Health and safety in the small to medium-sized enterprise

Psychosocial opportunities for intervention

Prepared by Heriot Watt University for the Health and Safety Executive 2007
The project was commissioned in response to the HSE competition for ideas for research in 2001. The project aimed to identify psychosocial factors which are effective in the maintenance and improvement of health and safety by the SME. The report outlines the work undertaken to achieve this aim. It describes three key activities:

- a review of the literature;
- telephone interviews with stakeholders; and
- a questionnaire survey.

This project sought to identify what SMEs do about health and safety, what prevents them from doing health and safety, and what would encourage them to undertake more health and safety. The project aimed to elicit views from stakeholders, identify the positive steps presumed to be undertaken, quantify the basis for presumed effectiveness of measures, and to provide recommendations regarding dissemination of these effective actions in support of good safety and health practice.

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**Executive Summary**

This project was funded by the Health & Safety Executive. It was undertaken as part of research contract 4526/R67.167. The project aimed to identify psychosocial factors in the maintenance and improvement of UK SME health & safety. There were three key activities, i) a review of the literature, ii) a series of telephone interviews with stakeholders, and iii) a questionnaire survey exploring established issues in more detail.

The literature review provided general background to the health & safety position for the SME. Their characteristics were described with respect to the larger enterprise. Constraints to good health and safety and opportunities to improve engagement were considered. The practical difficulties in eliciting information from this user group were considered. A lack of effective sector-independent health & safety solutions was identified and the need for user-focused approaches emphasised with particular reference to the direct economic benefits to the SME.

Fifty ‘cold call’ telephone interviews were conducted to elicit stakeholders views regarding current activity, perceptions of constraints to further activity, and enabling factors in their health & safety efforts. Analysis of the telephone interview indicated that there were two broad groups with respect to engagement, a ‘pre-contemplative’ group and a ‘maintaining’ one. Results suggest that this is particularly prevalent during the processes predominantly external to the business, e.g., the buying and selling phases of business activity.

The main reasons given for engagement in health and safety activity were legislation, customers’ demands or safety, staff welfare, insurance and presence of a business health and safety policy. Key facilitators were highlighted. These included, training, knowledge, a health and safety policy, company ethos, and accessibility of health and safety information.

During the second data collection activity, a questionnaire survey was developed using key SME health and safety behaviours and health and safety-related attitudes derived from the telephone interviews. Three hundred & thirteen SMEs responded to questionnaires distributed at trade shows in Scotland and England. Overall, the level of health & safety activity undertaken by SMEs was reported to be low (with 59% spending one hour or less in a typical week, the figure was 60% for the telephone interviews).

A number of theoretical frameworks were applied during the project. The heterogeneous nature of the SME required a model by which to make comparisons between common business practices. Therefore, a generic business activity model was adopted and proved useful to identify process-specific health and safety behaviours and examine their frequency within the sample. A further framework was used to assess SME readiness to engage in health and safety activity. Throughout the project, the model was successful in discriminating engagement.

In the both the telephone interviews and the questionnaire survey, SMEs appear to be divided into several groups in terms of engagement with health & safety, from those that are clearly not engaged to those who are well engaged. Furthermore, those SMEs who were in the later stages of engagement spent significantly more hours per week on health and safety activity. These findings provide significant support for the utility of the ‘Stage of Change’ model in a health and safety context.

The consequence of size of the SME was explored. Smaller businesses notably the micro business, spent significantly less time on health and safety activity compared with larger organisations. Those spending approximately one day per week or more on health and safety activity were found to be the largest SMEs in the sample. Businesses were statistically more
likely to be in the advanced stages of change, i.e., preparation, action or maintenance phases, as the size of the enterprise increased.

Hierarchical regressions performed on the survey data highlighted five key predictors of health and safety activity. These were positive and negative beliefs regarding resources, relationships with suppliers, and decision making by middle and junior level staff. It is notable that after taking into account the influence of the size of the company, these factors remained of significant importance. This suggests that the influence of these factors pervades despite previous findings related to the size of the SME. Results suggest that concerns regarding the consequences of health & safety behaviour tend to lead to increased activity. Further, organisational design was found to mediate this effect.

SMEs were classified into three groups, i) the unaware-inactive, ii) the anxious-active, and iii) the confident-active. It is suggested that interventions may be targeted to meet the differing needs of these three groups. Thus, although there is a low level of health & safety engagement by many SMEs, by careful identification of their characteristics, they may be provided with practical solutions to encourage and support their efforts to develop a healthy & safe workplace.
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1 Introduction

This report was funded by the HSE-supported project 4526/R67.167. The project was commissioned in response to the HSE competition for ideas for research in 2001. The project aimed to identify psychosocial factors which are effective in the maintenance and improvement of health & safety by the SME. The report outlines the work undertaken to achieve this aim. It describes three key activities, i) a review of the literature, ii) telephone interviews with stakeholders, and iii) a questionnaire survey.

This project sought to identify what SMEs do about health & safety, what prevents them from doing health & safety, and what would encourage them to undertake more health & safety. The project aimed to elicit views from stakeholders, identify the positive steps presumed to be undertaken, quantify the basis for presumed effectiveness of measures, and to provide recommendations regarding dissemination of these effective actions in support of good safety and health practice.

Small businesses represent the vast majority of commercial enterprises in the UK and studies have shown that many SMEs recognise the potential benefits of good occupational health. However, the nature of these enterprises is such that they are unlikely to be able to support dedicated health and safety staff regardless of good intentions to protect the people and processes at work. Reassuringly, there is a wealth of available literature (e.g., the Health and Safety Guidance series), training and bespoke advice from consultants available to assist in compliance with the existing regulations.

From a practical perspective, the SME often experiences a potential organisational conflict between the pressures of generating income and aim of protecting staff from occupational hazards. They frequently trade on a reputation for reliability, quality and competitive costs. Such goals although not exclusive, may be at variance with good health and safety management.

Typically, SMEs take their health and safety responsibilities very seriously and conscientiously. They take advantage of the available support mechanisms and seek to apply them effectively. However, in many enterprises of this type, regardless of their best intentions, find themselves failing to abide by good health and safety practice (HSE, 1998) even when they can be seen to have a effective understanding of the issues and the implications of non-adherence with best practice and regulations.

“Small firms often appear to be unaware of their legal obligations, do not realise the dangers of poor practice, do not think about the benefits of good health and safety practice and have insufficient resource to devote to health and safety” (McKinney, 2002)

The objectives of this project were to:

i) seek to quantify the prevalence of health & safety activity in UK SMEs;
ii) place this in a scientific context based on the available literature;
iii) survey the specific issues of concern for the user group and identify solutions that have been reported to be effective;
iv) report findings, propose solutions and
v) disseminate these via appropriate mechanisms.

To meet its objectives this project had three key activities, i) a literature review, ii) a telephone survey, and iii) a questionnaire. These were completed and are described in more detail below.
2 PART ONE: LITERATURE REVIEW

2.1 The SME

The overwhelming majority of businesses in the UK and Europe are SMEs. Research into SMEs is problematic, therefore until recently, many of the SME interventions have been modelled on research and practice within larger companies. Those interventions which have been designed for the smaller business often lack a theoretical underpinning. Notably, with the exception of three studies (Barrett, Haslam, Lee, & Ellis, 2005; Haslam, James, & Bennett, 1998; Stephens, Hickling, Gaskell, Burton, & Holland, 2004) psychological factors such as beliefs, knowledge and attention factors, which were appeared to be salient, were not an explicit part of the interventions. The literature suggests that the underlying mechanisms, which could predict whether an SME was likely to engage in health and safety activity have not often been systematically examined.

Small to medium sized enterprises have been defined as having between 10 and 50 staff (Borley, 1997; Walters, 2001). Further, they have been classified (Walters, 2001) into the micro-enterprise (< 10 staff), the small enterprise (10 – 50 staff), and the medium sized enterprise (< 250 staff). Data from 1996 indicates that 96% of all UK enterprises were SMEs. In Europe, in some countries more than half of those employed work in enterprises with less than 100 employees, whilst in others more than 75% are engaged with such businesses (Walters, 1996), see Table 1. Further, the number of SME businesses has greatly increased in recent years (DTI, 1997). As organisations, they are very heterogeneous in terms of employment sector, management processes, and outputs (Breakwell & Petts, 2001).

Table 1. Employment and workplace size in selected European countries, from (Walters, 1996)

<table>
<thead>
<tr>
<th>Country</th>
<th>SMEs % of enterprises</th>
<th>SMEs % of workforce</th>
<th>Definition of SME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>97%</td>
<td>40%</td>
<td>&lt; 50 staff</td>
</tr>
<tr>
<td>Finland</td>
<td>99%</td>
<td>45%</td>
<td>&lt; 100 staff</td>
</tr>
<tr>
<td>France</td>
<td>97%</td>
<td>53%</td>
<td>&lt; 50 staff</td>
</tr>
<tr>
<td>Greece</td>
<td>99.5%</td>
<td>74%</td>
<td>&lt; 50 staff</td>
</tr>
<tr>
<td>Ireland</td>
<td>97%</td>
<td>50%</td>
<td>&lt; 50 staff (in private sector)</td>
</tr>
<tr>
<td>Netherlands</td>
<td>98%</td>
<td>?</td>
<td>&lt; 100 staff</td>
</tr>
<tr>
<td>Portugal</td>
<td>98%</td>
<td>51%</td>
<td>&lt; 100 staff</td>
</tr>
<tr>
<td>Spain</td>
<td>92%</td>
<td>80%</td>
<td>?</td>
</tr>
<tr>
<td>Sweden</td>
<td>97.5%</td>
<td>30%</td>
<td>&lt; 50 staff</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>96%</td>
<td>50%</td>
<td>&lt; 100 staff</td>
</tr>
</tbody>
</table>

They typically experience difficulty in recognising relevant regulations (Borley, 1997), interpreting regulations (Vassie, Tomas, & Oliver, 2000), and they report anxiety in engaging in communications with the HSE (Borley, 1997). The SME has low collective strength and little or no union representation (Walters, 2001). They have a low probability of inspection by the regulator and many understand this (Walters, 2001). Objective review of health and safety within SMEs shows relatively lower standards than large enterprises.

The SME has been identified as (and continues to be) a priority by the Health and Safety Commission (Health and Safety Commission/HSC, 1998). Surveyed SMEs (British Chamber of Commerce, 1995) recognise the importance of health and safety and predominantly, they tend to adopt a ‘common sense’ approach to it. There is a low priority given to health and safety activity in small businesses. SMEs tend to underestimate the risks posed by their workplace (McKinney, 2002; Vickers, Baldock, Smallbone, Phillips, & Ekanem, 2003). Indifferent attitudes of managers to health and safety are reported by employees and
intermediaries (Vickers, Baldock, Smallbone, Phillips, & Ekanem, 2003). Regulations are viewed as overly complex, and as organisations, health and safety is not recognised as a key business objective (Vassie & Cox, 1998). They are reluctant to contact the regulator for assistance for fear of prompting an inspection by the regulator. This ‘fear factor’ has been well identified in the published literature (Haslam, James, & Bennett, 1998; Yapp & Fairman, 2006). The concern may be well-founded, if unfortunate for the overall health and safety of the nation’s SMEs.

SMEs have been shown to experience proportionately more accidents than large enterprises (Walters, 2001), see Table 2. They tend to be young organisations and therefore they are only statistically likely to experience an accident every 14 or so years (for enterprises with around ten employees) (McKinney, 2002; Tait & Walker, 2000a). Thus, it is unlikely that an SME will ever experience an accident throughout the lifespan of the average SME business (3 years).

Table 2. Standardised incidence rate of accidents at work by economic activity, size of the local unit of the enterprise and severity from Eurostat (2002)

<table>
<thead>
<tr>
<th>Employees</th>
<th>Total</th>
<th>0**</th>
<th>1 – 9</th>
<th>10 – 49</th>
<th>50 – 249</th>
<th>250+</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than three days absence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nine NACE branches*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>4090</td>
<td>2309</td>
<td>3886</td>
<td>5218</td>
<td>4085</td>
<td>3254</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>7039</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electricity gas water supply</td>
<td>4502</td>
<td>6669</td>
<td>7848</td>
<td>5485</td>
<td>3716</td>
<td>3342</td>
</tr>
<tr>
<td>Construction</td>
<td>1517</td>
<td>1087</td>
<td>4658</td>
<td>4067</td>
<td>2001</td>
<td>1019</td>
</tr>
<tr>
<td>Wholesale and retail repairs</td>
<td>7801</td>
<td>4907</td>
<td>8990</td>
<td>9496</td>
<td>6400</td>
<td>5125</td>
</tr>
<tr>
<td>Hotels and restaurants</td>
<td>2483</td>
<td>937</td>
<td>2247</td>
<td>3434</td>
<td>3116</td>
<td>2315</td>
</tr>
<tr>
<td>Transport, storage and communication</td>
<td>3688</td>
<td>768</td>
<td>3272</td>
<td>5359</td>
<td>5237</td>
<td>3195</td>
</tr>
<tr>
<td>Financial intermediation: real estate and renting</td>
<td>5689</td>
<td>4514</td>
<td>5046</td>
<td>7464</td>
<td>7138</td>
<td>4583</td>
</tr>
<tr>
<td>Total</td>
<td>1782</td>
<td>469</td>
<td>769</td>
<td>1841</td>
<td>3003</td>
<td>2839</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fatal accidents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nine NACE branches*</td>
</tr>
<tr>
<td>Agriculture</td>
</tr>
<tr>
<td>Manufacturing</td>
</tr>
<tr>
<td>Electricity gas water supply</td>
</tr>
<tr>
<td>Construction</td>
</tr>
<tr>
<td>Wholesale and retail repairs</td>
</tr>
<tr>
<td>Hotels and restaurants</td>
</tr>
<tr>
<td>Transport, storage and communication</td>
</tr>
</tbody>
</table>


** 0: Self employed without employees

As organisations, caution should be exercised in the interpretation of research data elicited from SMEs. The user group is typically reluctant to participate in surveys and questionnaires. Response rates of 10-15% are not uncommon in the SME research literature (Vassie & Cox, 1998; Vassie, Tomas, & Oliver, 2000). Clearly and generally appropriately, these organisations need to focus on maintaining a profitable business and such ‘distractions’ are often not viewed as a priority by staff.

2.2 New Challenges for the SME

Cultural change in the successful management of health and safety at work in recent years has highlighted new challenges for the SME. Risk assessment has been defined as “…nothing more than a careful examination of what, in your work, could cause harm to people, so that you can weigh up whether you have taken enough precautions or should do more to prevent harm”, (HSE, 2003). However, European legislation encapsulating the risk assessment ethos has had a dramatic effect on European attitudes and policies with regard to the health and safety of the industrial organisation. Cultural shift has been the result for many businesses, where it is no longer sufficient to meet the letter of prescriptive regulations. The requirement to attempt to anticipate and plan for unforeseen incidents and potential hazards requires a more proactive approach to safety and health management. Particular issues pertaining to the
SME become relevant in the risk assessment context. For example, on the positive side they may be uniquely aware of the special hazards associated with local manufacturing processes and procedures. However, the economic pressure on the business may be such that, characteristically, health and safety is viewed as something less than a priority.

2.3 Constraints to Good Health and Safety

“Small firms are particularly difficult for the HSE to engage with. Business issues such as cash flow, sales, staffing and production are even more critical for small firms than for larger ones – and health and safety is often given a very low priority.” (McKinney, 2002)

Constraining factors may be influential in curbing the extent of a number of practices with small and medium sized businesses. Constraints extend to the uptake of interventions offered by external agencies. Restricted time and resources are frequently highlighted as a barrier in attending health and safety seminars (EASHW, 2004). To illustrate, reasons given for not taking part in the ‘Fair Chance at Work’ initiative for SMEs (only four out of 480 targeted businesses took advantage of free services to promote health at work) included:

• No time to spend on project
• Difficult year
• Pushed timescales
• Other business priorities (Griffin, Hall, & Watson, 2005)

2.3.1 Suspicion of Interventions

There is also evidence that health and safety seminars offered free of charge may be vulnerable to the suspicion that they are of low value, and these may negatively affect their uptake by SMEs (EASHW, 2004). Conversely, interventions which incur charges for services may have reduced uptake because of limited resources available to small businesses (Dugdill, Kavanagh, Barlow, Nevin, & Platt, 2000). Schemes which include a grant system for small businesses may have more success in securing uptake of services, such as mentoring for micro-businesses. However, there is a problem of accessing those companies who need services the most (Bradshaw, Curran, Eskin, & Fishwick, 2001). Businesses that tend to take up services already have more progressed health and safety strategies in place (Technopolis, 2004). Schemes therefore may not be effective in delivering on targets to Revitalise Health and Safety (DETR/HSE, 1999) if enterprises with little or no health & safety activity are not both targeted and engaged.

Despite economic factors being intuitively associated with the lack of engagement and uptake of health & safety activity, studies (Griffin, Hall, & Watson, 2005; McKinney, 2002) indicate that constraints may be more perceptual than economic. The perception that moves to improve heath and safety may not produce any improvement or benefit in real terms, may be more of an influence in undermining the motivation of SMEs to increase health and safety involvement. In turn, this perception may be sustained by the lack of evidence that initiatives are producing real, rather than supposed benefits. There is therefore, a need to demonstrate that initiatives are producing actual benefits in terms of health, safety and economy (Griffin, Hall, & Watson, 2005). In order to achieve this, assessment of the effectiveness of interventions needs to be improved. However, this is not without its problems, given the reluctance of SMEs to take part in surveys needed to provide evidence of effectiveness.

The notion that interventions may not bring real improvements for the SME may also derive from the fact that early interventions were modelled on what appeared to be good practice in larger firms, rather than as a result of research findings among smaller enterprises. This could lead to a number of shortcomings, such as poor ‘offer of intervention’ timing, inappropriate stage of development for the small business, poor relevance, and/or a lack of marrying the needs of business and type of intervention (McKinney, 2002). Also, smaller businesses may be less likely to have measures of performance, staff morale, sickness absence, and time lost
through accidents in order to make objective and calculated evaluations of any intervention. One exception being the SMEs involved in the construction industry, where commissions may be contingent on satisfactory levels of health and safety arrangement being in place (Lancaster, Ward, Talbot, & Brazier, 2003). Obstacles to the use of performance measures in SMEs are similar to those which are cited to impede health and safety activity; lack of human resources, managerial capacity, limited capital resources, a reactive approach, tacit knowledge and little attention given to the formalization of processes, and the perception that such systems are a cause of bureaucratization and an obstacle to the flexibility of SMEs (Garengo, Baize, & Biotitic, 2005).

2.3.2 Legislation
The current position in the UK is that the Health & Safety at Work Act (1974) and the Management of Health & Safety at Work Regulations (1999) apply equally to all organisations. However, certain sectors have inherently higher risks and therefore more legislation has been drafted to address their needs than those perceived risks encountered in, perhaps, the service or retail sectors. This may deter some in those sectors from taking up support mechanisms. For example, one evaluation of a project, aimed at small businesses, noted that whilst 94% took up offer of free health and safety starter pack, only 33% used the intervention of free inspection (Dugdill, Kavanagh, Barlow, Nevin, & Platt, 2000). Notably, those who used the inspection option were involved in the construction industry, suggesting that the increased legislation in this area compared to areas such as retail, provided a motivating factor.

Survey evidence has also revealed that, for many SMEs, there is a lack of awareness of what specific health and safety legislation is relevant to their business (Vickers, Baldock, Smallbone, Phillips, & Ekanem, 2003). However, lack of awareness of legislation does not necessarily preclude engaging in efforts to improve the working environment in terms of health and safety. A number of businesses took part in health and safety activity, despite being unsure of their statutory requirements (Pilkington, Graham, Cowie, Mulholland, Dempsey, Melrose, & Hutchinson, 2002; Vickers, Baldock, Smallbone, Phillips, & Ekanem, 2003).

2.3.3 Lack of Perceived Relevance of Advice Concerning Legislation
The relevance of health and safety advice to small firms has been questioned. For example, the COSHH Guidance manual published by HSE to improve chemical control has been perceived to be aimed at larger businesses (Wiseman & Gilbert, 2002). There has difficulty of finding health and safety advice leaflets relevant to the specific needs of the organisation (Wright, Marsden, Collier, & Hopkins, 2003). Small firms tend to see their own ability to interpret regulations as limited and therefore they require more specific advice to tell them exactly what to do. However, defining sector membership can be problematic, as there are a number of different criteria that can be used to determine perceived membership. For example, an organisation that delivers foodstuffs may consider itself to be in the retail sector rather than transport one. The main factor is the product of the company, but there are number of other influences such as assignment to a sector by banks, trade unions and insurers.

A lack of reported difficulties in complying with health and safety legislation (Vickers, Baldock, Smallbone, Phillips, & Ekanem, 2003; Walters, 2001) could be interpreted as lack of awareness of legislation (a communication issue) or desirability to present one’s business in a good light (research methodology issue). The former explanation is less likely given findings indicating that, those who do report difficulties in complying with legislation tend to have greater awareness of health and safety regulation than those who claim to have no problems with compliance (Vickers, Baldock, Smallbone, Phillips, & Ekanem, 2003).
2.3.4 Managerial Factors

The characteristic size or structure of the SME may be responsible for other issues. For instance, personal considerations may deter owner/managers from the introduction of health promoting activities with staff. Owners, boss or senior managers have been found to be gatekeepers of the resources available for the SME’s health and safety activity (Stephens, Hickling, Gaskell, Burton, & Holland, 2004). However these identified gatekeepers often do not readily support health and safety. Some companies have reported a lack of interest from the staff, or a difficulty in co-ordinating people to discuss health and safety skills. Unsurprisingly, lack of coordination and communication within a company has also been shown to be likely to undermine health and safety activities (Griffin, Hall, & Watson, 2005).

Management style and business style has also been correlated with levels of occupational health and safety activity. In one study, owner/manager-led companies tended to engage less in health and safety activities than those companies adopting participatory management style (Shampoux & Brun, 2003). In particular, those companies with less than five employees and which were characterised by a style where “everyone was responsible” indicated relatively higher levels of health and safety activity. Management style rather than size may therefore be more important in determining activity levels, with those companies which have a greater distribution of managerial responsibilities also displaying more engagement in health & safety activity. Lack of management training or understanding of good management practice is not only associated with low health and safety engagement, but it can also undermine initiatives to improve health & safety engagement, e.g., worker representation (Walters, 2001). Even in countries where there is legislation, worker representatives are often only undertaking inspections and responding to complaints rather than developing organisational health and safety activity within the SME.

2.3.5 SME Social Characteristics and Dynamics

Social characteristics and dynamics found in small businesses can be also linked to contradictory outcomes for health and safety. For example, positive relations with owner/managers may encourage employees to accept riskier work conditions, ignoring personal requirements in favour of the perceived economic interests of the enterprise (Eakin & MacEachen, 1998). On the other hand, negative employment relations may intensify difficulties surrounding health and safety issues. Ill health and injury can therefore be “shaped by, and itself shapes, social relations” (Eakin & MacEachen, 1998). Managers would, of course, wish to show understanding of the employees difficulties, particularly where there are close working relations, and also a desire to preserve the autonomy of the employees. The employees may have unique understanding of their risks but are still unwilling to compromise the discomfort from some personal protective equipment, for example, hearing defenders and visors adopted in forestry. Religious issues may also be relevant, for example, supplying appropriate protective head gear to Sikhs.

The use of family labour in the SME may be problematic. Businesses making explicit use of family members impose additional considerations in terms of health and safety. The family-employee is influenced, not only by everyday normal health and safety duties of staff, but also by the social constraints of parents, siblings, and relatives. Therefore, they may be more inclined to engage in activities potentially detrimental to safety and wellbeing. For example, extended working hours or safety shortcuts. Ethnicity has been identified as a “second order influence” on health and safety in micro-enterprises (Vickers, Baldock, Smallbone, Phillips, & Ekanem, 2003). Ethnic minority businesses (EMB) exhibit lower profits, greater use of family labour, lower use of IT, and lower trade union membership than both larger enterprises and caucasion control groups. Language barriers can prove problematic, both in understanding legislation and also in managers communicating risks to employees. Although, in one study, difficulties were usually overcome through the help of other staff or family members (Vickers, Baldock, Smallbone, Phillips, & Ekanem, 2003).
2.3.6 Worker Representation within the SME

There is a problem with the level of worker representation on health and safety issues within the SME. Workforce involvement or direct participation where employees are encouraged to “become involved with the determination of their working environment” is rare in small businesses. Therefore, it is less straightforward for employees to employ legal rights to refuse dangerous work or obtain information concerning the risks of their work. Worker representation, in conjunction with trade union representation, has been associated with better health and safety outcomes (Walters, Nichols, Connor, Tasiran, & Surhan, 2005).

Legal claims against employers have been blamed by a number of SMEs for creating a culture where the locus of responsibility appears to lie solely with the employer. Managers have asserted that they found it difficult to persuade the employees to take health and safety precautions (Vickers, Baldock, Smallbone, Phillips, & Ekanem, 2003). However, a number of issues could also be involved here, lack of effective communication between employer and employees, the perception that relations may be strained if employers attempt to enforce unpopular procedures, or a lack of interest in the health and safety of the employees, or not enough time to spend on addressing issues of health and safety when faced with other more immediate challenges. Positive opportunities from unionisation as a worker representation method are considered in more detail below.

Cost of compliance with regulations on management on health and safety at work are reported to be seven times greater for small firms than large enterprises (Lancaster, Ward, Talbot, & Brazier, 2003). For example, the most disproportionate costs were found in attempts to meet compliance with manual handling regulations. Further, a perceived “rip off” culture has been identified with private health and safety consultants. They have been reported as, over-expensive and providing complicated solutions to problems (Tait & Walker, 2000b).

2.3.7 Stress

These are indications in the SME stress literature that suggest conditions in which stress is a major problem for management and workers. Moreover, it seems likely that SMEs are not on the whole generally well-equipped to manage stress. McHugh and Brotherton (2000) found that all companies in a sample of textile producers had employees at every level who were reporting low levels of well-being, but perhaps for different reasons. Low level of well-being was not found to relate to financial performance of the company. It may have resulted from the fact that many companies in this sector supplied goods to major retailers who did not allow control of market information but did demand innovation in design which frequently presented significant production problems. Simpson, Leather and Brotherton (1990) commented that new small businesses saw all business as good business and worked very long hours, often for small returns, without a strategic understanding of the means of controlling workload.

2.3.8 Basic Steps Towards Compliance

Before considering how health and safety can be improved it is relevant to consider the basic requirements that an SME may be expected to meet. There are basic steps to compliance which by law, have to be undertaken if an enterprise employs more than five employees. For instance, companies should have a written health and safety policy in place. Even for those enterprises which employ less than five, it is considered good practice to have a policy (Toone, 2005). It should comprise of: a health and safety organisation chart, a description of the health and safety role of each category of employee in the organisation, and strategies to identify and manage risk. In principle, the policy should then be used as a tool to outline the employers’ commitment and approach, and delegate health and safety duties to employees. In practice, even the process of producing a comprehensive document may be problematic. For
instance, both identifying risk and managing risk may be difficult, therefore help is often needed at an early stage, for example, during the formulation of the health and safety policy.

2.4 Improving Safety & Health in the SME

As a nation if we are to improve the health and safety of the majority of our industrial organisations, it is of some importance to consider the most effective mechanisms to influence organisational behaviour. The SME presents special challenges in the identification of effective means of positively influencing behaviour. Various agents have been presented in the literature (Walters, 2001) as potential mechanisms that may be exploited, these and others are discussed in the section below.

2.4.1 Third Party Support

SMEs have been reported to be resistant to contact the regulator for assistance as a consequence of concerns that they will be targeted for inspection. A third party facilitator has been suggested to offer a less threatening mechanism to provide practical, personal and effective health & safety support. For example, a printing company may have concerns regarding compliance with the manual handling regulations but may be resistant to seek advice from the HSE for fear that they may be inspected on a more general basis. If they ‘keep quiet’ they may never receive a spot check inspection. A third party sanctioned or facilitated by the regulator may provide a less threatening presence with the overall outcome of an improvement in health and safety practice.

Many organisations could potentially fill the role of a third party facilitator in support of the SMEs health & safety needs, for example, the employers organisations, trade associations, health & safety consultants, trade unions and insurance agents. Several third parties have been used to promote engagement in the process of risks assessment. However, there are drawbacks according to the type of third party involved, for instance a number of employers were put off attending awareness raising seminars because of the link with trade unions (EASHW, 2004). Also, despite the concerted efforts of the European Union agency, the effort and money spent on initiatives involving third parties may be disproportionate to initial uptake, which has been shown to be only three percent in one national initiative for one Dutch project, (400 of 13,500 companies, (EASHW, 2004).

Trade Unions

Unionisation is low in SMEs (Walters, 2001). Potential impact is may be practically limited to availability of training, advice, and publications. However, although direct trade union membership is low in SMEs, the major trade unions and associated organisations can, and do play a leading role in lobbying for changes to regulation, development of codes of practice, contribution to regional support networks and underlying support for research activities. There are a number of examples to be found in the literature where trade unions have been highly active in supporting health and safety initiatives, although in the main, these are ‘pilot’ schemes, therefore their sustainability is yet to be demonstrated.

Union Initiatives in Small Firms

Research has indicated that initiatives instigated by the trade unions may result in various positive outcomes for the SME. For example, more effective consideration of statutory rights (Kirby, 2002). Tripartite initiatives including Roving Safety representatives (RSRs) and Worker safety advisors (WSAs, to improve worker representation) have been employed. Three such initiatives, namely Roving Safety representatives (RSRs) and Worker Safety Advisors (WSAs) and a worker safety advisory centre were evaluated by the TUC.
They were investigated through interviews with the following parties:

- Trade union representatives
- National union secretary covering small agricultural workplaces
- Senior consultant with research consultancy running pilot workers safety project.
- A health and safety policy officer
- A TUC health and safety trainer
- A health and safety commissioner
- A TUC senior policy officer.
- Two owners of small enterprises
- Chair of Asian business forum representing small business enterprises
- A Work Safe health and safety advisor
- A union health and safety advisor covering small workplaces

**Evaluation**

Objective determination of health & safety benefits requires quantifiable evaluation. However, this is particularly difficult to find at any substantive level in the literature. One scheme which warrants further consideration in the light of its evaluation activity is considered below. Under statutory rights regulations committees (SRSC), safety representatives are allowed to be appointed for the Equity Actors Union or for the Musicians Union, they do not need to be employees (because of the transient nature of actors and musicians employment). Thus, a number of problems face freelance musicians. For example, there is typically no time to elect a health and safety representative. A health and safety problem may already exist at the venue however there may be pressure from other musicians not to complain for fear of losing employment. Such a pre-existing problem may occur during the ‘gig’ with a response that the show must go on, the freelance musician will them move on to the next venue leaving the problem unresolved (Kirby, 2002).

The transient nature of the artist’s work may inherently discourage good health & safety practice. To deal with this type of problem, fifty health and safety representatives are employed by the artist’s unions in positions with stable employment. Six are called to represent freelance musicians in smaller enterprises. There are seven full-time health and safety officers whose duties may include visiting venues before the show begins, speaking to production companies, and liaising with enforcement organisations so that they are aware of any problems in venues they are responsible for. Health and safety information is included in the members’ journal and there is also a health and safety working group which meets four times a year to ensure health and safety of the membership is active. The TUC report evidence to show that the mechanisms introduced have produced improvements in small venues and enterprises. Health and safety information sheets are now available for freelance musicians in regularly used venues. Owners of venues and production companies are sent reminders by trade unions reminding them of their legal responsibility to consult with workers and ensure that risk assessments are carried out and preventative and control measures adopted. Close contact is maintained with unions and enforcement authorities to ensure that problem venues are monitored and a number of on site health and safety improvements have been undertaken. For example, air conditioning has been installed in pits, drinking water, noise control or hearing protection is provided, and systems for testing electrical equipment were set up. Safety committees were formed and risk assessments were also carried out. However, several constraints were identified, including the vulnerability of workers; they may not be asked to work again if it is known that they are health and safety representatives. The use of union branch secretaries as health and safety representatives has been suggested as a possible solution to this problem. Also, there remains an issue of funding of such schemes after the pilot. Continuing funding is a problem not unique to this initiative. The problem of sustainability of projects is a recurring theme found in the evaluation of pilot schemes.
Tripartite (TUC, TGWU, HSE) Initiatives (including TGWU Roving Safety representatives)

Eight roving safety representatives (RSRs) were scheduled to visit 50 volunteer farms, health and safety consultants will visit the same amount of farms and comparisons will be made with the performance of health and safety of farms that receive no visit at all. Functions include carrying out joint inspections of the workplace, looking at documents relevant to health and safety, discussing the causes of injury and ill health in agriculture, encouraging worker involvement in health and safety by looking at consultation procedures, obtaining their views on health and safety and examining concerns, providing the farmer information on standards of agriculture, carrying out further visits to check progress and promote further improvements. It is currently too early to comment on practical achievements, but uptake already demonstrates that farmers are not hostile to the initiatives as previously suggested; employers are very positive and welcome the involvement of their workforce. However, it might be argued that the main challenge will be to expand the initiative and encourage those farmers who are reluctant to take part in the scheme. This could be aided by granting legal rights to RSRs to gain access to farms (Kirby, 2002). A scheme has been set up to further train the RSRs providing emphasis on skill development, replicating conditions that may occur on the farms through role play, motivating employers and workers, inspection skills, using information and the law. Feedback from the RSRs has been positive. Communication and union support has been an important factor in sustaining the work of the RSR which can be difficult and demanding and is qualitatively different from the work of a representative in a single workplace. RSRs are reimbursed from for their loss of earnings, travel and subsistence and require substantial commitment in order to negotiate time off work or devote spare time to the role. This issue is shared by the representatives in the Musicians Union.

Future funding beyond the pilot change needs to be addressed; the TUC has suggested the funding could be part of Government subsidy. Major organisations in the farm produce food chain such as supermarkets could be another source of funding. Consultation on health and safety could be part of the supermarket accreditation scheme.

Tripartite Initiatives – Worker Safety Advisors (WSA)

Some projects have experimented with multi-party collaboration to enhance health & safety practice. One scheme which considered main five sectors is which there where particular problems with worker involvement and participation, namely small automotive/fabrication, civil construction, hospitality (notably public houses), retail and the voluntary sector. The HSE was responsible for recruiting employer volunteers, the TUC recruited the WSAs. The retail sector was not represented in the scheme as the main volunteer was suspicious of the scheme. The WSAs were paid a salary and were seconded from their union. They could participate if they had been trained to stage 2 of the Health and Safety level or equivalent.

The TUC reported that volunteering for the project by employers was encouraging and that the WSAs experienced positive and welcoming employers and workforces while exercising their duties. However, the challenge was to be able to engage with those enterprises that were not so willing. Practical experience rather than purely theoretical knowledge was seen as crucial in winning the support of the companies. Adequate administrative and technical support from the trade union was seen by the TUC to be crucial.

In another project, a worker safety advisors pilot was set up to support worker representation (Shaw & Turner, 2003). Roving safety advisors were employed provide health and safety information and facilitate employee participation. The scheme primarily targeted non-unionised workplaces. One attractive feature of the scheme was the opportunity to encourage health and safety participation without having the involvement of a health and safety inspector. Outcomes observed from the pilot included, improvements in approaches to health
and safety, increased internal communication and consultation on health and safety matters, and new structures developed to support health and safety activity. Funding of future work safety advisors (originally planned to be on secondment from large firms or trade unions), needs to be considered. Future nationwide schemes managed jointly between HSE, TUC, and employer organisations have been suggested (Shaw & Turner, 2003).

Worker health and safety centres form another trade union supported initiative. One example, received funding from Keighley Trade Union council, the National Lottery, Bradford Health Action zone and Keighley area single generation budget. The Keighley ‘Work Safe’ project aimed to provide advice on:

• Health and safety at work
• workers injured or made ill by their work
• free general health and safety advice, and
• information and training for SMEs and voluntary sector groups.

For those within a 30 mile radius of Keighley the centre provides:

• Free access to their health and safety library
• Free audiometry (hearing tests) for workers exposed to noise
• Health and safety workshops and training
• Health and safety information and leaflets
• Online and telephone advice aimed at the voluntary sector, community groups, small local companies, employees and trade union representatives
• Drop-in advice service
• Outreach advice service
• Access to community based training and meeting rooms

In a six month period, 402 people (70% individual workers) were provided with Occupational Health and Safety (OHS) advice. Eighty percent of advice came by emails. Further, during the same period there had been twenty visits to workplaces and homes. Work Safe visited a number of businesses involved in the small business forum to provide advice on health and safety events to the employers and workers, and for the forum itself. Some attitudes of the employers were observed as a barrier. They are aware of the strong trade union links of the centre, they think a free service lacks credibility; and they were concerned that greater health and safety involvement creates more expenditure.

Safety Information Centres (SICs) exist to provide a point of access to assist the SME with safety management systems. SMEs have been reported to contact SICs to seek advice in the formulation of policy documents and risk assessments (Tait & Walker, 2000a). A Safety Information Centre may then provide a twofold benefit to the SME, first by providing practical guidance in the creation of the requisite bureaucracy of health and safety compliance, and second, by providing a broader and more strategic understanding of health and safety practice. However, as with other interventions, safety information centres have still to overcome employers’ suspicion that free services lack expertise and the concern that centres have close affiliations with trade unions.

Employers/Joint Organisations
Motivation and focus for employers’ organisations is typically on the networking of information to promote efficiency and profit of the business. Therefore, safety and health promotion, while of relevance, are not primary aims of these frameworks. Further, opinion in the literature is divided as to whether sharing of effective practice (health & safety or otherwise) is promoted on the grounds of mutual benefits, or closely guarded to protect competitive advantage. Why would one invest in costly developmental costs and then share any economic advantages gained with potential competitors? However, dissemination of information outlining small business best practice and efforts to improve efficiency and
reduce absence due to work-related ill-health has been prominently featured as an outcome in recent European SME funding schemes (EASHW, 2004). It may be argued therefore, that such external financial incentives are necessary to increase the networking of such information, because the concept of reciprocal health and safety benefits is not a sufficient motivator.

**Financial Institutions**

These bodies have a substantial opportunity to positively influence the wellbeing of the SME, particularly during initial setup and expansion phases. SMEs seeking financial support will be required to produce a robust business plan and within this, the scope of good health and safety practice can be defined as a requirement.

**Insurers**

Insurers are in a very powerful and prominent position to influence the SME (Wright et al. 2004). They may specify conditions upon which liability insurance is granted and therefore provide a prerequisite to business operation. If the cost of insurance is considered to be a high proportion of company expenditure then potential savings will be seen as high, providing an important motivator. The link between health and safety performance and insurance premiums needs to be perceived as direct in order to reinforce motivation for improving such performance. The HSE has moved to make this association between performance and insurance costs more explicit by developing an SME index (Wright, Norton Doyle, Marsden, Bendig, & Shaw, 2005) with a view to linking index scores based on incident rates, hazard exposure and management, to employers’ liability insurance. The index is currently undergoing evaluation and findings will be reported later this year. In the meantime, there are factors that need to be considered. For instance, if there is a long delay between improvements and renewal of insurance the strength of the motivation may be undermined. The long latency period of some diseases contracted after exposure to hazards is problematic, as it disturbs the performance/premium connection. The strengthening of the motivation to improve health and safety performance by reducing insurance costs is contingent upon improving the measurement of performance, it remains to be seen whether this can be successfully achieved through initiatives such as the SME index. Arguably one of the key predictors of its success is whether insurers will actually recognise the index as a valid tool. However, the involvement of insurers in the development of the SME index assessment tool may be seen as adding credibility to the measure.

In France, perhaps due to the lack of reliable measures of health and safety performance used by individual SMEs, insurance is estimated collectively by industrial sector. This may discourage motivation to improve health and safety; however this may be overcome by the use of prevention contracts for companies with less than two hundred employees. Companies can benefit from financial support from a national health service fund, if they take up the contract and formulate a four-year action plan.

More positive arguments for health & safety intervention, financial gains, reduced insurance costs, enhancing reputation, and improved employee wellbeing, may be more noticeable outcomes for a small business where which has not previously experienced accident or injury (Tait & Walker, 2000b).

**Professional Organisations**

Professional bodies may be well placed to present and promote best practice for members and through this means may offer a constructive and unthreatening input to improving the safety and health of the SME. Such organisations are already arbiters of professional standards such as the British Medical Association or Law Society. These organisations often provide an
additional link to insurers by recommendation, which as previously indicated, may reward moves towards best practice via the incentive of lower insurance premiums.

**Trade Associations**

Linking, co-ordination and sub-contracting via trade associations are SME interactions through which exchange or contractual relationships may be determined. On the positive side, these may enrich safety and health through the specification of working conditions or exchange of informal advice. Negative influences may be exerted, via obligations, deadlines and propagation of examples of bad practice. However, the positive contribution of trade associations has been encouraged recently in initiatives sponsored by the European Health and Safety Agency, where there have been a large number of joint ventures between associations, health and safety organisations, and SMEs. Trade associations have also been useful in identifying and distributing health and safety material that is perceived to be more relevant to the nature and sector of certain SMEs. For example, hairdressers were more likely to read material sent to them by the Hairdressers Federation than information from the local authority or training colleges (Fairman & Yapp, 2005).

**Small Business Trade Association Forum**

Recently developed small business trade association forums seem likely to be a useful means of improving communication with small businesses. The small business trade association forum was set up to ensure that the Health and Safety Commission (HSC) and the Health and Safety Executive “hear the concerns of small businesses”, improve communication between small business and the HSC and HSE. The forum is also expected to consult small businesses on new initiatives and proposed changes in health and safety law. There are a number of other areas where such a forum may be useful, for example, improving the perception of the HSC/E, sharing much needed statistical information in small businesses and dissemination of research on small businesses. However, these will only form part of the mechanism to recognise the fact that SMEs now form approximately 98% of organisational units that are active in the UK economy.

**Health & Safety Professionals & Colleagues**

Many SMEs employ the services of external consultants in the preparation and assessment of materials supporting health and safety in the workplace for example, risk assessments and policy statements. These individuals may be in a position to positively influence the focus and processes of the SME. However, they are relatively expensive for the SME to engage and therefore contact opportunities may be low without the financial assistance seen in European health and safety schemes for small businesses (EASHW 2004). In contrast, more informal support may be available through larger enterprise colleagues and associates. This may provide the SME with an arena to discuss health and safety processes adopted by the large enterprise (LE) and reflect on the relevance/practicality of these approaches to their business (Borley, 1997).

**Suppliers**

Suppliers will have relatively limited influence on the target organisations. They may query, for example, safe storage facilities for chemicals under the general provision of the Health and Safety at Work Act (1974) or specific regulations, e.g., manual handling (HSE, 2000). However, practicality would suggest it is unlikely that much emphasis would be placed on this. Although supply chain influences can be positive in terms of on health and safety practice, in the experience of a number of micro-enterprises, the supply chain may have a negative effect if demands for health and safety requirements are coupled with customer demand for low prices (Vickers, Baldock, Smallbone, Phillips, & Ekanem, 2003).
The supply chain and enabling certification may have a role in promoting better health and safety performance. Specification in tender documents of meaningful compliance with HSE regulations is currently sometimes adopted by organisations as a means to determine compliance. This approach may be adopted to encourage SME participation in health and safety procedures. BS 5750 was the forerunner of ISO 9000 and was one of the first commercial quality assurance systems specifications. Customers have been stated to operate a ‘no BS 5750, no contract, policy’ (Redmann et al., 1995 as cited in Vassie, Tomas, & Oliver, 2000). However, caution should be exercised in that this strategy may inadvertently exclude some organisations as a result of the bureaucratic overhead (Vassie, Tomas, & Oliver, 2000). However, a lack of formal health and safety documents does not necessarily indicate a poor approach. Moreover, the presence of health and safety policies and risk assessments does not necessarily represent a genuine and deep consideration of the organisational needs in this area. SMEs typically operate more ‘relaxed’ management systems (Storey & Westhead 1994, as cited in Vassie, Tomas, & Oliver, 2000). Evidence suggests however, that both performance and efficiency are improved when more formal quality management systems are introduced.

Customers
The customer has the potential to strongly influence the SME’s attitude to health and safety investment. Invitations to tender for work may have amongst other enabling conditions, one of the most significant influences on the safety and health behaviour of the SME, e.g., quality assurance compliance statements and a requirement for demonstration of policies/risk assessments indicative of good health and safety practice. However, to what extent is real compliance checked/intended? It is interesting to consider in the commercial environment whether such ‘enabling requirements’ for projects are genuinely considered by the customer as necessary. For example, how frequently are risk assessments and policy documents genuinely considered by customers at a deep level. In the event of an incident, the lines of liability have been clearly drawn. Does the customer really care about whether compliance is real or paperwork. The customer may be one of the most significant performance shaping factors for the SME yet ill-motivated to exert this pressure when delivery of goods and services to budget is closer to the customer’s requirements. “Requiring effective health and safety as a pre-requisite may be one of the best ways to lead the SME community to better practice” (Vassie & Cox, 1998).

Medical Intervention
GP and Primary Care Trusts may operate as mechanisms providing health and safety advice (empowering workers to change problematic situations, reduce hazards and report symptoms, (Jackson, 2004). There are three main potential interfaces:

- Consultation post injury – for example, ‘the medical model’ typically adopted by many General Practitioners, is one in which a fix is presented in terms of drug administration or referral to specialist services. In the context of health and safety this approach is both post-hoc and reactive.
- The application of epidemiology provides an opportunity for health professionals to diagnose contemporary health and safety hazards as they emerge for example, the incidence of asbestosis related to working practices. Further, epidemiology encompasses measurement of the effectiveness of interventions and the dissemination of findings to guide the design of further initiatives.
- Health promotion may be contrasted with the traditional medical model in that the focus is on the a priori prevention of ill health. Primary care initiatives have employed techniques such as: exercise, awareness of staff mental health and healthy eating, with some success (Martin, 2004).

There have been moves to increase the provision of health and safety advice in the primary care arena. It has been suggested that advice in primary care could lead to empowerment of
the worker and provide them with an opportunity to influence workplace exposure for their colleagues and may influence management attitudes (Jackson, 2004). This may be rather optimistic given the difficulty seen with worker representation where workers find it hard to challenge or change management attitudes to health and safety for fear of victimisation. However, health and safety can be seen to bring about improvements in worker’s safety and reduce sickness absence. Therefore, such schemes may increase motivation to improve on health and safety in the workplace. Seven percent of general practice consultations are for work-related issues. This number may be higher since the patient and GP can be unaware of the aetiology of a number of complaints which may in fact prove to be work related after further investigation. Ninety percent of patients registered with GP practices visit their GP within a three year period. This gives opportunity to review worker’s health and safety risks and identify work related trends.

Two occupational advisory services in Newham and Sheffield, respectively, were evaluated and indicated significant differences between advised and non-advised patients on a large number of health and safety related outcomes. Benefits were found in terms of improvements and changes in the workplace, and also in health improvements or stability. Workplace outcomes were related to those that were identified by the occupational health adviser (after discussion with the patient) with little or inadequate health and safety provision identified. Health outcomes are often more difficult to evaluate and frequently need more specialist investigation for conditions such as asthma and dermatitis which also may have long latency periods such that benefits may not be realised within the evaluation period. Nevertheless, participants in the advice group reported significant reduction in the presence of symptoms such as back pain, headache, fatigue, depression, dizziness, and sore throat than the non-advice comparison group. Also, there was a significant decrease in exposure to the following hazards: VDU use, pressure to do more, poor management, understaffing, temperature problems, dust, lifting and handling, fumes, ventilation, air conditioning, constant change, long hours, too few breaks, discrimination, oils, incorrect equipment, poor training, bullying shift working, toxic agents and bio hazards, which were reported between four to six months following the initial interviews. Qualitative analysis of the interviews (enquiring what participants had done with the advice they had been given) supported the notion that workers share the information with fellow workers and also had discussed changes with their managers in order to improve their working conditions. A number of participants also commented that they did not share advice because of fear of victimisation, no colleagues to share information with and a reluctance to share personal advice. Positive changes made by the employer, identified by the participant included: better extraction, ventilation and protection, better working environment, children banned from premises, limits on lifting (furniture), fire drills, more space, and audit. Workplace disease and discomfort is often overlooked by GPs. Historically, the teaching of occupational medicine has had a low priority in medical schools. Also, there is no established network of NHS specialists to which GPs may refer patients. GPs therefore are often ill-equipped to provide guidance, resorting to advice such, as changing one’s job.

The establishment of occupation health schemes in GP surgeries may therefore contribute in raising awareness of work-related disease amongst clinicians and patients. More importantly such schemes may contribute health and safety at work by providing constructive advice to patients on how to reduce their exposure to hazards. Although results are promising there needs to be further evaluation of similar schemes to confirm and generalise their effectiveness. One question that may need to be addressed is whether the transitory nature of employment in SMEs would undermine the ability of such interventions to bring about sustained improvement in the workplace.
2.4.2 (Voluntary) Certification
Associated with customer qualifying requirements, e.g., ISO 9000 quality certification may be one of the most effective mechanisms to ensure good health and safety practice within the SME (Vassie & Cox, 1998). In their study considering business interest in voluntary certification schemes (Vassie & Cox, 1998) reported that the majority of SMEs consulted viewed implementation of a quality management system as a key business objective. However, response rates to their survey were low and the implications should be considered in assessment of findings. Focus groups findings suggested that compliance with BS5750 (or more latterly, BS EN ISO 9000:2000) would bring health and safety benefits. However, the required investment would not justify the gains. Health & safety was found to be (yet again) not identified as a key business objective. It remains an interesting question that the businesses did not appear to recognise the inherent economic business advantage that certification may provide, regardless of any ancillary health and safety benefits. (Vassie & Cox, 1998) report the three primary barriers to implementation of health & safety management systems as i) bureaucracy, ii) resource requirements, and iii) low perceptions of the importance of health & safety to the business.

2.4.3 Institutional Controls
Measures that may be considered to be effective in this category include: taxation to control effective use, prohibition or limiting of substances, and/or use of protective equipment (McGuire, 1984). However, banning a particular substance does not provide evidence of appropriate practice subsequently and further, controls imposed to reduce dangers do not necessarily result in changes leading to safe behaviours. Indeed, they may encourage complacent rule breaking in attempts to circumvent measures that are seen to be over-controlling (HFRG, 1995), for example, non-surrender of a prohibited, yet familiar chemical, used in existing working practices.

2.4.4 Information Technology
Websites are now often part of health and safety interventions aimed at small business. One advantage of websites is anonymity, for example, not having to give out information about the business in order to obtain information. Internet-based information was reported to be difficult for the SME to access in HSE contract research report 185/1998 (Haslam, James, & Bennett, 1998). However, this finding may have changed with the more widespread availability of affordable broadband internet connections. Information Technology (IT) use is a potentially important feature for SMEs. The HSE has for some time provided a wealth of supporting material which is readily available online. IT has been identified as an effective tool to access health and safety information (EASHW, 2004; Vickers, Baldock, Smallbone, Phillips, & Ekanem, 2003). It can also be indicative of an approach to management which itself has health and safety implications. There is more likelihood that measures of performance relevant to health and safety are found to be in place in those companies which make greater use of information technology. In addition, the size the enterprise is positively correlated to computer use. In one study, the SME was found to be more likely to be motivated by paper-based information, in contrast to larger organisations which favour internet based information (Lancaster, Ward, Talbot, & Brazier, 2003). However, there have been initiatives to simultaneously create links with small businesses and also provide interactive material such as health and safety assessments. To illustrate, in the internet version of Electronic COSHH essentials, nearly 89,000 visits were made to the site and 37,565 COSHH assessments completed (Tanczos, 2003). The number of users in the first six months exceeded the number of paper copies over three years. In order to promote the internet site, hyperlinks were set up between the Electronic COSHH essentials and local businesses through the Department of Trade and Industry Small Business scheme.
The SME assessment index (Wright, Norton Doyle, Marsden, Bendig, & Shaw, 2005) developed by the HSE with involvement from insurers is another web-based tool to assess health and safety. The index also gives the opportunity for benchmarking and may promote more awareness of the adequacy of the SMEs’ health and safety programme. The tool is currently undergoing evaluation. Such internet initiatives still need to be further evaluated, more details are needed, in particular of the nature of users, and to what extent the information provided is utilised. However, there appears to be an increasing momentum in the amount of emerging initiatives that use the web both as a provider of information and as an interactive facility to assess performance.

2.4.5 Support & Advice Lines

Advice lines have often been part of health and safety initiatives. An evaluation of a new service set up for SMEs in Scotland, ‘Safe and Healthy Working’ (SAHW) found that a greater percentage advice line users (88% of employers) reported taking action to improve health & safety in the workplace than those who had accessed information via the scheme’s website (65%) (Ward & Lancaster, 2004). Improvements reported to be a direct result of advice were made in areas such as policy development, risk assessments, fire safety, chemical hazards and equipment and safety checks. Familiar reasons were given for not taking further action after receiving advice, these included time constraints, lack of perceived necessity and cost factors. There is still room to increase motivation to improve health and safety, but the response to advice given was found to be largely positive by SMEs followed up in the study (Ward & Lancaster, 2004). However, one drawback of advice lines is that they are labour intensive and may not be able to provide the level of service needed when demand for advice is high. Arguably, websites do not suffer from this drawback if they are designed to be interactive. The SME assessment index for instance is set up in such a way that website users can carry out online assessments and then use the site to access benchmarks and make direct comparisons with the health & safety performance of their own enterprise. The Safe and Healthy Working website is not so fully interactive yet it carries links to other sources of information including an email address set up for further queries. The SAHW had 42,377 visits to the website yet only 272 queries were emailed from the site compared to 2361 calls to the advice line. It was not possible to assess how many of the visits were made by SMEs compared to LES. Nevertheless, the reliance on advice lines by SMEs may indicate that these enterprises are still unclear as to how to distinguish what information is relevant them and need further guidance. Advice lines therefore, still have a significant role in not only the dissemination of information but also guiding the SME to the correct or relevant resources.

2.4.6 Training and Support Materials

Leaflets are an example of accessible health & safety promotion (Harvey, Fleming, Cregan, & Latimer, 2000). Leaflets have been long shown to be an effective tool in health and safety promotion (WHO, 1986). Small and medium-sized enterprises have been stated to want simple, straightforward guidance, preferably printed, indicating what they need to do to meet all of their health and safety needs (McKinney, 2002). For example, surveyed SME participants (Haslam, James, & Bennett, 1998) indicated they would welcome:

- a single document describing all the important health and safety requirements for an SME in their sector, written in a clear and understandable form
- health and safety updates, directly from the HSE
- case studies and checklists (which were well-regarded as effective information transfer means)
- posters & leaflets to inform staff

Information should be:

- clear and concise - focussing on the most important hazards and actions to be taken.
- understandable – avoiding complex or ‘legal’ language where possible.
• well structured – using bold and clear headings and illustrations to generate interest and with an eye-catching front page and title.
• short – a maximum of four sides of A4 - except for a comprehensive guide.
• free – and preferably sent directly to companies by the HSE (rather than needing to be ordered).
• up-to-date - with the publication date clearly shown.
• specific to firms’ needs - focused on the main areas where accidents occur.
• ‘official’ looking – clearly HSE branded.
• tailored, if possible, to the size of the firm
• hard-hitting – two factors suggested (Haslam, James, & Bennett, 1998) to be responsible for improving health and safety in small firms are: i) fear of prosecution, and ii) fear of staff injury

One document that goes some way to meet this need is the recently published text ‘Protect your people – and your business’ (Toone, 2005). This easy to read IOSH publication provides guidance at a level which SMEs have indicated they prefer it.

Training
Lack of compliance has often been interpreted as an unwillingness to undertake health and safety activity. However, there is also evidence of a genuine lack of ability to recognise risk. Small businesses may therefore report that they are effectively carrying out health and safety duties, whilst actually being ignorant of key hazards. This may explain why a number of small businesses expressed a preference for a prescriptive approach, where the hazards are pointed out to the SME by the local authority, rather than staff being expected to recognise risks involved in carrying out their business. However, this approach would be resource intensive and is not feasible to solely rely on visits from inspectors. Written information or web-based material may be of limited use, if companies have not overcome the initial barrier of a lack of understanding what advice is relevant to their business. A proactive approach will therefore partly rely on the effective training in recognising potential hazards, before SMEs can embark on the monitoring and management of risk. There is a potential for websites to provide a form of training through the use of interactive feedback through the provision of online questionnaires, although the self report nature of such instruments may lead to an over-subjective assessment of the enterprises’ health and safety risk.

Training in Performance Measurement
Small business employers’ lack of belief in the effectiveness of health and safety interventions is a reoccurring theme in the literature. One of the potential mechanisms underlying this widespread attitude is the poor audit, not only of health and safety-related events in the SME but also of performance in general. A study investigating the cost of compliance with health and safety regulations revealed that among 120,000 business across five sectors only 79% of businesses employing under 50 staff reported that they record accidents compared with >99% of larger businesses. Further, 48% of businesses employing less than 50 staff recorded ill health compared to >76% in larger businesses. The small businesses were less likely to engage in performance measurement or achieve performance measurement targets (Lancaster, Ward, Talbot, & Brazier, 2003). Therefore, in addition to encouraging the recording of incidence of accidents and ill-health, training in target setting and evaluation for small businesses may be advisable, in order to raise awareness of the benefits of health and safety interventions. Baseline measures, such as financial ratios, staff turnover, and customer complaints, quality, customer satisfaction and staff morale, are needed in order to assess outcomes (Garengo, Baize, & Biotitic, 2005). It could be argued, demonstrating improvements in these areas may provide a motivating influence in the uptake of health and safety interventions, rather than simply focusing on more narrow health and safety outcomes, in which the immediate benefits are often difficult to demonstrate. These additional outcomes may be particularly pertinent among SMEs which have not yet
experienced accident or injury. Tapping into measuring interests such as cost, quality, flexibility, delivery, and innovation, (considered competitive performance priorities), may be one inroad into tackling issues of health and safety which are historically low in priority for the SME.

**Sector Key Event Approaches (SKEAs)**

McKinney (2002) undertook a research project commissioned by the HSE to investigate opportunities for effective information transfer to the SME. The project identified actions common to particular sectors, with particular reference to contact with third parties, by the SMEs. These were defined as sector key event approaches within which the health and safety message may be introduced with the hope of more effective information transfer. Only a small number of SKEAs were identified in the sectors addressed, although this was interpreted positively by the author as an opportunity to focus on these identified actions.

**Vocational Training**

This may be an important influence on health and safety in areas where there are large numbers of trainees employed such as in the hairdressing industry. Training colleges may contribute to health and safety compliance because they have the authority to impose punishment by means of withdrawing trainees from the establishment. In one study visits from representatives from training colleges were found to have a statistically significant impact on improving compliance with risk assessment legislation. Local authority inspections in the same study did not produce a significant influence on levels of compliance compared to those who had no visits (Fairman & Yapp, 2005). However, it is possible that the small sample size meant there was not sufficient power to detect a significant difference. The result that intermediaries from vocational colleges may be influential is promising and suggests further investigation on the extent and nature of their contribution using a larger sample of the population.

**2.4.7 The Regulator**

**Enforcement**

Research has been cited (Walters, 2001) which suggests that characteristically, SMEs are adverse to contact with the HSE regulator. They fear that ‘raising one’s head’ will result in subsequent inspection. In this respect the HSE inspector represents the ‘stick’ of the regulatory body. There is an apparent dilemma in the role of inspectors - on one hand; inspectors need to engage the small business in their educative role which requires empathy with the difficulties facing the small or micro-business. On the other hand, inspectors are required to demonstrate that regulations will be enforced (McKinney, 2002). There is a difficult tension in performing this contradictory role. However, there is evidence that visits from inspectors are associated with positive assessment (by small and micro-businesses, including ethic minority business) of the financial benefits of health and safety improvements (Vickers, Baldock, Smallbone, Phillips, & Ekanem, 2003). This suggests that inspectors can successfully fulfil their educative role, despite the SMEs concern that the inspectors’ enforcement powers sit uneasily with their guidance role.

**Regulations**

Health and safety regulations clearly have a substantive role in the specification and declaration of expectations for effective organisational health and safety performance in the UK and Europe. However, it has been suggested that the systems for assessment and management of health and safety risks have been developed more effectively in the larger enterprise than the SME (Walters, 1996). Further, the relevance and appropriateness of regulatory frameworks to the SME has been questioned.
Guidance

In contrast, substantive efforts have been made by the regulator to provide support, guidance and information via other means (Borley, 1997). For example, the use of non-HSE organisational mentors have proven to be useful as a non-threatening means to interact and support the SME.

2.4.8 European Projects – National and Trans-National

European SMEs represent the vast majority of employers, by number, across the union. A comparative analysis of UK and Spanish SMEs, suggests that in the UK there:

- is greater awareness of health and safety legislation
- are more safety and quality management systems, and
- is increased senior manager involvement in health and safety

Risk assessment and risk management have been stated to be the backbone of workplace health and safety (Neal & Wright, 1992). A mechanism was required to shift the adopted approaches to workplace health and safety to a more risk assessment and management one. The framework directive ‘Introduction of measures to encourage improvements in the safety and health of workers at work’ proposes such a philosophy (EC Directive, 1989) and to some degree may be seen as responsible of a shift towards a risk assessment culture (Vassie, Tomas, & Oliver, 2000). Illustrated below are several examples of schemes that have been adopted in the literature to encompass this approach.

The SME accident funding scheme is a €5 million effort to promote the business case for prevention and provide practical information on how to prevent the disproportionately high accident rate in SMEs. Four hundred and fifty applicants applied for funding, 51 were chosen, covering a large range of sectors, topics, approaches, applicants and EU member states. The scheme involved a tailored approach to each specific problem, e.g., involving Portuguese stone workers, Swedish graphic artists, Italian metal workers, Austrian health care workers. The EU agency scheme appears to have produced a range of innovative solutions to diverse issues such as risks of explosions for metal workers and falls in charity shops. Initiatives included training, information campaigns, development of ‘effective health and safety practices, focusing on priority hazards and high risk sectors. One feature of the scheme is that the publication summarising the projects also included contact details for all the projects with the aim that learning can be on going and transferable to other companies. This creates an opportunity to disseminate information without the need to go through traditional central channels and sets up a dialogue between SMEs on how to achieve good practice.

Objectives of the scheme were:

- to raise awareness of the accident risks and heavy workload borne by workers and their families, as well as the considerable economic consequences for SMEs.
- Promote the benefit of effective good practice examples that reduce accident rates in SMEs and facilitate their dissemination across Europe.
- Promote the development of risk evaluation and prevention practice as embodied in health and safety directives and the provision of early intervention/access to diagnosis particularly in SMEs. Motivate duty holders to take action and to develop preventative measures.
- Encourage the development of European added value occupational safety and health (OSE) activities involving employers, workers and their representatives or partnership programmes developed particularly with intermediaries who are working directly with SMEs to improve their practices for example to organise intervention programmes:
  - to reduce the number and seriousness of work-related accidents in SMEs
  - Promote OSH at work as part of business thinking and organisational development and demonstrate that good health and safety at work is good business
- Address the diversity of SMEs in Europe and respond to the specific needs of SMEs
The European Trans-National project to improve worker representation was organised by European Trade Union Confederation, supported by European Federation of Building and Wood Workers, Belgium; South Bank University, UK; Sindova, Italy; and ISTAS (Instituto di Trabajo, Ambiente y Saud), Spain. The project aimed to analyse and compare working systems for involving workers and their representatives in improving health and safety conditions in small businesses. The project focused on identifying instances of good practice, creating conditions to develop them and criteria for making them transferable to different organisational contexts of prevention in Europe. The main outcome was a comparative report on good practice on worker presentation and participation, and a seminar to present the consolidated report. Overall the project gained an understanding of needs in worker representation, resource implications and how resources might be employed.

Main findings may be summarised below. The trade union has a role in health and safety in small businesses at two main levels, the macro-economic and political level and also at the representational and operational level. At the macro-economic level and political level the trade union can impact on the development of regulatory measures, national and sector-specific agreements and tripartite measures and in insurance association policy and influencing the political will to form preventative policies aimed at hard to reach sectors. (Walters, 2002). The European position with respect to unionisation and union influence appears broadly reflective of the UK perspective and opportunities for influence as indicated earlier.

The study highlighted trade union effects at the representational and operational level in Sweden, Italy, Spain and UK. For example:

- Legislative provisions giving special rights to representation outside the workplace are now in place in Sweden and Italy.
- There are special representation for workers small enterprises through collective agreement (In construction and craft industries in Italy).
- Unilateral and non-statutory trade union initiatives to set up representing of workers in small enterprises such as farming (e.g., the TGWU Roving Representative scheme).
- Provision of special training, information and co-ordination for worker representatives or workers in small enterprises (all countries).
- Collaboration in establishing advice centres for workers in small enterprises, as in the UK.

The following examples of what works and the underlying mechanisms adopted in the case studies were outlined in the report, and are summarised below.

Trade union involvement in external support aims to “instigate and support the development of worker organisation for health and safety within workplaces” (Walters, 2002, emphasis added). In all cases therefore these initiatives are not designed to replace worker representation within the workplace.

**Legislation**

A legislative framework for worker representatives has been found to be an important facilitator of worker participation in countries such as Sweden where such legislation has been in place for many years. By contrast, the thresholds which exist under which there are no statutory rights may be viewed as a barrier to worker participation in health and safety (Walters, 2001). Legal support therefore provides a strength for workers in SMEs who are often occupy a position of weakness, and can be a key factor in both employer and employee accepting worker representation in health and safety in small firms. It provides clear minimum requirements that all parties in small enterprises are obliged to follow and saves having to negotiate over basic requirements. Health and safety issues, become then, clearly
visible for both employees and small enterprises. However, other studies have found that SMEs are often unaware of legal requirements. Suggesting that legislation is insufficient without raising awareness (Pilkington et al., 2002; Vickers, Baldock, Smallbone, Phillips, & Ekanem, 2003; Walters, 2002).

**Skilled Representation**

The skill of the representatives, who were seen as well-informed, useful sources of information, was consistently commented upon by trade unions, agencies and employer representatives. Representatives were able to facilitate worker organisation, and form long term links with the workers in the SMEs they visited. On the other hand, they were able to exert their rights and intervene as necessary. Other studies have noted a lack of credibility, of advisors in other initiatives, as a barrier to taking part in schemes. Therefore, the use of skilled and experienced representatives may be seen as crucial to the success of such schemes.

**Tailoring Approaches**

The representatives need to be able to take into account the different needs of the workers in small businesses. In the ETUC project a number of important factors were highlighted namely the communication skills of representatives and the ability to operate on a number of levels, for instance not only with employers and workers but also with regulatory inspectors, and other personnel working in preventive services (Walters, 2002). Support of the representatives who often work in isolation is vital, this can be achieved through training courses which bring together representatives across regions and provides a chance to ‘share experiences and gain support from one another.

**Targeting Interventions**

It has been suggested that concurrent interventions should be targeted at gatekeepers of the SME health and safety resources who are often likely to be owner employers or senior managers, and also the rest of the work force (Stephens, Hickling, Gaskell, Burton, & Holland, 2004). (Stephens, Hickling, Gaskell, Burton, & Holland, 2004) suggest that this creates a ‘pincer effect’ to exert simultaneous internal and external pressures on gatekeepers to increase health and safety activity. For example, internal pressures may derive from demands of the workforce to improve health and safety standards, whereas external demands may take the form of health and safety legislation.

**Resources**

Schemes should be cost effective. Walters (2002) claims that even a small reduction in the ill-health, injuries, and fatalities represents a huge saving in the sector concerned. However, Walters acknowledges that the empirical evidence to the extent of the reduction in the costs of accidents attributable to regional health and safety representatives and trade union initiatives is not clear. This highlights a barrier mentioned earlier, poor measures of performance, staff morale, sickness absence, and time lost through accidents need to be properly assessed.

**European Interventions to Address Psychosocial Issues in the SME**

Occupational health and safety programmes targeting small businesses have historically addressed chemical and physical problems in the workplace. One notable addition to the areas of focus for intervention since the first year of the European small business funding scheme (EASHW, 2004), is the problem of work-related psychosocial stress. Five separate initiatives took place in diverse settings which were either specifically targeted for the purpose of the scheme or where the enterprise itself had identified a problem and sought funding from the scheme in an attempt to provide a solution. Generally, there was common format in the approach to addressing the psychosocial problems which involved a number of stages. The first step involved identifying what may constitute a hazard to psychosocial wellbeing in the
SMEs’ own specific working environment. This was achieved by either distributing questionnaires to workers, or through workshops to facilitate a participatory risk analysis. Later, seminars on how to alter stress in the workplace were held. Leaflets and manuals with guidelines summarising the measures used to deal with the problems identified by the participating SMEs were also produced. Information on how each project was handled was also made available on the project website. One project noted that participants had agreed that the initiatives had enabled them to explore solutions and act on them rather than merely highlighting problems and mistakes of their enterprise. Another project designed a web-based test which provided recommendations based on the results.

The structure of the interventions, for example, researching the specific problems that occur in the SME then identifying solutions which may be used in the particular context, is a tailored approach to tackling psychosocial problems in the workplace. The findings are then disseminated to a larger audience via leaflets, manuals and online information. It may be argued that the communication of these examples of good practice, which have been formed in an SME rather than in a large enterprise, may be a powerful tool in promoting health and safety activity and changing the perception that external advice is irrelevant to the small business. Both the problems and the solutions should be relevant to the SME, because they were located within an SME. However there are limitations, for instance, the SMEs participating in the study may have already overcome a number of the barriers highlighted earlier in the report. These may have included a lack of motivation, holding the view that interventions do not necessarily bring about benefits in real terms or a lack of sufficient human resources to allow the release of employees to take part in such schemes. The challenge to engage the more reluctant enterprise may therefore still remain.

It is not clear whether these initiatives have been evaluated in terms of effectiveness of reducing the level of psychosocial stress in the workplace. This may be difficult given the possibility that a number of the businesses were unable to identify the extent of the problem within their workplace prior to the intervention.

2.4.9 Strategic Steps

Eliciting information from the SME user group has been shown in the literature to be potentially a problematic process. In a Spanish study only 13.9% of targeted SMEs responded and in one UK survey a response rate of just 11.4% was achieved. Low response rates are typical for postal surveys from this population group (Storey, 1994). Effective methods of eliciting SME stakeholder views have been considered in a research report supported by the HSE (Breakwell & Petts, 2001). The authors contrast direct and indirect approaches and the use of intermediaries. They report the following three cautions in interaction with SMEs. Effective stakeholder participation requires consideration of i) the power, reward and punishment capability of the contacting organisation and, ii) the complexity, embedded-ness, and repetition of the communication, and iii) the response requirements (awareness, compliance, behavioural change) (Breakwell & Petts, 2001). Direct and personal approaches were shown to be more effective than general contact. This finding will be exploited in the next phase of work on this project, telephone interviews.

2.5 Theoretical Frameworks

In the empirical elements of the project efforts were taken to anchor experimental plans to published theory and therefore support integration and generalisability of the findings. The following section briefly reviews the important contributions to this activity. Anticipation of the telephone survey work prompted a requirement to systematically consider the heterogeneous nature of the SME. Therefore, two themes have been identified in the literature and will be adopted in specification of the subsequent survey work. These themes are i) application of a generic business practice model, and ii) consideration of the ‘stages of change’ inherent within the SME.
A generic business activity model has been proposed (Herman & Malone, 2003), see Figure 1. It has five primary activities, buy, design, make, manage and sell. Each of these activities may be sub-divided according to the appropriate demands of the specific business. The model has been reported to have three main benefits, it is considered i) to be comprehensive, ii) intuitive, and iii) theoretically-based. It is intended that it will be applied to structure the telephone interviews to be undertaken later in the project. This approach is hoped to enable analysis of different and varied businesses according to the basis processes that they employ. Thereby, it is hoped that comparisons and themes that emerge may be appropriately identified from the resultant data.

**Stages of Change**

The Stage of Change or Trans-theoretical Model of Behaviour Change (Prochaska & DiClimente, 1982) was developed after examining processes of eliciting and maintaining behaviour change in activities such as cigarette smoking. The model is widely featured in health promotion practice in USA, Australia, and the UK. Application of the model has affected service planning, provision, and training agendas at local, regional and national levels in Europe & North America. More recently the potential of the model for use in industrial health and safety has been investigated (Barrett, Haslam, Lee, & Ellis, 2005; Haslam, 2002). Studies have produced encouraging results which indicate support for its use as a framework to inform both health & safety research and intervention design.

![Figure 1. Generic business activity model](image)

**Processes Involved at each Stage**

The Stages of Change model (Prochaska & DiClimente, 1982) proposes different processes are salient at each stage of behaviour change, see Table 3. The model’s authors suggest that at the pre-contemplation and contemplation stages, attitudes and beliefs about behaviour are considered to be more relevant, whilst at the action and maintenance stages actual behaviour is a more important focus. In addition, the costs of carrying out a behaviour may be seen to be more of a concern in the early pre-contemplation and contemplation stages. By contrast, more positive aspects such as the benefits of a behaviour become a greater focus in the later action or maintenance stages.

**Implications for Intervention Design**

This has implications for the design of appropriate interventions to promote health and safety. For instance, in the pre-contemplation stage, efforts to raise awareness and heighten the profile of health and safety issues could be more effective than the discussion of practical issues. The latter may be more relevant in the later stages when actual efforts are made to place plans into practice such as skills training, but certain barriers are encountered for example, difficulties in releasing staff for training purposes. Interventions may be more appropriate if they focus on examining the risks of not carrying out preventative behaviour for those at the pre-contemplation or contemplation stages, and by concentrating on the benefits
of maintaining health and safety activity for those at the later action or maintenance stages. However, it may be that the most effective behavioural modifications to promote good health & safety practice, may result from environmental changes to remove the opportunity or ‘ease’ of the less than ‘optimal’ behaviours.

Table 3. Stages of change and corresponding psychological or behavioural activity

<table>
<thead>
<tr>
<th>Stage of Change</th>
<th>Psychological or behavioural activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-contemplation</td>
<td>Not considering change, not aware of hazards.</td>
</tr>
<tr>
<td>Contemplation</td>
<td>Considering change in long-term future (i.e., during next six months).</td>
</tr>
<tr>
<td>Preparation</td>
<td>Making definite plans to change in short-term future (i.e., during the next one month)</td>
</tr>
<tr>
<td>Action</td>
<td>Actually engaged in change/carrying out actions.</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Working to prevent relapse and consolidate gains made.</td>
</tr>
<tr>
<td>Relapse</td>
<td>Failure to continue with recent modifications or changed behaviour.</td>
</tr>
</tbody>
</table>

It is anticipated that most of the small businesses will have progressed beyond the pre-contemplation stage as far as readiness to make health & safety adjustments are concerned. In other words, the small businesses may have some awareness of the need to carry out health & safety improvements but do not possess either sufficient motivation or the resources to complete them, if they have considered changes but have made no further plans then they may be described as being in the ‘contemplation’ stage.

There may be an analogy here with the state of readiness of SMEs to carry out health and safety improvements in the health and safety literature, and smokers in the health promotion literature. The majority of whom are in the contemplation stage as far as readiness to give up smoking is concerned (Segan, Borland, & Greenwood, 2004), but have not progressed to the preparation stage despite the extensive media coverage and health warnings conveying information on the risks of smoking, see Table 4.

There is an argument for the tailoring of interventions for both smoking reduction and health and safety improvements. However in order to carry these out effectively there needs to be a clear assessment of the state of readiness of those companies to be targeted.

The advantage of the stages of change model is that is dynamic in the sense that it is not an all or nothing approach. The model acknowledges that there is not necessarily a linear progression from the pre-contemplation through to the maintenance stage. For instance, in certain circumstances regression to an earlier stage is a possibility. The stages of change model can also provide a systematic framework to describe the state of readiness of the companies, without the use of an overly intrusive interview protocol. We propose use of this framework to investigate, not only the readiness of the SME to implement health and safety changes, but also, where appropriate, to identify the motivators or facilitating mechanisms that enabled them to progress to the next stage.

Evidence was surveyed in the literature review. However, it was apparent that there is a lack of published work regarding the psychological and behavioural state of readiness of SMEs to implement health and safety procedures in conjunction with the identification of enabling factors which may predict progression through the stages.
After reviewing the literature we are aware that one area, such as computer use among SMEs, may be linked to other areas such as implementation of performance measures. In addition to exploring the links, using qualitative methodology in the first instance, we believe there is value in also investigating the strengths of these associations through the use of quantitative methods with statistical analysis to observe whether these effects are linked to both the size of the company and the state of readiness of the SME to make progress in their health and safety activity.

**Table 4. Examples of targeted information according to the individuals’ Stage of Change**

<table>
<thead>
<tr>
<th>Stage of Change</th>
<th>Purpose of targeted information/intervention</th>
<th>Examples of targeted information/intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-contemplation</td>
<td>Individuals must be persuaded that there is an issue to be addressed.</td>
<td>Presentation of strong messages, possibly in the form of carefully chosen, explicit graphic material.</td>
</tr>
<tr>
<td>Contemplation</td>
<td>Individuals are already considering change. Motivation to change needs to be reinforced.</td>
<td>Provision of educational material and practical information. Individuals supported in learning new skills.</td>
</tr>
<tr>
<td>Preparation</td>
<td>Strategies to raise awareness of what might be involved in implementing safer behaviour are required. Barriers to change need to be removed (e.g. physical workplace constraints and psychological concerns, such as workplace performance).</td>
<td></td>
</tr>
<tr>
<td>Action</td>
<td>Individuals are already engaged in change. Support is required to achieve and maintain new changes and modified behaviours.</td>
<td>Ongoing advice, skills training and performance feedback.</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Organisation must be monitored for relapse.</td>
<td></td>
</tr>
<tr>
<td>Relapse</td>
<td>Relapse can occur from any stage. Progression back through the cycle towards the action and maintenance stages must be supported. The needs of individuals at this stage may differ from the needs of those going through the cycle for the first time, therefore the information and intervention will need to be tailored accordingly.</td>
<td>Practical information, training, ongoing advice and feedback.</td>
</tr>
</tbody>
</table>

Source: (Barrett, Haslam, Lee, & Ellis, 2005)

### 2.6 Summary

Constraints affecting the SME’s ability to undertake health and safety are evidently interconnected. Consequently, solutions which are appropriate in one sector may not be applied in another without supporting mechanisms. Few sector-independent opportunities have been identified in the published research (McKinney, 2002). Moreover, there is much contingency involved in improving health and safety performance. For example, interventions to improve one aspect may be redundant without simultaneous or linked initiatives in another area. Improving performance is suggested to rely on strengthening
motivators, such as lower insurance premiums. However, in order to achieve this, effective measures of performance first need to be in place. Efforts to improve this area, such as the introduction of the SME performance indicator are currently dependent on internet use, which is itself an area that requires more promotion in order to maximise exploitation of its potential to increase health & safety. These areas are so interdependent that the associations between them should be monitored for improvements.

Issues of contingency may also extend to the effects of legislation. Increased legislation has been suggested as a possible solution to a number of specific problems such as the lack of support for workers who identify health and safety problems, particularly in those enterprises employing less than five people. However, even with legislation in place, there are still enterprises which are unaware of their legal responsibilities, either through a lack of motivation, time or resources to inform them or an inability to recognise what regulations are relevant to them. The increase in information available that is designed specifically for the SME is promising, but it appears that this also still needs to be supported by guidance in identifying both ‘the problem’ and steering towards ‘the relevant resources’ to address it. This may take the form of help from worker representatives, occupational health schemes, worker health and safety centres, interactive web-based tools, or advice lines, in addition to the more traditional sources such as the health & safety officer.

Trade union initiatives have shown health and safety improvements in several pilot studies. However, issues of sustainability need to be addressed such as the continuation of funding beyond the initial pilot. Human resources may also be difficult. The problem of identifying who will take on duties of roving health and safety representatives, beyond the initial stage of a scheme, needs to be tackled. At present there is much reliance on a highly motivated group of individuals who have faced a number of barriers, namely, hostility from employers and possible threats to their future employment. Funding initiatives from Government and trade unions are one possible option to support the future work of such projects. Increased legislation to facilitate greater rights of inspection to roving representatives may also alleviate some of the difficulties encountered by these individuals in the past. Further, formal training of individuals, in skills to manage typical problems such as suspicion and hostility, would also assist representatives to carry out their remit to increase health and safety involvement.

European initiatives have proven promising, in that examples of good practice were derived from SMEs rather than from larger enterprises. For example, the small business funding initiative, EASHW (2004), has produced some innovative schemes to improve health & safety. Arguably such examples should be perceived to be more directly relevant to the average SME than solutions that have been found in larger enterprises. However, because of their recency these initiatives have not been assessed in the long term. Sustainability questions remain, including generalisation of good practice to SMEs, which do not share the same level of motivation to improve health and safety performance, and this may be problematic. Good practice within the SME, in the face of the constraints and obstacles outlined in this review, needs to be further explored.

The issue of psychosocial stress in the workplace is another challenge for the SME. In addition to the chemical and physical risks in the workplace, enterprises are now required to consider the effects of their working practices on the psychological well-being of their employees. In one sense SMEs may be no further behind large enterprises in addressing psychosocial risk, as this is a relatively new priority. However, the factors that are often associated with working in an SME, e.g., poor job control, high demands and role ambiguity, are also key factors highlighted in the link between stress and ill health (Karasek, 1990). Examples of good practice are now emerging from within SMEs, where employees have gone through the process of both identifying problems in their workplace and implementing measures to reduce them (EASHW, 2004). These schemes are contemporary and therefore
they are yet to be thoroughly evaluated, although many have reported initial success in their pilot studies and therefore the most effective schemes are still to be determined. It might be argued, however, that the dissemination of examples is still valuable even at an early stage as sharing information on practices may also serve to increase awareness of the possible psychosocial problems an SME may encounter.

It would appear that the literature presents a wide range of opportunities to support the health and safety needs of the SME. However, it is also clear that many of these mechanisms fall short of the effectiveness that they may achieve. The reasons for these failures are many and varied, but it is clear that several basic steps may be undertaken to provide the best chance of getting the safety and health message across. For example, many SMEs find the tone and language adopted in much of the supporting information inappropriate to their everyday experience and needs, although practical and accessible guidance is becoming more widely available (Toone, 2005). It is hoped that by adopting appropriate and user-focused measures, the potential for improvement of the safety and health of the SME may be more effectively realised. However, more investigation is needed into the efforts that SMEs already undertake and how these actions are facilitated, in order to improve health & safety. Furthermore, information on the organisational readiness to change is required, and may prove informative and diagnostic in the provision of appropriate supporting guidance.
3 PART TWO: TELEPHONE INTERVIEWS

3.1 Introduction
The Business Activity Model (Herman & Malone, 2003) and Stage of Change (Prochaska & DiClemente, 1982) frameworks (see Section 3.5) were applied to structure the telephone interviews undertaken in this stage of the project. This approach was planned to support analysis of different and varied businesses according to the basic processes that they employ. Comparisons and emerging themes could then be appropriately identified from the resultant data.

3.2 Method

3.2.1 Participants
Interviews were conducted with the participation of fifty SMEs between 29th November 2005 and 14th February 2006. Three hundred and thirteen SMEs were contacted with a resultant response rate of 16%. Systematic proportional stratified sampling was adopted with respect to geographical location (North West, North East, South West, South East, Wales, Northern Ireland, Scotland, & London), and business sector (agriculture, manufacturing, construction, education, distribution/repair, health & social care, catering, beauty, retail, other). The survey population was drawn from the online contact directory ‘www.yell.com’.

The business sample may be considered to represent micro-businesses (48%), small-businesses (36%), and medium-sized enterprises (16%). The sample sector distribution is shown in Figure 2.

![Figure 2. Respondent business sector](image)

The median age our sample businesses commenced trading was six years ago. Forty five percent were older than nine years. The geographical sampling is shown in Figure 3.
3.2.2 Survey Design & Rationale

To meet the aims of the study two data collection methods were adopted i) a series of closed format questions to assess engagement in specific health and safety activities, and ii) open format questions to elicit SME’s descriptions of their health and safety behaviours. It was anticipated that the heterogeneous nature of the SME would create difficulties in the analysis of the responses relating to various business sectors. Therefore the Business Activity Model (Herman & Malone, 2003) was applied in the interview protocol to facilitate comparisons between the generic business practices. For this purpose, SMEs were asked to identify the health & safety activities they engage in at five key stages of business activity: Buying, Design, Making, Managing and Selling. Questions relating to Stage of Change (Prochaska & DiClimente, 1982) were based on items used in a study assessing ergonomic activity with respect to health and safety (Haslam, 2002).

The interview protocol was composed of the following sections, demographics, current health and safety activity, and readiness to engage in health and safety activity (Stages of Change) according to each stage of the generic Business Activity Model, see Appendix A.

3.2.3 Procedure and Data Collection

A ‘cold calling’ approach to telephone interviews was employed. After the researcher had contacted the person identified in the business as being responsible for health and safety the researcher asked permission to conduct a short recorded interview (approximately ten minutes). Confidentiality was assured and contact details were provided. The interview was conducted immediately or at a more convenient time if preferred. The interview was concluded by thanking the respondents and providing details of where to obtain further information regarding the project.

3.2.4 Equipment & Apparatus

The survey was conducted using a telephone headset, and a ‘ReTell’ telephone recording connector. The audio was recorded directly to computer hard disk using ‘Audio Hijack Pro’ (www.rogueamoeba.com) and a PowerMac G5.
3.2.5 Methods of Analysis

Audio data was transcribed by two researchers. Twenty percent of the total sample were cross-checked for accuracy by the other researcher. A mixed method approach to analysis was used. The data was statistically analysed to provide comparisons of health and safety activity by demographics. Interview data was also analysed thematically to identify the specific health and safety behaviours that SMEs were undertaking or maintaining, the perceived facilitators of such behaviour, the reasons for the behaviour, and the type of evidence offered by the respondents as to how they knew their behaviour was effective.

An iterative approach was used to derive themes embedded in the data, and to incorporate the generic business activity model (Herman & Malone, 2003) and the Stage of Change or Trans-theoretical Model of Behaviour Change (Prochaska & DiClimente, 1982) in the interpretive process of the analysis. Independent coding of the data took place on a randomised proportion of the interview transcripts to establish inter-rater reliability. Regular comparisons on the classification and interpretation of the emerging themes took place to achieve analytical rigour. The frequency of coded themes provided the basis for statistical analysis.

3.3 Results

3.3.1 Reported Health & Safety Behaviours

Participants reported responses regarding routine health & safety practices. The following questions were asked to inquire the degree of background health & safety behaviours undertaken within the sample. The percentages of yes and no responses for reported health and safety behaviours are detailed in Table 5. There were significant differences between positive and negative responses in respect of a number of reported behaviours, namely having a health and safety policy, risk assessment, accident book, and first aid book.

Table 5. Reported Health & Safety Behaviours

<table>
<thead>
<tr>
<th>Reported Response</th>
<th>Yes (%)</th>
<th>No (%)</th>
<th>χ²</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the company work to quality standards?</td>
<td>44%</td>
<td>56%</td>
<td>NS</td>
<td>1</td>
</tr>
<tr>
<td>Do you have a health &amp; safety policy statement?***</td>
<td>80%</td>
<td>20%</td>
<td>18</td>
<td>1</td>
</tr>
<tr>
<td>Do you have risk assessments?*</td>
<td>72%</td>
<td>28%</td>
<td>9.7</td>
<td>1</td>
</tr>
<tr>
<td>Do you have an accident book?**</td>
<td>80%</td>
<td>20%</td>
<td>18</td>
<td>1</td>
</tr>
<tr>
<td>Do you have a first aid book?*</td>
<td>68%</td>
<td>32%</td>
<td>6.5</td>
<td>1</td>
</tr>
</tbody>
</table>

n=50, * = p < 0.01, ** = p < 0.001, NS = not significant.

Training records in health & safety areas are presented in Table 6. Significant differences were established for display screen equipment risk, vibration, noise, and stress.

Table 6. Health and safety training records

<table>
<thead>
<tr>
<th>Reported Response</th>
<th>Yes (%)</th>
<th>No (%)</th>
<th>χ²</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Induction</td>
<td>44%</td>
<td>56%</td>
<td>NS</td>
<td>1</td>
</tr>
<tr>
<td>Manual handling</td>
<td>50%</td>
<td>50%</td>
<td>NS</td>
<td>1</td>
</tr>
<tr>
<td>First aid</td>
<td>42%</td>
<td>58%</td>
<td>NS</td>
<td>1</td>
</tr>
<tr>
<td>DSE (Display screen equipment risk)**</td>
<td>18%</td>
<td>80%</td>
<td>19.6</td>
<td>1</td>
</tr>
<tr>
<td>COSHH (Control of substances hazardous to health)</td>
<td>54%</td>
<td>46%</td>
<td>NS</td>
<td>1</td>
</tr>
<tr>
<td>Vibration**</td>
<td>10%</td>
<td>90%</td>
<td>32</td>
<td>1</td>
</tr>
<tr>
<td>Noise**</td>
<td>24%</td>
<td>76%</td>
<td>13.5</td>
<td>1</td>
</tr>
<tr>
<td>PPE (personal protective equipment)</td>
<td>50%</td>
<td>50%</td>
<td>NS</td>
<td>1</td>
</tr>
<tr>
<td>Stress**</td>
<td>20%</td>
<td>80%</td>
<td>18</td>
<td>1</td>
</tr>
</tbody>
</table>

n=50, * = p < 0.01, ** = p < 0.001, NS = not significant.
3.3.2 Reported Engagement with Health & Safety

The respondents reported their average hours per week spent on health & safety matters. This can be seen in Figure 4. Thirty eight percent reported no health & safety activity in a typical week, 22% reported low (approximately one hour), 12% reported medium levels of activity (2 to 4 hours), and 28% indicated high levels of health & safety actions (≥ 5 hours) within a typical week.

![Figure 4. Hours per week on health & safety matters](image)

Figure 4. Hours per week on health & safety matters

Figure 5 shows that as company size increases there appears to be a corresponding increase in hours spent on health and safety activity. Kruskall-Wallis revealed a statistically significant difference ($\chi^2 = 19.9$, df =3, $p < 0.001$). The mean number of staff in the organisations consulted was, spending no time = 7.2, one hour = 8.7, two to four hours = 44.3, greater than five hours = 84.

![Figure 5. Number of staff and reported hours spent on health and safety activity](image)
3.3.3 Readiness to Engage in Health & Safety Activity (Stage of Change)

The respondents ‘Overall (mean)’ judgements of Stage of Change with respect to health & safety are shown in Figure 6. It can be seen that there are two clusters in the data, one toward the pre-contemplative stage and another at the maintenance stage. Overall mean frequencies for the five stages of change were pre-contemplation = 22, contemplation = 5, preparation = 2, action = 7, maintenance = 14. The additional relapse stage as advocated by (Haslam, 2002) did not feature in any of the responses. It was apparent that there was a substantive proportion of the sample who are immature in their engagement with health & safety. Further, consideration of the data suggests that this is particularly prevalent in the organisational interfaces with the business world, i.e., during the buying and selling phases of business activity. Conversely, the internal business activities demonstrate a collection of organisations that report they are acting on and maintaining their health & safety activities, i.e., designing, making, and managing their products and services.

![Figure 6. Business process by Stage of Change](image)

3.3.4 Qualitative Findings

SMEs were asked to identify health and safety issues they were aware of and indicate what they were either, planning to carry out, actively engaged in, or maintaining, in terms of health and safety activity. Their responses give an indication of the type health and safety activity that is perceived as salient to the SME. Further, a number of behavioural themes were obtained from the transcripts Risk assessment, regulation/legislation and health & safety policy were the three most frequently reported behaviours, see Table 7. One notable theme which emerged appears to be a lack of awareness of health and safety activity. A substantial proportion of the SMEs clearly struggled to identify either issues or activities relevant to their business’ health and safety.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk assessment</td>
<td>33</td>
</tr>
<tr>
<td>Regulation/Legislation</td>
<td>29</td>
</tr>
<tr>
<td>Health &amp; safety policy</td>
<td>28</td>
</tr>
<tr>
<td>Not aware</td>
<td>24</td>
</tr>
<tr>
<td>Reputation</td>
<td>17</td>
</tr>
<tr>
<td>Information</td>
<td>16</td>
</tr>
<tr>
<td>Health &amp; safety not perceived as relevant</td>
<td>13</td>
</tr>
<tr>
<td>Audit</td>
<td>13</td>
</tr>
<tr>
<td>Insurance</td>
<td>10</td>
</tr>
<tr>
<td>Training</td>
<td>9</td>
</tr>
<tr>
<td>Use of external consultants</td>
<td>8</td>
</tr>
<tr>
<td>Communication</td>
<td>7</td>
</tr>
<tr>
<td>Other</td>
<td>13</td>
</tr>
</tbody>
</table>
3.3.5 Motives for Engagement with Health & Safety

The study explored the reasons why SMEs were either considering, actively engaged in or maintained the specific health and safety activities they had identified. The frequency of key themes as to why SMEs engaged in the health and safety activity are summarised below in Table 8. The three drivers most cited by SMEs for motivating health & safety action were: legislation, customer safety/demand, and staff welfare.

Table 8. Key themes why engage in health and safety activity

<table>
<thead>
<tr>
<th>Theme</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legislation</td>
<td>27</td>
</tr>
<tr>
<td>Customer safety/Demand</td>
<td>19</td>
</tr>
<tr>
<td>Staff welfare</td>
<td>16</td>
</tr>
<tr>
<td>Insurance</td>
<td>7</td>
</tr>
<tr>
<td>Policy</td>
<td>7</td>
</tr>
<tr>
<td>Positive cost benefits</td>
<td>6</td>
</tr>
<tr>
<td>Moral duty</td>
<td>6</td>
</tr>
<tr>
<td>Training</td>
<td>5</td>
</tr>
<tr>
<td>Company ethos</td>
<td>4</td>
</tr>
<tr>
<td>Reputation</td>
<td>4</td>
</tr>
<tr>
<td>Tendering</td>
<td>4</td>
</tr>
<tr>
<td>Past experience</td>
<td>3</td>
</tr>
<tr>
<td>Common sense</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>15</td>
</tr>
</tbody>
</table>

The themes respondents identified as enablers of health and safety activity are shown in Table 9. The three most frequently cited facilitating factors were: training, knowledge, policy, and company ethos.

Table 9. Key themes what enabled health and safety activity

<table>
<thead>
<tr>
<th>Theme</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>8</td>
</tr>
<tr>
<td>Knowledge</td>
<td>7</td>
</tr>
<tr>
<td>Policy</td>
<td>7</td>
</tr>
<tr>
<td>Company Ethos</td>
<td>7</td>
</tr>
<tr>
<td>Information</td>
<td>6</td>
</tr>
<tr>
<td>Regulation/Legislation</td>
<td>6</td>
</tr>
<tr>
<td>HSE visits/Inspection</td>
<td>5</td>
</tr>
<tr>
<td>Audit</td>
<td>5</td>
</tr>
<tr>
<td>Resources</td>
<td>4</td>
</tr>
<tr>
<td>Grant</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>18</td>
</tr>
</tbody>
</table>

Interviewees were asked how they knew their health and safety activity worked. The themes are summarised in Table 10. The three most frequently reported themes were lower recorded accidents, audit and no accidents to date.

Themes were identified from content analysis of the telephone data transcripts. Specific behaviours relevant to health and safety within the SME clearly emerged from this process. The frequency of the behaviours and their relative importance were considered. This analysis provided the basis for retention of the most salient behaviours for the development of the questionnaire in the second stage of the project. The retained themes are described and supported by illustrative ‘in vivo’ examples below.
Table 10. Key themes how do you know it works?

<table>
<thead>
<tr>
<th>Theme</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower recorded accidents</td>
<td>26</td>
</tr>
<tr>
<td>Audit</td>
<td>15</td>
</tr>
<tr>
<td>No accidents to date</td>
<td>12</td>
</tr>
<tr>
<td>Risk assessments</td>
<td>8</td>
</tr>
<tr>
<td>Staff Welfare</td>
<td>6</td>
</tr>
<tr>
<td>Policy</td>
<td>5</td>
</tr>
<tr>
<td>Past Experience</td>
<td>4</td>
</tr>
<tr>
<td>Positive Cost Benefits</td>
<td>4</td>
</tr>
<tr>
<td>Communication</td>
<td>3</td>
</tr>
<tr>
<td>Common sense</td>
<td>3</td>
</tr>
<tr>
<td>Don’t know if it works</td>
<td>2</td>
</tr>
<tr>
<td>Insurance</td>
<td>2</td>
</tr>
</tbody>
</table>

Risk Assessment/Audit
Risk assessment was identified as a key behavioural theme. As the examples below illustrate, risk assessment was either identified as a behaviour undertaken directly by the SME or external bodies. Risk assessment also emerged as a criterion in certification documents required from sub-contractors, suppliers or insurers.

“That’s continuously assessed. Health & safety comes into all our designs and we constantly risk assess…urm, a project through its lifecycle. If a project becomes live the first thing that happens is a risk assessment is done on the site and the risk”.

SMEs identified risk assessments as providing a primary reason for further health and safety activity. The audit process was perceived to be an enabling factor for further health and safety action.

“The feedback we get from our monthly, safety committee, and monthly audit, of course, accident analysis.”

Respondents indicated that SMEs know whether their health and safety initiatives work or not, through the risk assessments they undertake.

“We can demonstrate this [whether health & safety works] through risk assessment”.

Health & Safety Not Considered a Relevant Issue
A number of SMEs claimed that health and safety issues were not relevant. They described health and safety as not pertinent to their type of business because they perceived that either the processes or materials they were using were of low risk. In the main, SMEs failed to recognise the relevance of health and safety issues beyond the internal processes of their company such as making the product. In the buying and selling phase of their business process, SMEs were more likely to claim that health and safety issues were not relevant.

“No, everything we do is more or less software-oriented.”

Health and Safety Policy
The development of a health and safety policy was observed to be a key health and safety behaviour. A number of SMEs offered examples of how they used the policy. Some companies explained that whilst they had no formal policy this did not mean that they did not undertake regular health and safety activity. The existence of a company health and safety policy was seen as a catalyst for further health and safety action as illustrated by the example
“It’s company policy, and under the health & safety because we’d have to do risk assessments and if our production methods change we’d have to re-assess what’s happening”

SMEs highlighted the existence of a health and safety plan or policy as an enabler of health and safety activity. Furthermore, a health and safety policy was linked with commerciality and a business plan.

“The business plan that we put together involves - in our commerciality, the business plan would always support it and support elements of health and safety.”

Legislation
Legislation emerged as a major theme related to health and safety activity. SMEs identified legislation as necessitating health and safety behaviour such as checks on equipment and processes. The interviewees also highlighted the activity of keeping up to date with the latest health and safety regulations and communicating this information to staff. Several SMEs indicated that they were required to conform to operational standards demanded by their particular industry such as leisure or construction.

“We have the certain standards that we have to meet in the leisure industry as well as health & safety. They are quite stringent in their operation procedures as well.”

The most frequent reason for engaging in health and safety activity was to comply with existing regulation or legislation, e.g.,

“To make sure that we comply with legislation”, or “Enforcement by the HSE on the whole of the construction agency but we were actively looking before this was tabled”

A number of SMEs further qualified their reasons for complying with legislation by expressing a concern for the consequences of non-compliance.

“We have to do it because we leave ourselves wide open if we didn’t”.

Reputation
Reputation emerged as a theme in the interface with SMEs and both their suppliers and customers. SMEs were asked whether they were aware of any health and safety measures relevant to their organisation when purchasing goods or services. In the buying stage of their business activity, they appeared to be divided between those who actively researched the quality of the goods supplied through visits and demanding health & safety certification.

“We are regularly in touch with our suppliers, we know whether they have refrigerated vehicles, their way of stocking up because we do visit them from time to time with new products and so on, so we are aware of the levels they operate on.”,

…and those who relied on the reputation of their supplier to determine whether these goods met health and safety standards.

“We rely on our suppliers quite a lot and trust that they do the right things.”

Interviewees were also asked whether they were aware of any health and safety measures when selling their product. A small number of SMEs reported that they included details of their health and safety policy and standards in their websites and promotional brochures.
These SMEs indicated that they understood that health and safety activity may be used to promote their business and enhance their reputation as a serious professional enterprise.

“So we have an operational aspect that is also a spot of selling to the members. So obviously the members need to know that we are fully conducive with all the health & safety & fire risks.”

There is evidence therefore, that SMEs recognise that health and safety performance may be useful in promoting their business to customers, but the majority have not given this consideration. Reputation of the company was also considered a reason to sustain health and safety activity.

“I wouldn’t sell something that is likely to cause difficulty I would lose my reputation.”

Information
The theme of information was observed to arise in two main contexts. One is the action of keeping up to date with current & new legislation. In the current sample, SMEs indicated that they made use of external bodies to provide them with health and safety information. These included, training organisations related to their industry and business consultants. Banks were also considered as a potential source of information but there was no evidence that SMEs had actively used them for this purpose. In another context SMEs were providers of health and safety information to their clients or customers. The SMEs were taking steps to provide detailed information for the safe use of their product by the end user.

“We were recently supplying a generator and with that we supplied a risk assessment with a methodology on the contamination side, how to refuel it, etc., storage of the chemicals”.

SMEs highlighted both information and knowledge as enabling health and safety activity. A number of interviewees also described their knowledge as derived by self-initiated research into health and safety regulations. One SME mentioned that easily accessible information facilitated such research. Websites were described as the main source of information.

“The literature is very clear now, it is not the huge bureaucracy health hygiene & food hygiene and laborious reading that it used to be. You go the local authority and go to the relevant department it is very simple straightforward easy to read document. That facilitates the process it also encourages one to get informed. If there is a lot of bureaucracy one wonders well …it’s a bit over the top. Things are made very straight forward...They are looking to facilitate the process rather than be obstructive.”

Insurance
SMEs discussed insurance in terms of a catalyst for improvements in health and safety. Several mentioned that other health and safety activities such as risk assessment and keeping accident records were a function of insurance policy requirements.

“Firstly, insurers check your premises, property, do a health risk assessment, health risks in how you operate. Once they ok it, make sure the procedures are…um…no fundamental changes, they study the problem and they come back and this is taken into the account and say this could be changed and say this is an additional risk that wasn’t taken into account when you were insured”.

A number of respondents displayed an awareness of a link between improved health and safety and lowered insurance premiums, when asked why they engaged in the health and safety behaviour they had identified,
“Reducing our premium on insurance by regular inspections.”

Training
A number of health and safety training activities were identified by the SME. Training was observed to be enabled by communication with external bodies such as the HSE and chamber of commerce. The theme of training certification was also discussed in terms of a prerequisite for undertaking new work.

“We can get down South now on site our men will have done a one day course, a CSR [corporate social responsibility assessment] which covers what you mentioned earlier, vibration, noise, manual handling, no height disability...We are more concerned with safety on the ground.”

Interviewees identified previous training as a reason for health and safety activity. Attending health and safety training was also seen as a route to further professional qualifications.

“I've done a NEBOSH course in health & safety they gave us a certificate.”

NEBOSH and in-house training courses appeared to support individuals to meet health and safety responsibilities. Interviewees generally answered this question on a personal basis, apart from two respondents who also recognised the influence of company ethos and communication systems on the engagement of health and safety training.

Rational for Behaviour
In addition to the rationale for health and safety activity that has previously been linked with the behavioural themes identified above, SMEs provided further reasons for engagement with health and safety issues. These are detailed below.

Customer Safety
Customer demands/safety appeared to be a major reason for health and safety activity. This was reported to be either promoted by a primary concern for customer safety,

“Obviously we don't want our customers to get burnt”

… or driven by explicit customer demand,

“That's what the customer wants to know. The customer drives.”

Staff Welfare
As a rationale for undertaking behaviour, staff welfare was the first dominant theme which may be described as internal to the company. Apart from a seemingly altruistic concern for staff welfare in terms of injury avoidance, staff protection, and staff confidence. There was recognition of the reciprocal benefits of improved staff welfare, staff retention and lower rates of absence. An investment in health and safety was therefore identified by the SME as a possible causal factor in improving the productivity of staff

“To maintain our own workforce, that's why. We purchase specialist disciplines”

Improved staff welfare was recognised as an outcome measure of successful health and safety activity. Staff welfare was defined here in terms of staff satisfaction, absence rates, staff confidence, and staff turnover. Staff welfare was further linked to production costs, as high staff turnover would entail greater expenditure on advertising and staff training.
“In our experience especially in catering, nobody lasts that long. Because catering is a very fast establishment. Very stressful, lots of work, late hours and so on. If the employee doesn’t feel looked after then they just go. If you have got good people working for you, you should make the effort otherwise people will leave.”

Positive Cost Benefits
The positive cost benefits of health and safety activity where recognised, were seen as essential to the profit making of the business.

“At the end of the day it is what you provide and the cost of it. It is very essential if you are to make any profits, you do need to make rigorous checks and the staff need to know what they are doing, in case you are sick or absent they do it as if you were there.”

Further, health and safety activity was perceived necessary to protect the investment of workforce training.

Sense of Duty & Ethos
A number of interviewees articulated the company’s sense of duty to engage in health and safety activity as not necessarily linked to a legal duty to maintain health and safety activity.

“Our commitment to the public, there is duty of care.”

Therefore, the duty described may derive from a broader moral sense rather than merely a legal requirement. It is unclear what facilitates development of such and organisational characteristic, but should warrant further consideration. Company ethos for health and safety was also highlighted as reason from engaging in health and safety activity.

“As a diligent business we would expect people to do it anyway.”

SMEs identified company ethos as a factor which facilitated the organising of health and safety activity.

“Ethos, ideals”.

Furthermore, linking health and safety to company ethos was seen as a means to promote the company as a well established business.

“To make a statement about the type of company that we are, not just a fly by night.”

Past Experience
There was evidence that past experience of health and safety activity in other organisations was on several occasions the main prompt for bringing health and safety activity up to standard in their new company. Past experience of health & safety in larger companies was offered as a rationale for current health & safety in SMEs.

“We're trying just to bring everything up to speed…[why?]…urm, because we all came from big companies.”

3.3.6 Enablers of Health and Safety Activity
Interviewees articulated described the factors which they believed had an enabling role in their identified health and safety behaviour. These ranged from resources within the company such as in-house training (already identified in the behavioural themes), to external influences such as business links.
Internal Resources
SMEs identified internal resources and the availability of cheap technology as factors that enabled health and safety activity.

“Technology used to be the barrier for small businesses but now you can buy the technology very cheaply and it is very accurate, just what the big companies can do, the small business and entrepreneur can do, cost is not the issue it used to be.”

Grants
Three SMEs reported that grants from the Department of the Environment, Food and Rural affairs, Department of Trade and Industry or practical help from a charity, helped them engage in health and safety activity. In would appear, that for a limited sample, such ‘pump-priming’ funds may be an effective mechanism supporting health & safety activity.

3.3.7 Perceived Indicators of Effectiveness of Health and Safety Behaviour
SMEs were asked to indicate how they knew the health and safety action they had taken had worked. They provided both direct and indirect examples of the effectiveness of their health and safety activities. In addition to the perceived indicators of the effectiveness of health and safety illustrated above, the following markers of effectiveness were identified.

Lower Recorded Accidents
‘Lower recorded accidents’ was the main theme that emerged from the interviewees’ responses to the question how do you know it works? There was an obvious link here with audit or measurement, without which, SMEs could not produce evidence of accident reduction.

“Because we have reduced injuries…got the statistics to analyse. We analyse the accident report book.”

Absence of Accidents
It is not clear whether the lack of accidents reflects a true absence in all cases, or whether accidents have not been reported. Furthermore, one SME perceptively noted that the lack of accidents doesn’t necessarily mean that steps taken actually work. Others highlight the number of years they have been in business together with the fact that they have not had a major incident.

“Because we've run for 14 years and have never had any problems”.

Communication
Regular health and safety meetings within the SME provide evidence on whether health and safety initiatives are working. A number of SMEs interviewed also reported reliance on customer and employee feedback to assess health and safety

“We have monthly safety talks and a monthly audit. Feedback from them would tell us a risk we didn't identify”.

A number of interviewees were unable to articulate the mechanisms by which they assessed the effectiveness of their health and safety activity. However, they claimed that it was self-evident that it was effective. Some SMEs were able to report that they maintain an extensive amount of health and safety activity, however, interviewees also conceded that despite such
activity they are unsure whether measures taken do work, unless they are able to demonstrate a reduction in incidents, etc.

3.3.8 Illustrative Responses to Assigned Stage of Change & Business Activity Model

Quantitative findings indicate a dichotomous population with respect to Stage of Change in SME health & safety behaviours, see Figure 6. One group are engaged and active while the other remain largely unaware of health & safety considerations. For example, organisations in pre-contemplation typically made remarks like,

“Never gave it much though, to be honest” or “As far I know there aren't any, nothing has been done this end”.

Such remarks were indicative of an explicit lack of awareness of health & safety considerations. Contemplative responses were of the nature of…

“Yes we would have to consider that”.

Respondents recognised the factor in question and may have been preparing action within a six month time period. Indicative preparation remarks included comments like,

“We are aware depending what the product is of what our suppliers provide as best we can. We are in a major consultation phase with a consultant...we're building those procedures and policies up”.

In such examples, preparation was defined as readiness to undertake activity within one month. Action responses were indicative of actual steps being taken to support health & safety activity, e.g.,

“All our contractors are written to, to find out what their health & safety policies are & if they come on the premises they have to produce a health & safety document and a guide to any risk assessments that they have done or will have to do”.

Respondents in maintenance were making comments like…

“Yes, totally aware. We were recently supplying a generator and with that we supplied a risk assessment with a methodology on the contamination side, how to refuel it, etc. storage of the chemicals”.

There were no examples categorised as the hypothesised ‘relapse’ phase in the telephone interview responses. Perhaps, this phase is not meaningful in the context of this population.

When considering qualitative findings for the SMEs business processes, respondents’ comments were illustrative with respect to the organisation’s activities. In summary, the interfaces with customers and other businesses were weak in health & safety activity, but the manufacturing and largely internal processes were evidently better represented with health & safety action. To illustrate, ‘buying’ activity comments were items like…

“No, I’m not aware of anything”

or ‘selling’ remarks…
“Um, yes, I'm trying to think where it would be relevant to us...Not directly. Very good point actually [health & safety measures relevant to your organisation when selling]. I think we ought to. Thank you very much. It has prompted me to think about it”.

The more internal business processes, Designing, Making, and Managing featured comments like...

“We definitely took into consideration when we had the building work done. Ramp, toilet facilities. Trying to adapt our building for accessibility, not just for health & safety those go hand in hand” (designing), “We have done risk assessments on all the machines in the factory - a lathe you must be aware that it rotates - must be aware must wear protective clothing” (making), or “We have...urm...but in the case of contractors we have policies and protocols for that, and obviously...urm...in dealing with contracts we produce our statement...urm and follow those and usually check out the record of the contractor” (managing).

3.4 Discussion of Results

The literature review defines the SME as a heterogeneous organisation which is characteristically fearful of the regulator yet undertake their day to day activities conscientiously. They report conflict with respect to resource pressures and compliance with health & safety. They are often unaware of their legal obligations and unable to accurately identify their health & safety shortcomings. Many initiatives for improvement of the health & safety of the SME are modelled on larger enterprises and therefore have limited perceived effectiveness and further much of the information available to the SME is inappropriately worded for the population. However, more positively, increasing amounts of advisory literature are becoming available in appropriate language for the SME and further, several European initiatives have demonstrated some promise in the improvement of health & safety outcomes for the SME.

It would appear that with several notable exceptions, there is a lack of theoretical underpinning for research activity in this area. Therefore, the work programme undertaken has gone to some efforts to structure its approach according to published models. The telephone interviews adopted the Business Activity Model generic business framework (Herman & Malone, 2003) and Prochaska & DiClimente (1982) stages of change model of health behaviour to elicit data from the SME participants. This approach would appear to have been profitable in the determination of specific behaviours associated with differing business practices in this heterogeneous industrial sector. Further, the ability to assess the SMEs readiness to engage in health & safety activity (and its enablers) has been valuable in both interpretation of opportunities for intervention and in the support of the development of the Part Three questionnaire (see Section 4) via qualitative and quantitative findings.

The interview sample displayed significant differences in a number of areas of health and safety behaviour, such as frequency of policy statements, conducting risk assessments, and the maintenance of accident records. There were also significant differences reported in training records for display screen equipment risk, vibration and stress. It should be noted however that not all these behaviours may be relevant to the enterprises included in the sample as a range of sectors were represented.

Thirty eight percent of the interview sample reported undertaking no health and safety engagement in a typical week. This disturbing finding warranted further investigation with a larger sample and was therefore was included in the questionnaire survey reported in Section 4.
Overall, the buying and selling phases for businesses were particularly immature in respect of awareness of the need for health and safety activity. The size of the interview sample precluded the use of meaningful statistical analysis to investigate any association with other factors such as size, sector or organisational structure of the company. However, these preliminary findings prompted the follow up of these questions. These associations were investigated further in the questionnaire survey and the results are reported in Section 4.3.

The literature on health behaviour change emphasises the importance of identifying the specific behaviours which are salient to the population under investigation (Fishbein, 2001). To this purpose, qualitative analysis of the responses was used to identify key behavioural themes. These were found to be risk assessment, developing a health and safety policy, complying with legislation, checking the reputation of the suppliers, keeping up to date with health and safety information, and carrying out health and safety training. A number of these behaviours, namely risk assessment, development of a health and safety policy, complying with legislation were also offered as reasons for sustaining health and safety activity. Further reasons given for engagement with health and safety issues were customer safety, staff welfare, positive cost benefits, sense of duty, company ethos and past experience of staff. The key behaviours which were also considered to be enablers of health and safety were risk assessment, development of a health and safety policy, complying with legislation and health and safety training. Further enabling factors were identified as internal resources and grants. One key health and safety behaviour, risk assessment was identified as a mechanism for providing evidence that health and safety initiatives were working. Other perceived indicators of health and safety effectiveness were lower recorded accidents, absence of accidents and communication with customers and employees.

The telephone interviews provided valuable data for the prioritisation of participant behaviours. The respondents present a picture of organisations that do not spend a substantial part of their time engaging in health & safety activity. Although it should be stated that there appear to be two groups of organisations, those who can be shown not to be engaged with health & safety practice and those that are actively finding and utilising health & safety support. For both groups, they may be considered able to meaningfully qualify their rationale for undertaken activities and further provide qualitatively different response profiles.

The questionnaire (see Section 4 below) expands on the themes identified by the telephone interviews with a sample size that supports multivariate analysis to investigate the nature of the SME’s behaviours and their motives with respect to health & safety activity.
4 PART THREE: QUESTIONNAIRE SURVEY

4.1 Introduction
The design of the questionnaire sought to statistically explore the behaviours and motives of the SMEs in their engagement with health & safety. To facilitate this, illustrative examples of everyday practice drawn from the telephone interviews (see Section 3), were used to develop the survey. These included the six behaviours most frequently reported, i.e., ‘risk assessment’, ‘legislation’, ‘reputation’, ‘information’, ‘training’ and ‘policy’. The questionnaire is shown in Appendix C.

4.2 Method

4.2.1 Participants
Representatives of three hundred and thirteen enterprises filled in questionnaires. 21 representatives declined to participate, with a resultant response rate of 93%. The sample was comprised of sole traders (n= 117, 18%), micro businesses with 2 to 9 staff (n= 117, 39%), small businesses with 10 to 49 staff (n=65, 22%), and medium sized enterprises 50 to 250 staff (n=64, 21%). The sectors (n = 313) were: Manufacturing/Agriculture/Construction (n = 110, 35%), Retail/Services/Transport & Distribution (n = 105, 34%), Education/Public Admin/Health & Social Care (n = 26, 8%), Leisure & Catering (n = 54, 17%), Other (n = 18, 6%).

4.2.2 Procedure
Businesses were recruited at trade shows in England and Scotland, namely the ‘Chartered Institute of Personnel and Development’, the ‘Scottish Trade and Food Fair’, ‘Scotsturf’, the ‘Caravan and Outdoor Show’, and the ‘Scottish Wedding Show’ between October 2006 and March 2007. With the permission of the event organisers, exhibitors and visitors were approached and asked whether their business had less than two hundred and fifty staff. Those whose businesses fitted this criterion were invited to take part in the study. Participants were informed that this would involve completing an anonymous questionnaire that would take approximately ten minutes to complete. Information on the cover sheet of the questionnaire also outlined that the study was supported by the Health and Safety Executive and had been granted ethical approval by Heriot-Watt University Ethics Committee. Contact details were additionally provided for further information. Further, Heriot-Watt University funded a prize draw in which participants were offered the opportunity to win an ‘iPod Nano’ as an additional incentive to participate, contact details were separately recorded from the questionnaire data for this purpose.

Optical mark recognition (OMR) software was used to input the questionnaire data (Principia ‘Remark Office’ OMR version 6). Routine error checking was performed to ensure accurate data recording.

4.2.3 Measures
Measures employed in the questionnaire were defined to derive the attitudes of the SMEs to health & safety, to determine their engagement with health & safety, and explore their organisational structure. These three primary sections to the questionnaire are described in more detail below. Further, general demographic information was obtained, i.e., business age, number of staff and hours per week spent on health & safety activity, sector and respondent’s role in the organisation.
A global index of health & safety activity was calculated using a mean score from questions D1 – D6 of the survey, see Appendix C. These items refer to the frequency of health & safety activities undertaken, i.e., conducting risk assessments, compliance with health & safety legislation, development of health & safety policy, supplier’s health & safety, health & safety training, and obtaining health & safety information.

**Attitudes to Health & Safety Behaviours**

Themes from the telephone interviews reported in Section 3.3.4 were used to construct a sixty item scale. The key health and safety behaviours identified by SMEs from the telephone interviews were; risk assessment, compliance with health and safety legislation, maintenance of health and safety information, health and safety policy development, health and safety training, and checking supplier’s health and safety. These were integrated with the domains defined in the health psychology and public health literature (Fishbein, 2001; Michie, Johnston, Abraham, Lawton, Parker, & Walker, 2005). The domains are: knowledge, skills, self-efficacy, self-standards, environmental resources, emotion, memory and attention, social influences, behavioural regulation, and beliefs about consequences of behaviours. The corresponding structure produced ten domains, with six behaviours in each domain. Three of the items were keyed positively, the remainder were keyed negatively. Respondents were asked to indicate the extent to which they agreed with items, e.g., ‘Complying with health and safety legislation is stressful’ using a five point scale, ‘slightly disagree’, ‘disagree’, ‘neutral’, ‘agree’, and ‘strongly agree’.

**Engagement with Health & Safety**

*Frequency Of Health And Safety Behaviours*

Participants were asked to respond using a five point scale (see Appendix C) as to how frequently they undertook the six health and safety behaviours established from the telephone interviews, as outlined in Section 3.3.1.

**Organisational Structure**

In this section a five point scale was used to anchor responses see Appendix C. Participants were asked to indicate the level at which decisions were made and health and safety encouragement was derived.

**Readiness to Engage in Behaviour**

Respondent’s readiness to engage in health and safety activity was determined by using Stage of Change (Prochaska & DiClimente, 1982) as a framework to consider behaviours identified from the telephone interviews, described in Section 3.3.3. An additional stage ‘relapse’ was included in consideration of findings from the relevant health and safety literature (Haslam, 2002).

**4.2.4 Statistical Analysis**

Statistical analysis was conducted using SPSS version 14. The factor structure of the survey was investigated using a principle components analysis. Factor analysis is a technique for reducing large amounts of data into more manageable terms by grouping related items. Missing cases were excluded pairwise from analyses.

**4.3 Results**

Results are presented in three main sections, i) demographic features of the data, ii) factor analysis outcomes, and iii) hierarchical regression findings.
Hours per week allocated to health & safety activity by SMEs was found to be significantly different ($\chi^2 = 96.8, \text{df} = 4, p < 0.001$). Fifty nine percent of the sample were spent one hour or less on health & safety in a typical week, see Figure 7.

![Figure 7. Hours per week organisation spends on health & safety](image)

Further, time spent on health & safety was significantly different with respect to the relative size of the organisations, see Figure 8.

![Figure 8. Hours per week by size on health & safety](image)

Respondents indicating their organisation spent no time on health & safety were significantly more likely to be smaller organisations ($\chi^2 = 85.6, \text{df} = 4, p < 0.001$). Those reporting spending ‘One hour’, or no time per week were most likely to be micro-businesses (2 to 9 staff). Organisations allocating approximately one day per week to health & safety, clustered around the small business (10 to 49 staff). Allocation of from ‘eight to thirty-seven’ hours per week or ‘Over thirty-seven’ hours per week were significantly more likely to occur in the larger SMEs in the sample, see Table 11.

**Table 11. Hours per week on health & safety by organisational size**

<table>
<thead>
<tr>
<th>Hours per week</th>
<th>$\chi^2$</th>
<th>df</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 or 1 hour</td>
<td>72.7</td>
<td>4</td>
<td>$p &lt; 0.001$</td>
</tr>
<tr>
<td>7 hours</td>
<td>32.4</td>
<td>4</td>
<td>$p &lt; 0.001$</td>
</tr>
<tr>
<td>8 to 37 hours</td>
<td>14.4</td>
<td>4</td>
<td>$p &lt; 0.05$</td>
</tr>
<tr>
<td>More than 37 hours</td>
<td>10.4</td>
<td>4</td>
<td>$p &lt; 0.05$</td>
</tr>
</tbody>
</table>
Self-report of ‘Stage of Change’ data was found to be significantly different for all sizes of SME in the sample. ‘Pre-contemplative’ SMEs were significantly more likely to be sole traders and less likely to be businesses with between fifty and hundred staff. Those reported as being in the contemplative Stage of Change were most likely to be SMEs with more than fifty staff. Organisations in the preparation, action, or maintenance stages were found to be significantly different, Table 12. For all three of these stages, readiness to engage with health & safety was more likely as the business size increased, see Figure 9.

Table 12. Stage of change by organisational size

<table>
<thead>
<tr>
<th>Stage of change</th>
<th>$\chi^2$</th>
<th>df</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-contemplation</td>
<td>15.2</td>
<td>4</td>
<td>$p &lt; 0.005$</td>
</tr>
<tr>
<td>Contemplation</td>
<td>18.5</td>
<td>4</td>
<td>$p &lt; 0.001$</td>
</tr>
<tr>
<td>Preparation</td>
<td>56.8</td>
<td>4</td>
<td>$p &lt; 0.001$</td>
</tr>
<tr>
<td>Action</td>
<td>22.4</td>
<td>4</td>
<td>$p &lt; 0.001$</td>
</tr>
<tr>
<td>Maintenance</td>
<td>53.7</td>
<td>4</td>
<td>$p &lt; 0.001$</td>
</tr>
</tbody>
</table>

Eighty two per cent of respondents that indicated their organisation spends ‘no time’ on health and safety activity were found to be in the preparation or an earlier Stage of Change. This is in contrast with organisations which reported to spend time on health and safety. These organisations were found to be substantially in preparation or a later Stage of Change, i.e., ‘one hour’, 92%, ‘two to seven hours’, 96%, ‘eight to thirty seven hours’, 100%, and ‘over thirty seven hours’, 100%, see Figure 10. A Kruskall-Wallis analysis revealed a statistically significant difference in hours per week spent on health and safety according to Stage of Change, $\chi^2 (4) =107.38$ $p<001$. Time spent on health and safety increased with progression through the stages of change, i.e., pre-contemplation (mean rank = 52.1), contemplation (mean rank = 63.3), preparation (mean rank 118.8), action (mean rank 158.6), and maintenance (181.51) stages.

Figure 9. Size by Stage of Change

Figure 10. Hours spent per week on health & safety by Stage of Change
Significant differences were found between the frequencies at which decisions are made by ‘Top’, ‘Middle’, and ‘Junior’ level staff, see Figure 11 and Table 13.

![Figure 11. Organisational decision making](image)

Consideration of ‘encouragement of health & safety activity’ by different levels of management in SMEs, indicated that both ‘Top-level’ and ‘Middle-level’ staff were found to be significantly different in their support of health & safety activity. These management levels were reported to more frequently encourage health & safety practice within their businesses. No significant differences were found for ‘Junior-level’ staff, see Figure 12 and Table 13.

![Figure 12. Organisational health & safety encouragement](image)

**Table 13. Decision making and encouragement for health & safety**

<table>
<thead>
<tr>
<th></th>
<th>$\chi^2$</th>
<th>df</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Decision making:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top level</td>
<td>267.5</td>
<td>4</td>
<td>$p &lt; 0.001$</td>
</tr>
<tr>
<td>Middle level</td>
<td>103.2</td>
<td>4</td>
<td>$p &lt; 0.001$</td>
</tr>
<tr>
<td>Junior level</td>
<td>99.3</td>
<td>4</td>
<td>$p &lt; 0.001$</td>
</tr>
<tr>
<td><strong>Encouragement:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top level</td>
<td>141.4</td>
<td>4</td>
<td>$p &lt; 0.001$</td>
</tr>
<tr>
<td>Middle level</td>
<td>38.8</td>
<td>4</td>
<td>$p &lt; 0.001$</td>
</tr>
<tr>
<td>Junior level</td>
<td>9.7</td>
<td>4</td>
<td>NS</td>
</tr>
</tbody>
</table>

Figure 12 illustrates business’ health & safety activity by organisational size. A significant main effect was found for business size ($F = 25.6, df = 4, 287, p <0.001$). Post-hoc testing revealed three groups which were significantly different from each other. These were sole trader ($p < 0.05$), micro business ($p < 0.05$), and businesses with more than ten staff ($p < 0.001$). Dunnett’s was used for the post-hoc tests as homogeneity of variance not achieved ($F = 6.2, df = 4, 287, p < 0.001$).
Factor analysis
Prior to factor analysis, appropriate statistical assumptions were checked to confirm that the
data was suitable for this type of examination.

The analysis identified five meaningful factors, presented in Table 14. The factors may be
considered to broadly fall into the following domains:

Factor 1. Negative beliefs about resources
Factor 2. Relationships with suppliers
Factor 3. Emotional aspects of behaviour
Factor 4. Positive beliefs about resources
Factor 5. Beliefs about consequences.

Predictions Regarding Health & Safety Activity

The data was subjected to multivariate analysis. Multiple regression was performed to
determine the relative predictive significance of the variables. These were:

- attitudes (derived factor structure)
- organisational structure
- encouragement and decision making within the business
- demographic features with respect to outcome measures, and
- mediating influences.

Hierarchical regression was used to examine the variables to find which were the most
important predictors of good health and safety behaviours. The nature of the attitude
variables was analysed to consider effects of the demographic and organisational
characteristics. The regression outcomes are shown in Table 15 (standardised weightings).
Three models were considered. Model 1 introduced the five factors derived from the factor
analysis. Next, internal organisational characteristics were added. For Model 3, demographic
features were taken into account. As additional variables were introduced, the new model
was significantly more able to account for health & safety activity.

In all models, both negative and positive beliefs about resources (factor one and factor four
respectively), and SME relationships with suppliers, were found to be significant independent
effects. In Model 1, beliefs about consequences of health & safety activity (Factor 5) was
also found to be a significant predictor. The introduction of decision making and health &
safety encouragement variables reduced the predictive contribution of Factor 5 to a non-significant level in Model 2. Further, decision making by both middle and junior-level staff were found to have significant predictive value. In the third model, factors one, two, & four, and decision-making at middle and junior levels remained significant predictors despite controlling for the effects of demographic variables.

Table 14. Oblimin factor solution with Kaiser Normalisation

<table>
<thead>
<tr>
<th>Statement</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
<th>Factor 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>We are not capable of writing a health and safety policy</td>
<td>782</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We do not understand what a health and safety policy is</td>
<td>717</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We do not have the resources to carry out risk assessments</td>
<td>713</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We do not have the finance to carry out health and safety training</td>
<td>616</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We are not sure how to carry out health and safety training</td>
<td>612</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We do not have the organisational structure to comply with health and safety regulations</td>
<td>608</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carrying out health and safety training is a problem for us</td>
<td>588</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keeping up to date with health and safety information is not relevant to a company or size</td>
<td>575</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We lack the skills to check on our suppliers' health and safety standards</td>
<td>563</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The nature of our industry does not demand that we carry out health and safety training</td>
<td>560</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We rarely communicate with external bodies to comply with health and safety legislation</td>
<td>557</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We often overlook health and safety training</td>
<td>539</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We rarely read the trade literature to keep up to date with health and safety information</td>
<td>474</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We have the ability to comply with legislation</td>
<td>460</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our customers do not think it is important that we keep up to date on health and safety information</td>
<td>446</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We do not make action plans for conducting risk assessments</td>
<td>416</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is part of our professional practice to have a health and safety policy</td>
<td>364</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our company is well equipped to write a health and safety policy</td>
<td>344</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We always remember to check our suppliers' health and safety standards</td>
<td>.747</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Checking on our suppliers' health and safety standards will prevent accidents</td>
<td>.724</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We would be sorry if we had not checked our suppliers' health and safety standards</td>
<td>.710</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is important to our customers that we check on our supplier's health and safety standards</td>
<td>.704</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We have the time to check our suppliers' health and safety standards</td>
<td>.707</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk assessments are difficult to carry out</td>
<td>.670</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is not tiring to carry out health and safety training</td>
<td>.640</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk assessments are interesting</td>
<td>.633</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Writing a health and safety policy would be mentally exhausting</td>
<td>.623</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>We cannot cope with keeping up to date with health and safety information</td>
<td>.583</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk assessments are stressful</td>
<td>.817</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is frustrating to keep up with health and safety information</td>
<td>.667</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health and safety regulations are confusing</td>
<td>.652</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk assessments are difficult to carry out</td>
<td>.726</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is not tiring to carry out health and safety training</td>
<td>.565</td>
<td></td>
<td></td>
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<tr>
<td>Writing a health and safety policy would be mentally exhausting</td>
<td>.549</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>We cannot cope with keeping up to date with health and safety information</td>
<td>.483</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk assessments are interesting</td>
<td>.337</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We pay attention to keeping to date with health and safety information</td>
<td>.774</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We always remember to carry out risk assessments</td>
<td>.726</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We have the resources to update ourselves on health and safety information</td>
<td>.682</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We have company support for a health and safety policy</td>
<td>.676</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We invite feedback from our staff on health and safety training</td>
<td>.676</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We have the skills to provide health and safety training</td>
<td>.666</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our management would want us to carry out risk assessments</td>
<td>.637</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complying with health and safety information is an important part of our image</td>
<td>.604</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We hold meetings with staff on health and safety policy issues</td>
<td>.600</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We know where to look for up to date health and safety information</td>
<td>.597</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We know what a risk assessment is</td>
<td>.565</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We can overcome the difficulties and meet health and safety regulations</td>
<td>.546</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We are good at finding relevant health and safety information</td>
<td>.399</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carrying out a risk assessment is commonsense</td>
<td>.364</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We do not focus on our health and safety policy</td>
<td>.346</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is not important for our staff that we have a health and safety policy</td>
<td>.487</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk assessment is not relevant to our type of business</td>
<td>.457</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our own reputation does not depend on the health and safety standards of our suppliers</td>
<td>.452</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Failing to meet health and safety legislation will result in injuries</td>
<td>.446</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carrying out health and safety training will lower our accident rates</td>
<td>.433</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We have to have health and safety certification to win the work</td>
<td>.398</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keeping up to date with health and safety information will not increase our profits</td>
<td>.383</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carrying out risk assessments will have no effect on our insurance premiums</td>
<td>.368</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
Table 15. Health & safety behaviour: Beta weights and significance levels in three-step hierarchical regression.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1 Negative beliefs about resources</td>
<td>.288***</td>
<td>.274***</td>
<td>.255***</td>
</tr>
<tr>
<td>Factor 2 Relationships with suppliers</td>
<td>.283***</td>
<td>.253***</td>
<td>.243***</td>
</tr>
<tr>
<td>Factor 3 Emotional aspects of behaviour</td>
<td>-.006</td>
<td>-.011</td>
<td>.010</td>
</tr>
<tr>
<td>Factor 4 Positive beliefs about resources</td>
<td>.491***</td>
<td>.454***</td>
<td>.412***</td>
</tr>
<tr>
<td>Factor 5 Beliefs about consequences</td>
<td>.077*</td>
<td>.068</td>
<td>.063</td>
</tr>
<tr>
<td>Decisions are made at the top level staff</td>
<td></td>
<td>.042</td>
<td>.055</td>
</tr>
<tr>
<td>Decisions are made by middle level staff</td>
<td>-.120*</td>
<td>-.119*</td>
<td></td>
</tr>
<tr>
<td>Decisions are made by junior staff</td>
<td>.125**</td>
<td>.109*</td>
<td></td>
</tr>
<tr>
<td>Health and safety activity is encouraged by top level staff</td>
<td>.083</td>
<td>.088</td>
<td></td>
</tr>
<tr>
<td>Health and safety activity is encouraged by middle level staff</td>
<td>.051</td>
<td>.033</td>
<td></td>
</tr>
<tr>
<td>Health and safety activity is encouraged by junior staff</td>
<td>-.014</td>
<td>-.013</td>
<td></td>
</tr>
<tr>
<td>Age of business</td>
<td></td>
<td>.035</td>
<td></td>
</tr>
<tr>
<td>Number of staff</td>
<td></td>
<td>.071</td>
<td></td>
</tr>
<tr>
<td>Estimated hours per week organisation spends on health &amp; safety</td>
<td></td>
<td>.056</td>
<td></td>
</tr>
<tr>
<td>Sector</td>
<td></td>
<td></td>
<td>-.062</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>.756***</td>
<td>.768*</td>
<td>.775*</td>
</tr>
</tbody>
</table>

*p < .05, ** p < .01, *** p < .001.

4.4 Discussion of Results

The questionnaire survey revealed findings consistent with results from the telephone interviews, see Section 3.3. Significant differences were identified in SME health & safety relating to the time allocated, size of the business, Stage of Change, and organisational structure. Further, analysis of the survey instrument, revealed an underlying structure with five factors relating to attitudes to health & safety behaviour. The attitude variables, together with controls for demographic and organisational characteristics, were regressed against health & safety activity. Three attitude, and two organisational factors were identified to have independent predictive value in health & safety activity.

A substantial proportion of the SME sample, were identified to reliably spend little or no time in a typical week on health & safety activity, see Figure 7. In the questionnaire, 59% of respondents reported spending one hour or less on health & safety activity, for the telephone interviews undertaken earlier in the project, the figure was 60%. This suggests that UK SMEs are spending a disturbingly low amount of time on health & safety. The finding, which seems to reflect practice (given independent data collection methods and comparable statistics from both the telephone interviews and the questionnaire survey), raises the question of whether time allocated to health & safety is reflective of the effectiveness of health & safety within the business.

To investigate health & safety activity, the implications of business size were explored. It was hypothesised that the small (more than nine staff, but less than fifty) and micro-business/sole trader (< 10 staff) would spend least time on health & safety within the sample, as a consequence of their limited manpower resources. Indeed, findings show that the smaller businesses in the SME sample were, spending significantly less time on health & safety. Specifically, the micro-businesses, were likely to spend significantly less time on health & safety activity when compared with the other sized SMEs. Further, consideration of the data indicated that organisations spending approximately one day per week on health & safety
matters, were most likely to be ‘small’ enterprises. Those reporting more than thirty seven hours per week were significant more likely to be the largest of the SMEs in the sample (101 to 250 staff). It would appear that as businesses grow, they develop the opportunity, and are more likely to allocate time to health & safety matters. It should be borne in mind, however, that the legislative position, with regard to health & safety documentation, is less proscriptive for organisations with less than five staff. These businesses have no statutory requirement to produce health & safety documentation. The evidence suggests that a structural relationship exists in terms of the resource available to an organisation as it grows, which would support health & safety activity. However, this finding does not inform as to the nature of the time invested in health & safety or any rationale for this activity.

Stage of Change was adopted in the design of the telephone interviews to elicit data on the motivational state of the SME regarding health & safety activity. The interview data revealed two main clusters in the sample, one predominantly in the ‘pre-contemplative’ phase, and the other in the ‘maintenance’ phase. The questionnaire survey also employed Stage of Change. Readiness to engage with health & safety significantly increased with business size. Sole-traders were significantly more likely to indicate that they were unaware of the need to carry out specific health & safety behaviours. Businesses were statistically more likely to be in, the more mature, ‘preparation’, ‘action’ or ‘maintenance’ phases as the size of the organisation increased. Findings provide further support (Haslam, 2002) for the application of Stage of Change as a framework to meaningfully consider health & safety activity. For example, significantly more time was allocated to health & safety for organisations in the more advanced stages of change. Thus, the Stage of Change framework, provides a mechanism to identify organisational characteristics which appear to either promote or inhibit health & safety activity. The framework was sensitive to significant differences in both organisational size and time allocated to health & safety. This suggests it may have potential as a diagnostic screening assessment tool for health & safety interventions.

Hierarchical features of the organisation were of interest in the design of the study. The literature (Shampoux & Brun, 2003; Stephens, Hickling, Gaskell, Burton, & Holland, 2004) suggests that senior management support is positively associated with health & safety practice. Further, engagement of junior staff was also identified as a constraint to good health & safety activity. Therefore, both decision-making and encouragement were investigated in this study. Significant differences were established in our sample population for both organisational decision making and encouragement with respect to junior, middle, and senior level staff. (Shampoux & Brun, 2003) identified organisations with collective management within which decision making was largely distributed amongst all staff as performing better than more traditional hierarchical organisational designs. Such organisational structures were not apparent in this study. The data suggest more traditional hierarchical enterprises dominate. It was hypothesised that senior management support would be a predictor of good health & safety practice and this effect is examined below.

Organisational characteristics have been identified in the published literature as important factors influencing the health & safety of SMEs (Eakin & MacEachen, 1998; Shampoux & Brun, 2003). The importance of the design of the organisation was further reinforced by findings from the telephone interviews, reported in Section 3 of this report. Therefore, the survey instrument was designed to elicit two hierarchical features of the organisational structure, i) support for health & safety and ii), decision making. Survey items were developed to determine the nature of the organisation, e.g., those that have a traditionally hierarchical management or matrix-type structures, and the degree of support for health & safety at the different levels of the business. Results present a fairly traditional view of British businesses. For example, frequency of decision making was found to significantly decrease for junior staff, appear to be broadly normally distributed for middle level staff and increase for senior staff. If the sample contained alternative organisational structures, this
was not apparent in the findings. It was not possible to differentiate the contributors to the
survey on this basis, in order to evaluate the effectiveness of differing organisational designs.
Middle and senior level staff in the sample reported significantly more frequent
encouragement of health & safety activity than for the junior level staff whom were not
significant with respect to how often they reported health & safety encouragement. This
could be interpreted as the junior level staff not recognising the strategic benefit of
encouragement of health & safety behaviour, and therefore engaged in such activity less
frequently.

Findings have been reported considering organisational size, time allocated to health and
safety, Stage of Change, decision making and encouragement on health and safety activity.
The index of reported behaviours provides a mechanism to quantify health and safety activity.
Figure 12 indicates the significantly different health and safety activity by SMEs in the
sample. Post-hoc testing differentiates three groups, the sole trader, the micro enterprise and
those SMEs with between 10 and 250 staff. It is suggested that this provides clear evidence
of special challenges for the sole trader/micro-business in provision of professional health &
safety for their organisation.

The attitude scale was investigated to determine the degree to which it measured the variables
it was designed to evaluate. Overall, the analysis indicated that the scale was broadly
consistent with the theoretical domains in the literature, and the behaviours identified from
the telephone interviews.

Five factors emerged from the principal component analysis. The first factor comprised items
relating to negative beliefs about resources to carry out health and safety activities.
‘Resources’ in this factor incorporated theoretical domains relating to behaviour change such,
knowledge, skills, social identity (self-standards), beliefs about capability (self-efficacy),
attitude, motivation and goals (intentions), memory/attention, environmental context
(constraints), and social influences (norms) as highlighted in the literature (Michie et al.,
2005). In this first factor, health and safety activity is in general composed of; risk
assessment, presence of a health and safety policy, compliance with health and safety
legislation, updating health and safety information, and conducting health and safety training.

The second factor was notable for its emphasis on health and safety behaviour relating to
suppliers. This reflects the earlier finding from the telephone interview data that checking on
the health and safety of suppliers was considered by SMEs to be a separate exercise from
more typical health and safety behaviours such as risk assessments or development of policy.

The third factor comprised items regarding the emotional aspects of health and safety
behaviour such as frustration of keeping up with health and safety information or stress of
complying with legislation.

Factor four related to positive beliefs about the same type of resources relevant to health and
safety activity as Factor one. The presence of two factors for beliefs about resources suggests
that rather than on a continuum, beliefs about resources are dichotomised for SMEs.

Factor five represented beliefs about the consequences of health and safety behaviour for the
SME, such as, the lowering of accident rates as a result of carrying out health and safety
training. It can be seen that the factors derived from the principal component analysis
provided statistical support for the use of factors, that relate to general resources and health
and safety activity, beliefs about suppliers, emotional aspects of health and safety and beliefs
about consequences, in the subsequent multivariate analysis. Therefore, these were used to
assess their importance in determining the extent of health and safety activity within the
SME.
Hierarchical regression was chosen to identify variables with predictive influence in improvement of SME health & safety. The primary focus for this project was the psychosocial factors influencing SME behaviour. Therefore, a theoretical rationale for the hierarchical entry of variables for the regression was derived. It was hypothesised that attitudes would have a primary influence on health & safety behaviours. Further, that these contributions would mediate pre-existing health & safety associations. For example, beliefs about resources would dominate the underlying influences of structural variables, like size of the organisation, or encouragement of health & safety by management. Therefore, variables were introduced into the regression in three models, i) factors derived from the principle components analysis, ii) hierarchical organisational variables, and iii) demographic variables. Findings supported this rationale, in that organisation size, which has been established in the literature as a primary contributor to good health & safety practice, was not a significant predictor of health & safety behaviour when the role of the identified attitude factors was adjusted for.

Beliefs about consequences of health and safety activity was also found to be a predictor of activity but after taking into account the influence of other factors such as decision making in the enterprise this was no longer significant. This is consistent with the literature (Stephens, Hickling, Gaskell, Burton, & Holland, 2004) which suggests incentives which focus on the consequences of health and safety behaviour may not be sufficient motivators when there are other constraints present such resources or lack of control over allocation of resources for health and safety activity.

In the regression model which only considered the principle component analysis factors, beliefs about consequences of behaviour were predictive of health and safety activity. These included health and safety activity, lowering accident rates, and insurance premiums were associated with more frequent health and safety activity. There is evidence in this sample therefore, that SMEs recognise the link with positive benefits and undertaking health and safety activity. The literature suggests that the link needs to be made more explicit in order to increase health and safety activity (Wright, Marsden, Collier, & Hopkins, 2003). The effect found in the present study although significant, was not strong. Thus, it appears that there is a role for intervention to reinforce beliefs regarding the positive outcomes of engagement in health & safety activity. For example, improved health & safety activity has been associated with cost benefits like reduced insurance premiums (Wright, Norton Doyle, Marsden, Bendig, & Shaw, 2005). Findings from the telephone interviews discussed in Section 3 further highlighted this association.

Negative and positive beliefs about resources were found to be predictive of health and safety behaviour. These effects were sustained after controlling for the effects of company size on health and safety activity. This is of interest as company size has been assumed to have a considerable influence on health and safety activity in the literature (Walters, 2001), yet to date, explanations as to the mechanisms underlying this effect have been not been conclusive. However, the findings in the present study suggest that the importance of the size of company in determining health and safety activity is superseded by beliefs about resources. A lack of confidence in the capability of the company in meeting health and safety requirements will be more important a predictor than whether a company is micro, small or medium. It could be argued that this has implications for intervention, enhancing confidence, skills and knowledge, and linking professional standards to health and safety standards would be likely to increase health and safety activity for SMEs regardless of the its size.

Both negative and positive beliefs about resources predicted a positive engagement in health and safety activity. These findings are contradictory in that one would expect that more negative beliefs about resources would be associated with less health and safety activity. Yet
this finding may reflect a realistic assessment of the SME’s situation regarding the extent of resources that are readily available to support health and safety activity. It is possible that despite the belief that a company does not have sufficient resources, the SMEs still struggles on in order to fulfil its health and safety obligations. It could be suggested that this finding highlights the fact that SMEs in this sample are finding it problematic to identify and allocate sufficient resources to health and safety activity. This interpretation would be consistent with the health and safety literature (Griffin, Hall, & Watson, 2005; Vickers, Baldock, Smallbone, Phillips, & Ekanem, 2003). Nevertheless, in the hierarchical regression, ‘positive beliefs about resources’ was the most important predictor of positive health and safety behaviours. Positive beliefs about resources such as skills for keeping up with health and safety information, training and good communication structure for health and safety within the company, were associated with positive health and safety activity. Lack of good communication skills among management has been documented as a barrier to health and safety among SMEs, (Eakin & MacEachen, 1998; Griffin, Hall, & Watson, 2005; Vickers, Baldock, Smallbone, Phillips, & Ekanem, 2003), and it was therefore encouraging to see the association with good communication and health and safety activity in this sample.

Attitudes concerning relationships with suppliers were predictive of health and safety activity. The literature suggests that the customer is in a position to exert influence on the SME (Redmann et al., 1995 as cited in Vassie & Cox, 1998; Vassie, Tomas, & Oliver, 2000). However, the SME as a customer may also be in a position to secure good health and safety standards by actively checking on the quality of their suppliers. SMEs who recognise the importance of the establishing a good health and safety relationship with their suppliers are also associated with good levels of overall health and safety activity.

The hierarchical regressions identified junior staff support as a significantly contributing factor in the model with greatest predictive power compared to other organisational features. This finding was surprising in that the literature (Stephens, Hickling, Gaskell, Burton, & Holland, 2004) suggests that senior management support for health & safety is a primary factor distinguishing those businesses which are effectively engaged with health & safety from those who are not. However, findings from this study did not support this assertion. It is considered that the principle components analysis, which proposed an underlying structure in the data with five factors, may have correlated strongly with characteristics which one would expect to be present in senior staff. For example, beliefs regarding resources and consequences, and relationships with external parties. Therefore, the hierarchical regressions would have already removed this shared component of the variance. Organisations with more frequent decision making by junior level staff were found to significantly contribute to the model (3) highlighting the positive influence of an organisational structure which supports decision making at junior levels. One further interesting finding was that decision making by middle level staff was found to negatively correlate with positive health & safety behaviours. Thus, it would appear that businesses, within which, the decision making capacity of the middle level staff in restricted; were found to be engaged with more positive health & safety.

The survey has substantiated the telephone interview finding that SMEs, in general, allocate relatively little time to health & safety activity. Further, as organisational size increases, health & safety was found to improve. The analysis identified factors which were predictive of health & safety increases and that these were independent of organisational characteristics, e.g., size or decision-making. Three groups of SME-type emerged from the data, i) the unaware-inactive, ii) the anxious-active, and iii) the confident-active. It would appear that health & safety interventions may be meaningfully allied to the specific, and differing needs of these business types for the improvement of health & safety.
5 Discussion

This project sought to identify psychosocial behaviours and activities undertaken by SMEs in the UK. It reviewed the published literature in the area, identified pertinent issues for the stakeholders, and developed these using a statistically robust survey to determine measures to improve health & safety outcomes for this challenging, yet prevalent, body of businesses. The data collection methodologies adopted were found to be effective in eliciting responses from the population, which has been shown in the literature to be extremely problematic (Stephens, Hickling, Gaskell, Burton, & Holland, 2004; Vassie & Cox, 1998; Vassie, Tomas, & Oliver, 2000). The ‘cold calling’ approach adopted for the telephone interviews took advantage of potential available time periods. The response rate was 16%. Ten to fifteen percent has been reported as more typical for this population. In the questionnaire survey, targeting of the population via trade shows was found to be extremely effective, with an established response rate of 93%. It was assumed that attendees and exhibitors would be prepared to give time completing the survey instrument as they had allocated time away from direct income generation during attendance at the events. Further, careful selection of events facilitated a broad sampling of the various SME sectors. Special thanks are owed to the event coordinating organisations for their facilitation and practical support of the project. They were notable in recognition for, and sympathy with, health & safety initiatives. The approach is highly recommended to other researchers seeking to elicit responses from this challenging population.

One of the most striking findings from this project was the general lack of time allocated to health & safety by SMEs. The two different types of data collection methods, telephone interviews and questionnaires, yielded very similar figures, i.e., organisations spending an hour or less on health and safety activity, 60% for the telephone interviews, and 59% for the questionnaires. Furthermore, one in four SMEs reported spending no time on health and safety activity in a typical week (26% from the questionnaire responses). In the questionnaire larger organisations were found to spend significantly more time on health and activity. This trend has well documented in the literature (Walters, 2001).

A number of theoretical frameworks were applied throughout this project drawing on published literatures from business practice, health psychology and health and safety.

The generic business activity model (Herman & Malone, 2003) provided a grounded theoretical mechanism with which to examine the wide variety of heterogeneous organisations within the sample. This proved to be useful as the model identified five areas of fundamental business practice, i.e., buying, designing, making, managing and selling. There were qualitative differences established between the various business processes and consideration of this data implied that these associated with external interfaces with the organisation. Furthermore, the model facilitated the emergence of behaviours specific to each process, for example, checking of health and safety standards of suppliers. This was identified as a discrete health and safety behaviour in the content analysis of the telephone interviews. Therefore, the established behaviour was adopted in construction of the questionnaire survey.

Stage of Change (Prochaska & DiClimente, 1982) has been employed in a wide variety of health-related behavioural settings. Application in a health & safety context has been limited (Haslam, 2002), although it has shown some value. Throughout this project the model has been useful in discriminating SME readiness to engage in health and safety activity. In both the telephone interviews and the questionnaire, with respect to health and safety activity, two distinct groups were identified i) Those businesses clearly not engaged and ii) those demonstrating good engagement. Survey data indicates significantly more time allocated to
health and safety by organisations in the more advanced stages of change. The distinction implies interventions may be meaningfully targeted to organisations according to their Stage of Change. Findings appear to further support the application of this model in a health and safety context.

Hierarchical regressions conducted on the survey data identified five key predictive factors. These were beliefs regarding resources (both positive and negative), ‘relationships with suppliers’, and decision making by both middle and junior staff. Supplier and client relationships were identified both in the literature (Yapp & Fairman, 2006) and during the telephone interviews as factors influencing the SMEs health & safety activity. For example, the ‘no risk assessment, no contract’ tendering relationships were reported to be effective ‘drivers’ of health & safety for both client and customer. The most predictive factor identified in the regressions was ‘positive beliefs about resources’. This was interesting as it would appear to encapsulate two traits, on the one hand these organisations feel they do not have sufficient resources, e.g., time, information or expertise, to undertake the health & safety activity they would prefer to. While on the other hand, they may also be better informed of the activities they need to undertake, than they are aware. Consequently, it may be possible to support this cohort of organisations by linking their beliefs to the effectiveness of their activities.

The telephone interviews sought from participants their responses as to what enabled their engagement with health & safety activity. Enabling factors identified by the population included the availability of internal resources and/or provision of financial support and grants. The importance of resources to the SME were further highlighted by the feelings regarding resources (both positive and negative) which emerged as significantly predictive factors for the engagement in health & safety.

In the design of this project a predominating position for classification of SMEs size was adopted. The literature (Walters, 2001) repeatedly presents SMEs in terms of the sole trader, the micro-business (< nine staff), the small business (10 – 49 staff) and the medium-sized enterprise (50 to 250 staff). While this has proven to be a useful taxonomy for the consideration of the population’s characteristics, it was limited in one respect by the legislative frameworks applying to small businesses in the UK. Specifically, findings were limited by the survey instrument, which partitioned respondents into the respective SME types identified above. However, in the UK the lack of a requirement for formal health & safety documentation for organisations with less than five staff, presented methodological limitations in the consideration of this particularly interesting sole trader/micro-business cohort.

It is considered that if health & safety activity is to be improved within the UK SMEs, incentives need to be developed that are identified as meaningful by the business type. It would appear that there are three groups that may be identified to target such incentives, i) those unaware of health & safety requirements, ii) the anxious yet attempting organisations, and iii) those actively engaged with health & safety. The unaware group may be supported by the provision of appropriate information and mechanisms to develop their knowledge. The anxious attempters also require information and knowledge support but this maybe further supported by anchoring their expectations and shaping any negative perceptions, e.g., provision of benchmarking materials and constructive feedback regarding existing efforts. The actively engaged group could be further supported by meaningfully linking their health & safety activities to their business objectives. The regulator has an opportunity to lobby for tax, insurance, and associated labour-saving, profit maximising measures with a real tangible benefit to the UK SMEs.
It has been seen that health and safety activity is being carried out within SMEs, despite real concerns over resources to meet legislation. Both the telephone interview and questionnaire data suggest that beliefs about the consequences of health & safety are motivators of SME activity. For example, improvement of customer safety, better staff welfare, or reduction of insurance premiums were motivating factors for the businesses. Qualitative findings revealed that good health and safety practice was taken advantage of by some SMEs for marketing purposes via websites and promotional brochures. Such initiatives (in the external interface of business activities) may be utilised to provide better awareness of how health and safety practice can be used to promote the SME. However, it appears for a substantial number of SMEs the awareness of this link between improved health and safety and these positive consequences is somewhat tenuous, and therefore, requires reinforcement. It may be argued, then, that more needs to be done in spreading awareness of the association between improved health and safety and the specific and salient positive benefits identified by SMEs in this study. Dissemination and reinforcement of SME-derived positive experience-outcome links would be a constructive step forward.

The key predictive factors suggest a number of areas of intervention. There are indications in the literature that simultaneous or complementary interventions may be necessary (Stephens, Hickling, Gaskell, Burton, & Holland, 2004; Tait & Walker, 2000b). The presence of a number of predictive factors would support this assertion. However, there appears to be a priority in addressing concerns about resources. The anxiety over internal resources is strong, this was the overarching factor in the survey study. Beliefs about the consequences of behaviour are also found to be a predictor, but interventions may be not be effective without also addressing decision-making factors within the enterprise. Taken in consideration with the generally low level of SME investment in health & safety, effective intervention strategies need to be developed. It is hoped that by building on our understanding of the organisation’s state of readiness to engage, business processes, and other primary predictors; we may more efficiently focus efforts to improve SME health & safety.
6 Recommendations

In consideration of the findings from this project the following general recommendations are made:

1. Consideration should be given to dedicated mechanisms to increase the time allocated to health & safety activities by SMEs. This is particularly a problem for the sole trader and micro-business. For example, tax and insurance incentives associated with demonstrable health & safety activity. Findings suggest that businesses that allocate relatively more time to health & safety, are better aware of health & safety issues and more advanced in their activities in support of health & safety. Simply, spending more time on health & safety would appear to provide significant benefits improving the business’ health & safety.

2. Action be taken to provide knowledge anchors to support staff in recognising the scope of their health & safety, for example health and safety workplace contact officers may be used to identify and praise good practice within the SME and provide guidance on maintaining effective activity. It is hoped that this will improve confidence in the actions undertaken by SMEs in their participation in health & safety.

3. Steps should be taken to articulate the varied but specific positive benefits identified by SMEs as a result of their engagement with health and safety activity. E.g., staff retention, increased productivity, reduced costs. The HSE may wish to consider using an advertising campaign where SMEs are featured demonstrating business advantage gained from health & safety engagement.

4. Further, practical initiatives should be developed to support businesses that use their good health and safety to promote their reputation and competitiveness. For example, organisations may market themselves actively on websites and other promotional literature indicating their health & safety achievements.

5. The sole trader and micro-business have been shown to be ill-engaged with health & safety issues as business types, with respect to medium-sized enterprises. These organisations would be well-served by supporting mechanisms facilitating greater awareness of health & safety issues in these two groups. This may be achieved embedding health and safety support into requisite business activities. These may include interaction with tax, salary or insurance services.

6. The literature refers to the micro-business as ten staff or less (Walters, 2001). This raises a particular problem in the investigation of these organisations. The UK position on requirements for health & safety documentation, particularly the requirement for a written policy statement, which is not required for businesses with less than five staff. It is recommended that this sensitivity is considered in the classification and investigation of the micro-business.

7. Trade shows were found to be an useful mechanism to access the responses from the elusive SMEs. This data collection is recommended to other researchers for its effectiveness.

8. Trade shows may also provide an arena for health and safety promotion. Both exhibitors and delegates from SMEs have seen to be prepared to step aside from their day to day commercial demands to consider initiatives that would typically be rejected as a non-priority if approached in their normal working environment. For
example dissemination of published materials, discussion with regulator representatives or education via interactive tools.

9. Interventions could be targeted according to Stage of Change. For example, increasing motivation, knowledge, and awareness for those in the early stages. Existing self-assessment tools could be adopted to support those in the contemplation and preparation stages. Further, encouragement may offered to those in action and maintenance stages. This offers promise of broadening health & safety concerns, e.g., to suppliers or through provision of motivation to other SMEs, i.e., contractual demands.

10. Accessible guidance should be in a format and with a structure that makes sense to the SME. Findings from the telephone interviews indicated that the regulator has made good progress in this area is the provision of clear, informative, and targeted supporting information, particularly via the health & safety executive web site.
7 Conclusions

This project has produced a review of the literature regarding SME engagement with health & safety practice, undertaken a telephone survey of health & safety representatives of fifty SMEs and has administered a questionnaire survey to 313 SMEs via a series of trade shows. Main findings indicate a low level of health & safety activity from SMEs in the UK. Stage of Change was found to be a meaningful mechanism to differentiate between SMEs. They were found to fall into three groups, i) the unaware-inactive, ii) the anxious-active, and iii) the confident-active. It is suggested that interventions may be targeted to meet the differing needs of these three groups. Beliefs regarding resources (both positive and negative) along with feelings about relationships with suppliers were all found to significantly predict health & safety activity. It is suggested that positive resource beliefs may reflect organisations that what health & safety activity they are effectively undertaking, negative resource beliefs may represent anxiety or fear that health & safety action is not sufficient or up to the required standard. Relationships with suppliers provides several direct means to positively influence the SME’s health & safety by imposing improvements of businesses feeding into the SMEs productivity. These factors remained predictive regardless of the organisation’s size, encouragement of health & safety, or level at which decision-making was undertaken within the business, contrary to findings from the literature review. Thus, although, there is a low level of health & safety engagement by many SMEs, by careful identification of their characteristics, they may be provided with practical solutions to encourage and support their efforts to develop a healthy & safe workplace.

In consideration of the project’s objectives, work undertaken has:

i) quantified the level of health & safety activity typically undertaken by UK SMEs, and this was established to be low in comparison with larger enterprises.

ii) related this finding to the published literature, and

iii) consulted with the users to determine those actions they reported as effective in improvement of health & safety.

iv) developed the themes into a statistically robust survey to facilitate identification of predictive factors.

v) considered these factors to propose means to improve health & safety activity for the SME

vi) developed a dissemination plan, via this report and associated peer-reviewed publications.
Appendices
**General Introductions**

We are undertaking research to identify the good things that SMEs are doing to maintain and improve health and safety. The work is supported by the health and safety executive but we will not discuss findings with them in any way that could identify your organisation, unless you specifically indicate that you would wish us to do so. Any contribute you may make would be anonymous and confidential.

1. Who is responsible for health and safety?
2. Can we speak to them? (Repeat, if different person)

**Background**

3. What is the nature of the business?
4. Agriculture
5. Transport
6. Manufacturing
7. Public Admin/Defence
8. Construction
9. Education
10. Distribution/Repair
11. Health/Social Care
12. Catering
13. Other
14. What year was the business established?
15. How many employees does the enterprise have?
16. Does the company work to any quality standards?
17. Do you have a health & safety policy statement?
18. Do you have risk assessments?
19. Do you have an accident book?
20. Do you have a first aid book?
21. Do you have health & safety training records for any of the following:
22. Induction
23. Manual Handling
24. First Aid
25. DSE (Display screen equipment risk)
26. COSHH (Control of substances hazardous to health)
27. Vibration
28. Noise
29. PPE (personal protective equipment).
30. Stress?
31. How many hours per week do you estimate your organisation spends on health and safety matters?
Buying Goods and Services
Identifying whether goods and services you purchase will not compromise health and safety

32. a) Are you aware of any health & safety measures relevant to your organisation’s purchasing of goods or services? (e.g., whether your suppliers actively support health & safety of their & your customers)

33. b) Are you planning any health & safety changes in the purchasing of goods & services, in the next six months?

34. c) Do you have any definite plans to make health & safety changes in the purchasing of goods & services, in the next one month?

35. d) Are you currently acting on health & safety plans in the purchasing of goods & services?

36. e) Are you doing anything to maintain the health & safety improvements you may have made in the purchasing of goods & services?

37. f) Why did you do this and what enabled you to do it?

38. g) How do you know it works?

39. e) Have you given up any health and safety efforts you have made to date?

Design
Research & development of your Product/Services

40. a) Are you aware of any health & safety measures relevant to your organisation’s when researching or developing your product/services? (e.g., using new materials or processes)

41. b) Are you planning any health & safety changes in the research or development of your product/services, within the next six months?

42. c) Do you have any definite plans to make health & safety changes in the research or development of your product/services, within the next month?

43. d) Are you currently acting on health & safety plans regarding the product/services research and development you do?

44. e) Are you doing anything to maintain health & safety performance during your research or development of your product/services?

45. f) Why did you do this and what enabled you to do it?

46. g) How do you know it works?

47. e) Have you given up any health and safety efforts you have made to date?
Making

48. a) Are you aware of any health & safety measures relevant to your organisation’s delivery of your product/ service? (e.g., regarding tools/equipment or the processes you employ)

49. b) Are you planning any health & safety changes in the delivery of your product/ service within the next six months?

50. c) Do you have any definite plans to make health & safety changes in the delivery of your product/ service in the next one month?

51. d) Are you currently acting on health & safety plans regarding delivering your product/ service?

52. e) What are you doing to maintain health & safety performance with respect to delivering your product/ service?

53. f) Why did you do this and what enabled you to do it?

54. g) How do you know it works?

55. e) Have you given up any health and safety efforts you have made to date?

Management Strategy

56. a) Are you aware of any health & safety measures relevant to your organisation’s within the business (e.g., plans, policies, or measures?) or in the interaction with other bodies (such as banks, insurers, or businesses?)

57. b) Are you planning any health & safety changes in management strategies, in the next six months?

58. c) Do you have any definite plans to make health & safety changes in management strategies, in the next one month?

59. d) Are you currently acting on health & safety plans regarding your organisational management strategy?

60. e) What are you doing to maintain health & safety performance with respect to strategic management?

61. f) Why did you do this and what enabled you to do it?

62. g) How do you know it works?

63. h) Have you given up any health and safety efforts you have made to date?

Concluding Questions

64. Are there any novel initiatives you have come up with or carried out?

65. Would you be prepared to participate in a postal questionnaire to investigating these issues in further detail?

66. Would you be prepared to have your organisation used as a case study example of good practice?
Appendix B. Illustrative Examples of Qualitative Feedback
Pre-contemplation

Buying
“No, I'm not aware of anything”.
“Not necessarily suppliers, I know our customers are very health & safety conscious. I do know we have to have a certain amount of health & safety I don't know what that is as yet”.

Design
“Not that I know of, not part of my brief”.
“Never gave it much thought, to be honest”.

Make
“I'm not, no, but I work in a different area so…”

Manage
“Talking to the staff on a friendly basis”.
“As far I know there aren't any, nothing has been done this end”.
“Not that I am aware”.

Selling
“There isn't anything on our invoicing. Best before dates. Not planning”.
“Um, yes, I'm trying to think where it would be relevant to us. We run eight-a-side football leagues on grass, we engage fully qualified referees. Not directly. Very good point actually [health & safety measures relevant to your organisation when selling]. I think we ought to. Thank you very much. It has prompted me to think about it”.

Contemplation

Buying
“Yeah specially with the handling need to off load, straps I'm strict on that side of it myself. You've caught me in between things I will do it in the New Year. Until I delegate I will do it, fork lift truck work. Working on my own I can relax. But in the situation I have to employ others, I will need to do it”.

Design
‘Yes we would have to consider that”.

Make
“I know we're responsible when we're on site”
“All we can offer is for ourselves everything is done as closely to H&S guidelines as possible.”

Manage
“We intend to have a fully operational health & safety policy by the end of this six month period. For the directors and a training plan, so that's what we're aiming for to include it into our quality plan”.
“Well this quotation I've had from this broker they are coming out to look at everything”.

Selling
“No really, not as such. When we get into detail with our customers, we tell them about our risk assessments”.

Preparation
Buying
“We are aware depending what the product is of what our suppliers provide as best we can. We are in a major consultation phase with a consultant...we're building those procedures and policies up”.

Design
“Buildings, vehicles, fire, manual handling, not to any official clarification”. “There is certain amount of what fire proofing requirements the product has. That's probably about it. We have to have a fire rating on any products we sell. The client would ask has the product got a so and so fire rating we would investigate that.

Make
“I would design to stack safer ear things for noise, screens for welding”.

Manage
“I’m aware of them all inspection for forklifts I'm just not official”.

Action

Buying
“All our contractors are written to, to find out what their health & safety policies are & if they come on the premises they have to produce a health & safety document and a guide to any risk assessments that they have done or will have to do”

Design
“Tints, strand test, skin test, patch skin testing”
“We definitely took into consideration when we had the building work done. Ramp, toilet facilities. Trying to adapt our building for accessibility not just for health & safety those go hand in hand”

Make
“We have done risk assessments on all the machines in the factory - a lathe you must be aware that it rotates - must be aware--must wear protective clothing”
“Stone carving we provided PPE for that in conjunction with the tutor”.

Manage
“Only the general risk assessment that we do. Our auditors make us aware”. “I've actually got health & safety policies drawn up, I've kept a copy and they have kept a copy”.
“Just what the ministry have told me I need refrigerator for the dog foods. I had to get the fire service down to teach us what is what. I have this from the start”.

Selling
“Obviously although it's not law. The nut allergy is a difficult one. We try and sort of say that we can't guarantee that anything may not be affected by nuts or anyway”.
“Selling candles - did not let the customers touch them. Wheel chair access & ramp - let prospective customers know about this”.

Maintenance

Buying
“Purchasing department would certainly look for low noise, low vibration machinery. Our sub-contractors all have to have a health and safety policy in place and know the site rules”
“Ongoing small investigation, any flammable substances are required to have COSHH sheets with them. No specific changes but constant monitoring of things”.

**Design**

“It's a prerequisite of anything that we design really we would use external bodies to do assessments certainly electrical equipment pressure regulations are covered typically externally. But the majority of our products are small hand held where the risks if you used as prescribed in the instructions are minimal or very low”

**Make**

“A number of processes pressure regulations as far as compressors are concerned & covered by LOLA loading tools into injection modelling machines regularly assessed by external bodies”

“yep, totally aware. We were recently supplying a generator and with that we supplied a risk assessment with a methodology on the contamination side, how to refuel it, etc. storage of the chemicals”.

**Manage**

“I do actually have regular meetings with our insurance people and we've just secured a 30k saving because our records improved, dramatically. Vehicle pedestrian segregation we've got our own carrier company. We have policies on drink and drugs, ...all sorts of policies that overall have improved our record for the insurance people”.

“We have...urm...but in the case of contractors we have policies and protocols for that, and obviously...urm...in dealing with contracts we produce our statement...urm and follow those and usually check out the record of the contractor”

**Selling**

“If you put colour in someone's hair, and they have a reaction. So we do a quick skin test”. “What we put into the quotations or carrying of hazardous goods. Like gas heaters, we can't go underneath tunnels with those, but we don't advertise that kind of thing”
Health & Safety in Small to Medium-Sized Enterprises

General Instructions
Please complete all sections, there are questions on both sides of the sheets. There are no right or wrong answers. However, when you answer these questions try to think about your own organisation rather than work in general. All information will be held confidentially and the questionnaire is anonymous.

Section A
What is the nature of your business?

Please state

What is your role in the organisation?

Please state

Section B
Please indicate how much you agree or disagree with each statement by filling in the entire circle like this Ø, not like this O, or Ø this.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
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</thead>
<tbody>
<tr>
<td>1. We know what a risk assessment is</td>
<td>Ø</td>
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<td>2. Carrying out a risk assessment is commonsense</td>
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<td>3. Carrying out risk assessments will have no effect on our insurance premiums</td>
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<td>4. We pay attention to keeping up to date with health and safety information</td>
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<td>5. Our management would want us to carry out risk assessments</td>
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<td>6. We invite feedback from our staff on health and safety training</td>
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<td>7. We have the skills to provide health and safety training</td>
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<td>8. Our own reputation does not depend on the health and safety standards of our suppliers</td>
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<td>9. We have the resources to update ourselves on health and safety information</td>
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<td>10. Risk assessments are interesting</td>
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<td>11. We know where to look for up to date health and safety information</td>
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<td>12. Risk assessments are difficult to carry out</td>
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<td>13. Complying with health and safety legislation is an important part of our company image</td>
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<td>14. We can overcome the difficulties and meet health and safety regulations</td>
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<td>15. We always remember to carry out risk assessments</td>
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<td>16. We have company support for a health and safety policy</td>
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<td>17. Complying with health and safety legislation is stressful</td>
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<td>18. We hold meetings with staff on health and safety policy issues</td>
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<td>19. Failing to meet health and safety legislation will result in injuries</td>
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<td>20. It is not important for our staff that we have a health and safety policy</td>
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<td>21. Risk assessment is not relevant to our type of business</td>
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<td>22. We cannot cope with keeping up to date with health and safety information</td>
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<td>23. We have to have health and safety certification to win the work</td>
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<td>24. We do not focus on our health and safety policy</td>
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<td>25</td>
<td>We <strong>do not</strong> have the organisational structure to comply with health and safety regulations</td>
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<td>26</td>
<td>It <strong>is</strong> important to our customers that we check our suppliers’ health and safety standards</td>
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<td>27</td>
<td>Writing a health and safety policy <strong>would</strong> be mentally exhausting</td>
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<td>28</td>
<td>We <strong>do not</strong> understand what a health and safety policy is</td>
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<td>29</td>
<td>We <strong>are not</strong> capable of writing a health and safety policy</td>
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<td>30</td>
<td>We <strong>rarely</strong> read the trade literature to keep up to date with health and safety information</td>
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<td>31</td>
<td>We <strong>know</strong> how to check on our suppliers’ health &amp; safety standards</td>
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<td>32</td>
<td>We <strong>have</strong> the ability to comply with legislation</td>
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<td>33</td>
<td>Health and safety training <strong>is</strong> a priority for our professional standards</td>
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<td>34</td>
<td>Carrying out health and safety training <strong>is</strong> a problem for us</td>
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<td>35</td>
<td>We <strong>have</strong> the time to check our suppliers’ health and safety standards</td>
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<td>36</td>
<td>Our customers <strong>do not</strong> think it is important that we keep up to date on health and safety information</td>
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<td>37</td>
<td>Checking our suppliers’ health and safety standards <strong>will</strong> prevent accidents</td>
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<td>38</td>
<td>We <strong>often</strong> overlook health and safety training</td>
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<td>39</td>
<td>We <strong>would</strong> be sorry if we had <strong>not</strong> checked our suppliers’ health and safety standards</td>
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<td>40</td>
<td>We <strong>rarely</strong> communicate with external bodies to comply with health and safety legislation</td>
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<td>41</td>
<td>Our company <strong>is</strong> well equipped to write a health and safety policy</td>
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<td>42</td>
<td>We <strong>maintain</strong> close contact with our suppliers to keep informed on the health &amp; safety quality of their goods</td>
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<td>43</td>
<td>Health and safety regulations <strong>are</strong> confusing</td>
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<td>44</td>
<td>We <strong>lack</strong> the skills to check our suppliers’ health and safety standards</td>
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<td>45</td>
<td>Keeping up to date with health and safety information <strong>is not</strong> relevant to a company our size</td>
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<td>46</td>
<td>Keeping up to date with health and safety information <strong>will not</strong> increase our profits</td>
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<td>47</td>
<td>We <strong>do not</strong> have the finance to carry out health and safety training</td>
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<td>48</td>
<td>Our staff think it <strong>is</strong> vital that we meet health and safety regulations</td>
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<td>49</td>
<td>It <strong>is not</strong> tiring to carry out health and safety training</td>
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<td>50</td>
<td>We <strong>are not</strong> sure how to carry out health and safety training</td>
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<tr>
<td>51</td>
<td>We <strong>are</strong> good at finding relevant health and safety information</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>52</td>
<td>It <strong>is</strong> part of our professional practice to have a health and safety policy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>We <strong>always</strong> remember to check our suppliers’ health and safety standards</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>Carrying out health and safety training <strong>will lower</strong> our accident rates</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>It <strong>is</strong> frustrating to keep up to date with health and safety information</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>56</td>
<td>It <strong>is</strong> a problem for us to check our suppliers’ health and safety standards</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>57</td>
<td>We <strong>often</strong> forget to check our suppliers’ health and safety standards</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>58</td>
<td>We <strong>do not</strong> have the resources to carry out risk assessments</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>59</td>
<td>The nature of our industry <strong>does not</strong> demand that we carry out health and safety training</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>We <strong>do not</strong> make action plans for conducting risk assessments</td>
<td></td>
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</tr>
</tbody>
</table>
Section C
Please indicate how often staff carry out each of the behaviours below by filling in one of the circles

<table>
<thead>
<tr>
<th></th>
<th>Decisions are made at the top level staff</th>
<th>Decisions are made by middle level staff</th>
<th>Decisions are made by junior staff</th>
<th>Health &amp; safety activity is encouraged by top level staff</th>
<th>Health &amp; safety activity is encouraged by middle level staff</th>
<th>Health &amp; safety activity is encouraged by junior staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
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<td>o</td>
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<tr>
<td>2</td>
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<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
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<tr>
<td>3</td>
<td>o</td>
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<td>4</td>
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<td>o</td>
<td>o</td>
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<td>o</td>
</tr>
</tbody>
</table>

Section D
Please indicate how often staff carry out each of the behaviours below by filling in one of the circles

<table>
<thead>
<tr>
<th></th>
<th>We carry out risk assessments</th>
<th>We comply with health and safety legislation</th>
<th>We develop our health and safety policy</th>
<th>We conduct health and safety training</th>
<th>We update our health and safety information</th>
<th>We conduct health and safety training</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
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<td>3</td>
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<td>4</td>
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</tr>
</tbody>
</table>

Section E
Please fill in the circles that apply to you, You may fill more than one circle.

1. We are not aware that we have to act on:
   - Risk Assessments
   - Health & safety Legislation
   - Health & safety Policy
   - Our supplier’s health & safety
   - Health & safety Training
   - Obtaining health & safety information

2. We are planning in the next six months to act on:
   - Risk Assessments
   - Health & safety Legislation
   - Health & safety Policy
   - Our supplier’s health & safety
   - Health & safety Training
   - Obtaining health & safety information

3. We are planning in the next one month to act on:
   - Risk Assessments
   - Health & safety Legislation
   - Health & safety Policy
   - Our supplier’s health & safety
   - Health & safety Training
   - Obtaining health & safety information

4. We currently act on:
   - Risk Assessments
   - Health & safety Legislation
   - Health & safety Policy
   - Our supplier’s health & safety
   - Health & safety Training
   - Obtaining health & safety information

5. We are maintaining our activity on:
   - Risk Assessments
   - Health & safety Legislation
   - Health & safety Policy
   - Our supplier’s health & safety
   - Health & safety Training
   - Obtaining health & safety information

6. We have given up our activity on:
   - Risk Assessments
   - Health & safety Legislation
   - Health & safety Policy
   - Our supplier’s health & safety
   - Health & safety Training
   - Obtaining health & safety information
Thank you for your time and contribution to this study. It is hoped this project will provide constructive ways to help small to medium sized enterprises improve their health & safety. If you require further information, or would like copies of project publications, please contact Carolyn Deighan (by email: c.s.deighan@hw.ac.uk, telephone: 0131 451 8008, or leave a business card with the person who gave you the questionnaire).
References


Kirby, P. (2002). Roving safety reps teaching workplaces other reps don’t: Developing and sustaining systems in prevention in small enterprises in Great Britain: Trade Union Congress.


Health and safety in the small to medium-sized enterprise

Psychosocial opportunities for intervention

The project was commissioned in response to the HSE competition for ideas for research in 2001. The project aimed to identify psychosocial factors which are effective in the maintenance and improvement of health and safety by the SME. The report outlines the work undertaken to achieve this aim. It describes three key activities:

- a review of the literature;
- telephone interviews with stakeholders; and
- a questionnaire survey.

This project sought to identify what SMEs do about health and safety, what prevents them from doing health and safety, and what would encourage them to undertake more health and safety. The project aimed to elicit views from stakeholders, identify the positive steps presumed to be undertaken, quantify the basis for presumed effectiveness of measures, and to provide recommendations regarding dissemination of these effective actions in support of good safety and health practice.

This report and the work it describes were funded by the Health and Safety Executive (HSE). Its contents, including any opinions and/or conclusions expressed, are those of the authors alone and do not necessarily reflect HSE policy.