



Strathprints Institutional Repository

Murray, Michael and Chan, Paul and Tookey, John (2001) *Respect for people : looking at KPI's through 'younger eyes'!* [Proceedings Paper]

Strathprints is designed to allow users to access the research output of the University of Strathclyde. Copyright © and Moral Rights for the papers on this site are retained by the individual authors and/or other copyright owners. You may not engage in further distribution of the material for any profitmaking activities or any commercial gain. You may freely distribute both the url (<http://strathprints.strath.ac.uk/>) and the content of this paper for research or study, educational, or not-for-profit purposes without prior permission or charge.

Any correspondence concerning this service should be sent to Strathprints administrator: <mailto:strathprints@strath.ac.uk>

RESPECT FOR PEOPLE: LOOKING AT KPIS THROUGH 'YOUNGER EYES' !

Murray, M.D. ⁽¹⁾ Tookey, J E ⁽²⁾ and Chan, P ⁽³⁾

¹Department of Civil Engineering, University of Strathclyde, John Anderson Building, 107 Rottenrow, Glasgow, G4 0NG, Scotland, UK

²Department of Building and Surveying, Glasgow Caledonian University, Cowcaddens Road, Glasgow, G4 0BA, Scotland, UK

³Department of Building Engineering and Surveying, Heriot Watt University, Riccarton, Edinburgh, EH14 4AS, Scotland, UK

Movement for Innovation (M4I) is partly aimed at delivering targets set by the Egan (1998) report. An initiative under this programme is the 'Respect for People' (RFP) working group. This body published its first formal report entitled: A Commitment to People: 'Our Biggest Asset' (2000), and challenged construction to *respect* its workforce. Failure to do so will result in firms being unable to *recruit* and *retain* the best talent in the workforce – currently a 'hot topic' in attracting school-leavers into the construction trades. Construction is thought to have harsh conditions of safety and welfare, with poor prospects - ideas that actively discourage many school-leavers. To combat this 'image' problem, the RFP Working Group are piloting a toolkit which can be used to measure and monitor safety and welfare in order to benchmark their performance against industry best practice. This paper uses an adapted version of this toolkit. Building apprentices in Scottish Further Education Colleges were asked their opinions on 'site life' and to complete a questionnaire. The results provide an insight into current thinking and expectations of the 'future' of trade apprentices today. The findings are significant to groups needing input from construction's youth (Construction Industry Training Board (CITB) and M4I). Additionally this paper is of value to academics interested in human aspects and trends in UK construction.

Keywords: respect for people, welfare, health, construction apprentices, survey.

INTRODUCTION

UK construction suffers from distinct image problems. Media depiction of construction and contractors perpetuate impressions of an industry populated by small-time crooks and 'cowboys' out for 'a fast buck' (Building, 1998b). The prejudices are largely reinforced by the clown-like characterization of building workers TV sitcoms (CSSC, 1989), and then generally confirmed by the politically motivated negative publicity surrounding projects such as the London Eye and the Millennium Bridge. A self-perpetuating problem is thus created: the industry is thought inept, unprofessional and poorly paid by society. Baldry (1997) argues this thinking comes from misinformation and myth, but these images make it difficult to recruit skilled trades-people. School-leavers, the traditional source of apprentices, view construction as dangerous, dirty with poor prospects (CITB, 1998). The CEO of Laing's construction arm argues recruiting problems stem from poor job continuity, training, pay, health and safety, site conditions and esteem (Contract Journal, 2000a). The consequence of such a problem is that the industry is probably now more reliant than it used to be on the less able members of the age group for its recruits (DfEE

2000). Such perceptions can therefore be seen to not only endanger the CITB's (1999) recruiting targets (whose 4-year forecast up to 2004 suggests around 73,000 recruits will be needed annually) but may also be introducing younger workers into the industry whose expectations of safety and welfare are lower than their more educated peers. However, it is likely that the industry will continue to lose skilled operatives because they want better pay, better conditions or better work (Thomas 1968). Other reasons operatives leave the industry are due to fatality, (5,483 deaths between 1961-1995/96, HSE 1998) or ill health (25,000 per annum, Contract Journal 2000d) or indeed due to economic recession. Clearly such issues add weight to why occupational roles in the building trades become unattractive to school-leavers. The challenge is therefore for construction sites themselves to become advertisements for the industry and the firms working on them (Egan 1998),

Respect for People

The Respect for People report (2000a) noted the gap between the respect shown for 'blue-collar' and 'white-collar' workers. The report rightly notes project delivery is dependent on both employee sets' performance. But construction union UCATT recently criticized the Egan (1998) report for failing to deliver its Respect for People agenda, suggesting 'construction has developed a culture that tolerates unlawful working practices' (Contract Journal 2000c). Such a culture can be seen in the perceptions site workers have of 'their' industry:

'This is a luxury (referring to SmithKline Beecham site in Middlesex) compared to the last site I was on near St Paul's Cathedral. The toilets were not looked after at all. There was a first aid room and that was it. It was bloody filthy-inhumane. It will soon have to come that people on building sites are treated like human beings.' (Jim Horan, Carpenter, Quoted in Contract Journal 1999b)

Construction site workers are said to contribute to industry ills by indulging in 'macho behaviour' on site, e.g. constant swearing. A difficult issue since it is reported (Building, 1996b) that a labourer won a tribunal case for refusing to sign a no-swearing contract. Riemer (1979) commented on the related behaviour of 'wolf whistling' at women passing building sites. He argued operatives act like this because society expects them to - therefore completing the circle in stigmatizing their societal role. Construction News (2000a) suggests site workers of the future will perform jobs with much higher status attached to them as prefabrication becomes more common. Construction workers in such plants will see increased technological change and welfare facilities compared to construction sites, resulting in workers having higher self-esteem and status. Better conditions would present a better image of construction and have a positive effect on recruitment into construction.

Dirty, Dirty Work!

Construction craftwork is recognized as an occupation that involves workers being exposed to dangerous, dirty and noisy conditions. Riemer (1979) notes that during the 'roughing' phase of building projects workers become 'locked in' to a setting that is rough, dirty and noisy. Applebaum (1981) asks that such blue-collar workers be given recognition for all the dirty, heavy, smelly and uncomfortable jobs that many people would not otherwise do. Ashforth and Kreiner (1999) argue such recognition is internalized by 'dirty workers' and the stigma of dirty work develops a strong occupational culture – actually enhancing occupational esteem. Indeed LeMasters (1975) also contributes to such a view by observing that craftworkers know they have

done a 'day's work' because their dirtiness and fatigue testify to the fact – essentially the psychology of earning an 'honest living' through manual labour. This topic, was in itself an important issue for Robert Tressell (a pseudonym) whose early 20th century novel (1914) explored the working life of painters and decorators in Edwardian times. Tressell for example refers to the renovation of a house and describes how workers were subjected to 'air heavenly laden with dust and disease germs, powdered mortar, lime plaster and dirt which had been accumulating within the old house. However, Swinnerton (1956) recounts the story behind the manuscript of the text and notes Robert Noonan's (actual name) mission was to write about the dirt he saw in the men's souls.

Site Welfare: The Good, Bad and Ugly!

Unsanitary and overcrowded facilities found in temporary site accommodation have been implicated in ill health among construction workers. Magnuson (1961) noted the possibility of Victorian era outbreaks of disease, such as scabies, impetigo, and ringworm from poor conditions on site. This is currently improving though, for example the Bluewater Park shopping centre at Dartford, UK, had site canteens like in a factory, as well as a resident chaplain to look after the 'spiritual' side of workers (Building 1997a). Recently, site offices and welfare facilities at the new SmithKline Beecham headquarters were described as the 'A4 Hilton' (Contract Journal 1999b). These projects may be the exception rather than the rule. Indeed, the Rethinking Construction (1998) report suggests that the 'facilities which are available to workers on site are typically appalling'.

A Contract Journal (1999a) survey found many contractors attending the first 'Egan' conference were not providing workers with clothing, good toilet facilities or showers. This finding is reinforced by the Health and Safety Executive's (HSE 1999) analysis of site welfare facilities, which showed 10% of sites had inadequate washing and toilet facilities, and 25% failed inspections of restroom and canteen areas. Remote 'greenfield' sites caused particular concern. Typically, after work starts on such sites it is months before back up washing and drying are provided (Construction News 2000). Indeed, the industry's haphazard attitude to welfare means it is in danger of losing its most valuable asset - its people (Construction News 2001). For readers not familiar with site welfare issues, Cook (2000) offers striking images when he asks

Who hasn't waded through pools of urine in site toilets to find the closet door hanging limply off its hinges and the bowl jammed with paper and faeces?

Who hasn't come in from the pouring rain to change into dry clothes only to be confronted with waterlogged floors and dripping walls more akin to the local park's changing rooms after the Sunday footballers have left?

One might expect that 'top end' contractors of the industry would offer their site workforce better than average facilities, but contractors are regularly prosecuted (Construction News, 1999) for failing to provide adequate toilet and washing facilities. More evidence of good and bad site welfare conditions is presented below. All comments are made by site operatives (from Building 1998a Site Welfare Survey)

The eating area is crap. [As] for the toilets, well, they are real shit-hole.

The changing facilities and toilets are a joke. Only builders expect it.

Its unusual for a site this size to have facilities this good. Its great and the men working here appreciate it.

Food for Thought!

Catering to workers is another significant issue in their welfare. Evidence suggests that site workers are unhappy with catering facilities on sites. Research on attitudes building operatives had to work by Davis (1948) introduces this issue in a slightly derogatory way, referring to worker 'feeding habits' like a zoologist describing a new species. Although Davis' research over 50 years old, she provides a useful link to current research by commenting on the connection between diet, nutrition and worker fatigue. Uher and Ritchie (1998) in Australia revealed that of 56 Occupational Health and Safety Managers surveyed, 80% supported establishing healthy food canteens on site. In the UK site canteens generally offer what most workers request; 'they love their pies' (Contract Journal 1999b) and 'sponge and custard for pudding' (Building 1996) although other site canteens can be seen to offer 'wholemeal sandwiches, pasta and vegetarian meals' (Building 1996a). This is however a serious issue since the Phillips report (1950) linked a decline in operatives morale to poor nutrition.

Occupational Health

The HSE differentiated attitudes to 'ill-health' and construction accidents, acknowledging that ill health effects are insidious and do not grab the same attention as accidents (Contract Journal 2000b). This is despite the fact that occupational health hazards are a far bigger cause of illness and death in construction over the long term (Construction News, 2001). Indeed, Jones (2001) notes that 700 construction workers are dying from asbestos-related illness each year and 30 000 cases of musculo-skeletal injuries occur annually. Construction union UCATT has also set a priority over occupational health by commissioning an independent feasibility report examining the setting up of a national scheme (Contract Journal, 2001). However, Kelly (2001) suggests that construction workers often believe that management have a 'sinister' motive (factor in health issues when looking at redundancies) behind health screening programmes and that a change in cultural attitudes will be required by all interested parties if progress is to be made on this issue.

Recent evidence from Australia (Lingard and Holmes 2001) suggests that construction employees can have low expectations regarding Occupational Health and Safety Schemes (OHS) and that 'there is a fatalistic resignation to OHS risks being an unavoidable part of the job'. Fifteen employees from small business construction firms were questioned about their understanding of two OHS risks (falls and skin disease) with particular emphasis on risk control. The results revealed that failure to use protective equipment (skin diseases) and the adoption of bad work habits (falls) were considered to be the most common sources of risk

Teenagers Perception of Building Work

Several recent research studies provide useful guidance as to children's perceptions of the construction industry. A survey of 400 15-17 year olds commissioned by Building (1997b) found that only 49% viewed construction favourably, and worryingly only 27% said working in construction appealed. A MORI study commissioned by the CITB in 1998 provided an analysis of over 4000 11-16 year old secondary school pupils' attitudes towards the construction industry. It reveals that the high level of ambivalence towards the construction industry may be driven by negative images of the manual work it incorporates. Nearly three-quarters of those surveyed mentioned at least one 'negative' attribute, either that it is dangerous, dirty or badly paid. A further study conducted by Building (1999) also revealed disdain for the construction

industry. Only 18% of the 55 14-15 year-old pupils questioned had considered joining the industry. Indeed, when asked what their 'dream job' would be, only one mentioned construction. Although some bizarre answers to this question included an ice-cream man and porn star! These findings should not be so surprising given that 'many young people see construction as unsafe, poorly paid and a matter of pouring concrete on green fields' (Bale 2001).

RESEARCH METHODOLOGY

The research was conducted in 7 Further Education (FE) colleges in Scotland. Researchers visited each college and gave a short (¼ hour maximum) presentation to groups of apprentices (aged 16-20 years old) exploring issues of health, welfare and safety in construction. The emphasis of this presentation was to focus the apprentice's minds on such issues without prejudicing their opinions. This was followed by getting the subjects to complete individual questionnaires based on a similar questionnaire currently being piloted by the RFP task group (2000b) with the subjects, aiming to establish the actual views held by the apprentices. The answers given by the apprentices are based on their own experience / perceptions of for example, usage of protective clothing, and that of what they see on site. It may be expected that their opinions / perceptions are somewhat 'swayed' by their work colleagues and that of other apprentices who they meet at college (the swapping of apparent 'horror' stories perhaps being used to emphasize and reaffirm construction's macho culture).

Sample Size

The responses in Tables 1-6 are based on the responses from 138 building trade apprentices across a range of specializations including joiners, painter and decorators, plumbers, plasterers, bricklayers, electricians and roof slaters.

RESULTS

The results presented in this paper and the subsequent analysis represent only part of the data collected in the survey. Future conference and journal papers will explore these issues in more depth. For example, the results presented here have not been broken down by occupational trade or geographic region within Scotland. As such survey answers selected for discussion here offer a 'flavour' of likely future papers. The answers in Tables 1-3 are based on Yes (1) / No (0) responses whilst Tables 4-6 use a Likert scale. Only the mean score is given for these results

Table 1: On-site welfare provision

Item	Score	New Homes		Small Construction		Large Construction		Overall	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
A1	1	14	22	7	41	32	56	53	38
	0	50	78	10	59	25	44	85	62
	-	0	0	0	0	0	0	0	0
A3	1	45	70	11	65	44	77	100	72
	0	19	30	6	35	13	23	38	28
	-	0	0	0	0	0	0	0	0
A5	1	48	75	8	47	51	89	107	78
	0	16	25	9	53	6	11	31	22
	-	0	0	0	0	0	0	0	0

Question **A1** concerns whether apprentices had access to changing facilities on site. It can be seen that housebuilding sites where these apprentices have worked have few (22% of 64) site cabins available for changing. Typically, many housebuilding sites

will have only one or two cabins which often double up as canteen, store etc. Surprisingly, only 56 % of the 57 large construction sites had such facilities. However, it is quite common for many trades to use their storage container on sites for changing into work clothing even when changing rooms are available. **A3** concerns the number of toilets available for use on sites and the results indicate that the problem identified in Construction News (1999) are still prevalent within the industry and question. Question **A5** concerns the availability of hot and cold water for washing hands and the results show a similar picture to the availability of toilets. The availability of such amenities are a pre-requisite if workers are to be able to wash off dirt which may cause skin diseases such as reactive eczema etc.

Table 2: Site safety

Item	Score	New		Homes		Small Construction		Large Construction		Overall	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
B1	1	58	91	16	94	53	93	127	92		
	0	6	9	1	6	4	7	11	8		
	-	0	0	0	0	0	0	0	0		
B2	1	44	69	10	59	43	75	97	70		
	0	20	31	6	35	13	23	39	28		
	-	0	0	1	6	1	2	2	1		
B6	1	61	95	14	82	54	95	129	93		
	0	2	3	2	12	3	5	7	5		
	-	1	2	1	6	0	0	2	1		

B1 asks whether apprentices have been provided with the requisite protective safety clothing (i.e. footwear, hard hat, eye protection etc). Thankfully the overwhelming majority of apprentices have been supplied with protective clothing. However 11% of the apprentices would appear to be at risk of losing a limb, eyesight or experiencing a fatality. The results of question **B2** do temper the positive results of B1 in that they indicate that many workers choose not to use protective clothing. One need only pass construction workers engaged in streetscaping (cutting and laying of paving slabs) in ant city centre to observe this phenomenon. Question **B6** again indicates that the majority of sites are committed to safe working practices and indicates that scaffolding safety has a high priority. The results in this table tend to suggest that the onus for safe working practices is as much on the employee as it is the main contractor (employer). However, significant cultural barriers (ignorance, negligence or ambivalence) appear to exist within the psyche of the construction site workforce which result in many of them taking personal safety seriously.

Table 3: Health issues

Item	Score	New		Homes		Small Construction		Large Construction		Overall	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
C1	1	48	75	13	76	45	79	106	77		
	0	15	23	4	24	11	19	30	22		
	-	1	2	0	0	1	2	2	1		
C3	1	29	45	6	35	20	35	55	40		
	0	35	55	10	59	36	63	81	59		
	-	0	0	1	6	1	2	2	1		
C5	1	27	42	8	47	32	56	67	49		
	0	36	56	8	47	25	44	69	50		
	-	1	2	1	6	0	0	2	1		

C1 poses the question as to whether gloves are used when handling materials which may cause damage to skin. Over $\frac{3}{4}$ of the apprentices questioned indicated that gloves were indeed worn. Given the huge importance of the continued dexterity needed by

craft workers, it seems surprising that so many such workers at such an early phase of their career should take chances with their health.

Another important issue regarding health of workers on site is the number of days of production lost as a result of back injury. Question **C3** seeks to determine the extent to which heavy loads are manually handled on site – often a direct cause of back injury. Therefore it seems astounding that so many (a cumulative 40%) of youngsters are being exposed to bad practice and being asked to carry loads above their capabilities whilst on site. **C5** asks whether hearing protectors are used when engaging in noisy work. As with question **C3**, a significant number of apprentices (cumulative 49%) did not have access to hearing protectors. All of the questions summarized in table 3 deal with long term occupational health issues having a cumulative effect upon the body. These effects ultimately will tend to manifest themselves later in adult life.

Table 4: Safety issues

Item	Score	New Homes	Small Construction	Large Construction	Overall
		Mean	Mean	Mean	Mean
D3	0 1 2 3 4 5	3.0781	2.4706	3.5965	3.2174
D4	0 1 2 3 4 5	3.6406	3.2353	3.8246	3.6667
D7	0 1 2 3 4 5	3.0156	3.4706	3.0702	3.0942

0 = Disaster; 1 = Unacceptable; 2 = Poor; 3 = Satisfactory; 4 = Good; 5 = Excellent

D3 asks if safety guidance is posted throughout sites. On the whole it appears that the level of safety notification is adequate, i.e. between 'satisfactory' and 'good'. What can be seen, however, is that Small construction sites appear to provide a noticeably poorer level of safety information for workers than the other categories. A possible reason for this may be that the level of accountability on smaller sites to initiatives such as the CDM (Construction, Design and Management) regulations is lower.

D4 asks whether hard hats and protective footwear is worn on site. Apparently most sites police the use of protective headwear and footwear to at least 'satisfactory' levels'. Anecdotally it is not uncommon for craft workers inside buildings to remove headwear in order to 'ease access' to work levels etc. However, it should be pointed out that the level of policing on this issue is significantly higher for larger construction sites. This would imply greater levels of corporate responsibility are starting to emerge in the industry. **D7** is slightly different in that it asks whether respect for safety is shown to the public who pass by building projects – i.e. protective gantries and netting etc. Again most sites appear to be satisfactory, except in this instance it is the smaller construction sites that perform better than both housebuilding and larger construction sites in this respect.

E1 poses the question whether information on hazardous materials is made available to site operatives. The responses indicate that small construction projects fair less well than the other two categories on this issue. Given that in the UK the CoSHH (Control of Substances Hazardous to Health) regulations apply equally to all construction work, it is strange that any disparity should exist and that the rating of 'Satisfactory' is all that has been achieved.

Table 5: Health issues

Item	Score	New Homes	Small Construction	Large Construction	Overall
		Mean	Mean	Mean	Mean
E1	0 1 2 3 4 5	3.2813	2.6471	3.3158	3.2174
E3	0 1 2 3 4 5	3.4375	2.6471	3.1228	3.2101
E4	0 1 2 3 4 5	3.2969	3.5294	3.3509	3.3478

0 = Disaster; 1 = Unacceptable; 2 = Poor; 3 = Satisfactory; 4 = Good; 5 = Excellent

E3 asks whether mechanical means are used to lift heavy (above 25kg) materials on site, in the light of a previous question (C3) regarding carrying heavy loads. In this question the results point to a significant under performance (i.e. 'Poor' to 'satisfactory') with regards to small construction sites. It would seem likely that this is as a result of the fact that in housebuilding most items are small and do not need mechanical lifting means and that in large projects there will be more lifting gear available and therefore more likely to be used. Therefore small construction would appear to fall between the two – bigger components, less available lifting gear. **E4** requires the apprentices to give their opinion on whether work stations on sites are kept tidy. The results indicate that there is a satisfactory level of tidiness on sites. However it is well known that most sites do indeed suffer from poor ownership amongst subcontractors (the phrase that pays is "Who? Me? Clear up?!") of both work in progress and waste materials at work stations.

Table 6: Welfare issues

Item	Score	New Homes	Small Construction	Large Construction	Overall
		Mean	Mean	Mean	Mean
F1	0 1 2 3 4 5	3.1406	2.8235	3.0877	3.0797
F2	0 1 2 3 4 5	2.1406	2.2353	2.8421	2.4420
F7	0 1 2 3 4 5	1.5781	1.4706	2.1754	1.8116

0 = Disaster; 1 = Unacceptable; 2 = Poor; 3 = Satisfactory; 4 = Good; 5 = Excellent

F1 asks whether clean toilet facilities are generally available on sites. The obvious result here is that small construction sites perform less well than both larger sites and housebuilding, though generally the overall performance in this category is satisfactory. More important is the fact that the overall provision of changing and drying facilities (**F2**) is quite poor. Worse still is the quality and availability of site canteen food (**F7**), particularly in the case of both housebuilding and small construction sites. This is perhaps unsurprising since in both cases there is rarely a 'critical mass' of workers on site that would warrant the provision of worthwhile catering facilities.

DISCUSSION

The results related in this paper are very much a 'work in progress' in that they refer to a study at its early stages that will develop over time and will see an increase in the overall sample size. At present the findings are tentative, but the authors would

contend that they are indicative of the current state of these issues amongst the apprentices of the industry. Clearly the views of these young construction workers need to be brought into the debate since for them perception is reality, and the danger of perpetuated bad practice is manifest. The alternative is that these young workers will simply leave the industry – again an unacceptable option.

It is also the intention of the authors to seek feedback on the final results from such bodies as the CITB, M4I, Health and Safety Executive (HSE), construction unions, site cabin manufacturers and not least both the apprentices and their college lecturers. This feedback is intended to generate further research papers which will draw a conclusion to this study by recommending a framework by which young operatives can participate in determining future working conditions in THEIR industry.

ACKNOWLEDGEMENTS

The authors of this paper would like to thank lecturing staff at following FE colleges for their assistance in arranging interviews with apprentices (Clydebank College, Dundee College, Fife College, Lauder College, Reid Kerr College, Perth College, Telford College).

REFERENCES

- Applebaum, H.A. (1981) *Royal Blue: The Culture of Construction Workers*. New York: Holt, Reinhart and Wilson.
- Ashforth, B.E. and Kreiner, G. E. (1999) How Can They Do It? Dirty Work and the Challenge of Constructing A Positive Identity. *Academy of Management Journal*. 24(3): 413-434.
- Baldry, D. (1997) Building the Image, *CIOB Construction Paper* (7).
- Bale, J. (2001) Image fails the Test, *Construction News*, (1, Mar):12-13.
- Building* (1996a) Grease is the Word. (6 Sept): 58-59.
- Building* (1996b) Voice Box. (13 September): 22-23.
- Building* (1997a) Tea and Sympathy, Procurement Supplement. (Jul): 12-13
- Building* (1997b) Image Building. (19 Sept): 18-22.
- Building* (1998a) An Attractive career Move? (20 Feb): 20-23.
- Building* (1998b) Why TV never takes us seriously. (11 Dec): 32-34.
- Building* (1999) 'Why waste half your life working in all that noise and dust? It's just not worth it', Careers Supplement. (Oct): 10-12.
- Centre for Strategic studies in Construction (1989) *Investing in Building 2001*, University of Reading.
- CITB (1998) *Children's Attitudes Towards the Construction Industry - A Research Study Among 11-16 Year Olds*.
- CITB (1999) *Construction Employment and Training Forecast 2000-2004*.
- Contract Journal* (1999a) Raynsford: Change or Lose Out! (21 Jul): 1
- Contract Journal* (1999b) Staff Enthuse Over A4 Hilton. (3 Nov): 16-17.
- Contract Journal* (2000a) Industry needs to attract new blood. (19 Apr): 4.

- Contract Journal* (2000b) Construction Makes Workers Sick. (1 Mar): 4
- Contract Journal* (2000c) People Project has Failed, UCATT says. (29 Nov): 2.
- Contract Journal* (2001) Employers Accused of Climbdown on safety. (4 April): 1
- Construction News* (1999) Bovis is Panned for State of Site Toilets. (27 May).
- Construction News* (2000) Remove the Stain of Poor facilities. (22 Jun): 17.
- Construction News* (2001) Government health Warning. (22 Feb): 24-25.
- Cook (2000) What a Site, *Construction Manager*, (Nov): 22-23.
- Davis, N.M. (1948) Attitudes To Work: A Field Study of Building Operatives. *British Journal of Occupational Psychology*. **Xxxviii**(March): 10-134.
- Department for Education and Employment (2000) *An Assessment of Skill Needs in the Construction and related Industries*. Nottingham, UK: DfEE Publications.
- Egan, J. (1998) *Rethinking Construction, report of the Construction Industry Task Force*, London: HMSO.
- Health and Safety Executive (1998) *Key facts: Injuries in the Construction Industry 1961 to 1995/96*. Merseyside: HSE Operations Unit
- Jones, S.R. (2001) A Macho Industry is not Safe. *Construction News*. (22 Mar): 13.
- Kelly, L. (2001) We Need a Change in Attitudes. *Construction News*. (29 March): 13.
- LeMasters, E.E. (1975) *Blue-Collar Aristocrats*. University of Wisconsin Press.
- Lingard, H. and Holmes, N. (2001) Understandings of Occupational Health and Safety Risk Control in Small Business Construction Firms: Barriers to Implementing Technological Controls. *Construction Management and Economics*, **19**: 217-226.
- Magnuson, H. J. (1961) Health Hazards in the Construction Industry, *Journal of Occupational Medicine*, (3 Jul): 321-328.
- Phillips, T.W (1950) *Working Party Report: Building, Ministry of Works*, London: His Majesty's Stationery office.
- Respect for People Working group (2000a) *A Commitment to people 'Our Biggest Asset', Report*.
- Respect for People (2000b) <http://www.rethinkingconstruction.org/index2.htm>
- Riemer, J. W. (1979) *Hard Hats: The Work World of Construction Workers*, Sage.
- Rethinking Construction (1998) *Report of the Construction task Force to the Deputy Prime Minister*. London: Dept of Environment, Transport and the Regions,
- Swinnerton, F. (1956) *The Adventures of a Manuscript Being the Story of 'The Ragged Trousered Philanthropists'*. London: Westminster Press.
- Thomas, G. (1968) *Operatives in the Building Industry, Survey carried out for the Building Research Station and Ministry of Public Building and Works*. London.
- Tressell, R (1914, 1991) *The Ragged-trousered philanthropist*, Paladin, Harper Collins, London
- Uher, T.E. and Ritchie, J. (1998) Promoting the health of Construction Workers. *ECAM*. **5**(3): 304-311.