1,002 | 100.0 |

*EU-OSHA Salus online survey***Table A2.7 Responsibility for occupational health and safety**

| | Frequency | % |
|--------------------|-----------|-------|
| Yes | 824 | 82.5 |
| No | 170 | 17.0 |
| Don't know | 5 | 0.5 |
| No. of respondents | 999 | 100.0 |
| Missing | 3 | |
| Total (N) | 1,002 | |

EU-OSHA Salus online survey

Table A2.8 Self-rating of awareness of occupational health and safety issues

| | Frequency | % |
|--------------------|-----------|-------|
| Very low | 2 | 0.2 |
| Low | 15 | 1.5 |
| Medium | 126 | 12.6 |
| High | 437 | 43.7 |
| Very High | 421 | 42.1 |
| No. of respondents | 1,001 | 100.0 |
| Missing | 1 | |
| Total (N) | 1,002 | |

EU-OSHA Salus online survey

Appendix 3: Additional information from the EU-OSHA panel data about survey participants

There are 25 cases where it was not possible to match the panel data with the survey data¹, therefore the total figures in this appendix are for 977 rather than the full 1,002 respondents.

Table A3.1 Sample year

| | % |
|------------------|------------|
| 07 | 60.3 |
| 09 | 39.7 |
| <i>Total (N)</i> | <i>977</i> |

EU-OSHA panel data

Table A3.2 Scope

| | % |
|------------------|------------|
| European | 14.2 |
| International | 23.8 |
| National | 61.9 |
| <i>Total (N)</i> | <i>977</i> |

EU-OSHA panel data

¹ This was due to an administrative error during the survey where the first few responses did not have the ID number switched on.

Table A3.3 Organisation type

| | % |
|----------------------------------|------------|
| Employer's association | 2.0 |
| Journalist | 0.7 |
| Labour inspection | 2.4 |
| Lobby group | 0.3 |
| Non-governmental organisation | 1.8 |
| OSH service intermediary | 1.3 |
| OSH service provider | 12.0 |
| Other | 7.2 |
| Private company | 38.9 |
| Public body | 14.3 |
| Public company | 7.5 |
| Research institute | 4.8 |
| Statutory insurance organisation | 0.9 |
| Student | 0.9 |
| Trade union | 4.9 |
| <i>Total (N)</i> | <i>977</i> |

EU-OSHA panel data

The way that sectoral information was coded differed between the 2007 and 2009 samples; the 977 cases are therefore distributed into either table A3.4 or A3.5 accordingly.

Table A3.4 Sector (2007 categorisation for 2007 dataset)

| | % |
|-----------------------------------|------|
| Agriculture, hunting, forestry | 1.2 |
| Compulsory social security | 0.5 |
| Construction | 12.4 |
| Education | 9.7 |
| Electricity, gas, water supply | 2.5 |
| Financial intermediation | 0.8 |
| Health and social work | 12.9 |
| Hotels and restaurants | 1.2 |
| Manufacturing | 18.2 |
| Mining, quarrying | 1.4 |
| Other | 23.8 |
| Public administration and defence | 7.6 |

| | |
|---|------------|
| Real estate, renting and business activities | 1.4 |
| Transport, storage and communication | 5.1 |
| Wholesale and retail trade, repair of motor vehicles, household | 1.4 |
| <i>Total (N)</i> | <i>589</i> |

EU-OSHA panel data

Table A3.5 Sector (2009 categorisation for 2009 dataset)

| | |
|--|------------|
| Accommodation and food service activities | 1.3 |
| Activities of extraterritorial organisations and bodies | 0.5 |
| Activities of households as employers, undifferentiated goods and services | 0.3 |
| Administrative and support service activities | 2.3 |
| Agriculture, forestry and fishing | 1.3 |
| Agriculture, hunting, forestry | 0.3 |
| Arts, entertainment and recreation | 0.3 |
| Construction | 6.7 |
| Education | 8.5 |
| Electricity, gas, steam and air conditioning supply | 2.8 |
| Financial and insurance activities | 2.1 |
| Human health and social work activities | 9.3 |
| Information and communication | 3.1 |
| Manufacturing | 20.1 |
| Mining, quarrying | 1.5 |
| Other service activities | 11.1 |
| Professional, scientific and technical activities | 14.4 |
| Public administration and defence, compulsory social security | 8.5 |
| Real Estate activities | 0.8 |
| Transportation and storage | 2.1 |
| Water supply, sewerage, waste management and remediation activities | 0.8 |
| Wholesale and retail trade, repair of motor vehicles and motorcycles | 2.1 |
| <i>Total (N)</i> | <i>388</i> |

EU-OSHA panel data

Table A3.6 User or disseminator

| | % |
|----------------------|------------|
| Both | 59.4 |
| Disseminator | 1.4 |
| Re-disseminator only | 25.5 |
| User | 1.4 |
| User only | 12.3 |
| <i>Total (N)</i> | <i>997</i> |

EU-OSHA panel data

Appendix 4: Demographics of cognitive interviewees

Table A4.1: Details of participants in cognitive interviews

| Interviewee number | Age | Gender | Employment/ student status | Self-rated OSH knowledge |
|--------------------|-----|--------|-------------------------------|-----------------------------|
| 1 | 21 | male | student | high |
| 2 | 20 | male | student | medium |
| 3 | 27 | female | employed | medium |
| 4 | 22 | male | student | medium |
| 5 | 18 | female | student with part-time work | medium |
| 6 | 42 | female | employed | high |
| 7 | 47 | male | student | medium |
| 8 | 21 | male | student | high |
| 9 | 26 | female | student | medium |
| 10 | 20 | male | student with part-time work | high |
| 11 | 18 | male | student with part-time work | medium |
| 12 | 19 | female | student with part-time work | medium |
| 13 | 19 | male | student | medium |
| 14 | 22 | female | student with part-time work | high |
| 15 | 28 | female | student with part-time work | medium |

Appendix 5: Non-response to open questions

Table A5.1 below provides a comparison of mean ease-of-comprehension scores for those participants who provided a text-based interpretation of the images and those who did not. In most cases it can be seen that those who did not leave a response found the images more difficult to understand, although the number of cases here was low.

Table A5.1 Non-response relationships

| | Survey 1 | | | | | Survey 2 | | | | | Survey 3 | | | | | Survey 4 | | | | | Survey 5 | | | | |
|--|------------|----------|------------|----------|------------|-----------|------------|------------|-----------|------------|-----------|-----------|----------|------------|------------|------------|-----------|------------|-----------|------------|-----------|-----------|----------|----------|-----------|
| Picture no. Capture or strip | 241 (c) | 6 (s) | 210 (c) | 7 (s) | 219 (c) | 13 (c) | 21* (s) | 216 (c) | 13 (s) | 203 (c) | 17 (c) | 11 (s) | 8 (c) | 118 (s) | 222 (c) | 230 (c) | 12 (s) | 229 (c) | 17 (s) | 221 (c) | 26 (c) | 14 (s) | 1 (c) | 9 (s) | 23 (c) |
| Overall mean ease-of- comprehension score | 3.3 | 3.3 | 3.4 | 2.4 | 2.5 | 3.8 | 2.4 | 2.5 | 3.3 | 3.4 | 3.9 | 2.6 | 3.1 | 2.7 | 3.3 | 2.5 | 2.8 | 4.3 | 3.4 | 2.5 | 3.5 | 2.9 | 3.1 | 2.7 | 1.7 |
| % non-response | 7.9 | 10.4 | 10.5 | 16.8 | 17.8 | 4.7 | 17.5 | 15.1 | 15.6 | 15.6 | 7.8 | 10.2 | 12.7 | 11.2 | 15.6 | 9.7 | 15.9 | 13.3 | 18.5 | 20.5 | 5.0 | 10.6 | 13.1 | 13.1 | 20.1 |
| Mean score where no text response given | 3.2 | 3.1 | 3.2 | 2.7 | 2.8 | 4.1 | 1.8 | 2.6 | 2.5 | 3.6 | 3.8 | 2.6 | 2.8 | 3.3 | 3.2 | 2.8 | 2.8 | 3.7 | 2.7 | 2.4 | 3.3 | 2.8 | 3.1 | 2.3 | 1.6 |
| No. cases where no text response given | 14 | 15 | 13 | 10 | 16 | 9 | 19 | 11 | 10 | 9 | 13 | 16 | 13 | 12 | 18 | 18 | 21 | 16 | 22 | 24 | 10 | 12 | 11 | 11 | 23 |
| Mean score where text response given | 3.4 | 3.5 | 3.5 | 2.5 | 2.6 | 3.8 | 2.9 | 2.6 | 3.4 | 3.3 | 3.9 | 2.6 | 3.1 | 2.6 | 3.4 | 2.6 | 3.0 | 4.3 | 3.7 | 2.7 | 3.6 | 2.9 | 3.2 | 2.9 | 1.9 |
| No. cases where text response given* | 158 | 159 | 160 | 68 | 139 | 197 | 129 | 165 | 174 | 175 | 188 | 164 | 178 | 178 | 164 | 159 | 142 | 167 | 142 | 131 | 175 | 171 | 159 | 154 | 112 |

Ease-of-comprehension scale: 1 = very difficult, 2 = quite difficult, 3 = neither easy nor difficult, 4 = quite easy, 5 = very easy.

*Please note that this did not include those who gave a 'don't know' answer, as these are likely to have given low ease-of-comprehension scores.

Shaded variables are questions where significant difference in mean scores for those who gave a response and those who did not ($p < 0.05$).

Source: IES Salus survey results on behalf of EU-OSHA

