

THE IMPACT OF THE STRUCTURE AND CULTURE OF THE CONSTRUCTION INDUSTRY ON EMPLOYEE WELL-BEING: DIRECTIONS FOR FUTURE RESEARCH.

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The UK construction industry is currently facing a skills shortage, partly due to recruitment and retention difficulties. Poor employee well-being has been associated with poor performance, low levels of productivity poor physical health and absenteeism. Despite the apparent links between poor well-being and performance, little research has explored the concept of well-being within the UK construction industry. The paper draws on international research exploring perspectives on well-being in construction and other sectors. Findings from the literature are used to develop a framework for investigating the phenomenon of well-being within the UK construction industry. The long working hours culture and fragmentation of the construction sector has been linked to poor employee well-being within the construction industry. Further work is needed to explore the links between the structure and culture of the UK construction industry and employee well-being, and to determine implications for performance. Existing research has failed to explore the impact of working in construction on the well-being of women working in the sector. This paper provides directions for future UK based research which will explore gendered dimensions of well-being.

Keywords: culture, gender, performance, structure, well-being.

INTRODUCTION

A significant body of research has explored the concept of well-being both in a work and non work context (Newell, 2002 and Warr, 1990, 1996). Phenomena covered by the term 'well-being' include; stress, job satisfaction, burnout, depression, happiness and mental health (Warr, 1996; Deiner, et al., 1998, McLeod, 1998). Previous work has highlighted the links between poor well-being and low levels of productivity (Arnold et al., 1991), poor physical health (Comer, 1991), absenteeism (Newell, 2002). Work has been undertaken in the construction industry exploring the well-being of predominately male groups of civil engineers and site managers (Lingard and Sublet, 2002; Lingard, 2003 and Haynes and Love, 2004). The culture of long working hours has been linked to increased experience of marital type relationship conflict (Lingard and Sublet, 2002), poor psychological adjustment (Haynes and Love, 2004) and desire to find alternative employment (Lingard, 2003 and RIBA, 2003). Working on small projects for small companies has been linked to increased levels of stress and anxiety amongst Australian site managers (Haynes and Love, 2004). There are parallels for the UK construction industry which comprises a large number of small companies (DTI, 2003).

The construction industry has a very poor health and safety record, demonstrated by the high number of accidents, fatalities and suicides (HSE, 2002). Table 3 illustrates

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the conditions which are necessary for healthy job related well-being (Warr, 1996). The construction industry fails to provide the condition known as physical safety which in affects both the physical and Affective Well-Being of construction employees. This could be a significant problem if poor well-being is demonstrated to be associated with accidents and poor health and safety. It would also serve as a convincing business case for the construction industry to work to improve the well-being of its workforce.

While existing work has provided a useful base, there is considerable scope for the concept of well-being to be explored within a UK context, highlighting the importance of the structure and culture of the sector and to investigate how the well-being of construction employees relates to their performance. As the focus of previous work has been on predominately male groups, there is a need to explore the impact of working in construction on women.

This paper discusses previous research exploring well-being within construction and non-construction based literature. Definitions of well-being and phenomena covered by the term are provided with particular reference made to well-being in a work context. Potential implications for employee performance are noted. Previous work conducted within a construction industry context is discussed in depth and gaps in the work are highlighted. The paper concludes by providing directions for further work which will help to understand how the culture and structure of the UK construction industry impact those working within it.

DEFINING WELL-BEING

There are many terms which fall under the banner of well-being, for example, job satisfaction, career satisfaction, family satisfaction, life stress (Parasuraman et al., 2001 and Warr, 1996), stress, mental health (Newell, 2002), self esteem, health and contentment (Bryson et al., 1997) and burnout (Lingard, 2003). Table 1 summarises some of the many facets of well-being drawn from existing literature and provides definitions. Work by Deiner et al. (1998) has looked at the well-being of nations, drawing comparisons between cultures. Warr (1990, 1996) has examined well-being in a work environment, determining the factors necessary for an individual to experience high levels of work related well-being. The well-being of managers has been investigated, drawing comparisons between men and women (Miller, et al., 2000). There has been construction specific work exploring stress (Djebarni, 1996), Burnout (Lingard, 2003), non work related well-being (Lingard and Sublet, 2002) and adjustment (Haynes and Love, 2004).

| Factor of well-being | Definition |
|----------------------|---|
| Adjustment | Psychological well-being, composed of anxiety, depression and stress (Haynes and Love, 2004). |
| Affective Well-Being | The frequency of experience of positive effects and infrequency of experience of negative affects (Daniels, 2000). Overall feeling of good or bad (Newell, 2002). |
| Burnout | Characterised by emotional exhaustion, fatigue, depersonalisation and lack of feeling of accomplishment (Lingard, 2003; MacLeod 1998). |
| Career Satisfaction | Evaluation of satisfaction with progress with one's career and success over time (Parasuraman and Simmers, 2001). |
| Contentment | Used by Bryson et al (1997) although no definition is given. Is a state of being satisfied or happy. |
| Depression | Clinical Definition 'A low sad state marked by significant levels of sadness, lack of energy, low self-worth, guilt or related symptoms' (Comer, 2001 p.191). |
| Family Satisfaction | Extent of positive feelings towards family life (Parasuraman and Simmers, 2001). |
| Happiness | A term often associated with Subjective Well-Being and is a state of being satisfied with life, experiencing frequent joy and rarely experiencing negative emotions (Deiner, et al., 1998). |
| Job Satisfaction | The extent to which an individual has positive feelings towards their job. (Parasuraman and Simmers, 2001). |
| Life Stress | Psychological response state of disturbed affect in relation to stressors in an individual's life (Parasuraman and Simmers, 2001). |
| Self-Esteem | Feeling valued and respected (Arnold et al., 1991). |
| Stress | Stress is a state where an individual is forced to change. Stress is composed of a stressor (event which creates demands) and a stress response (an individual's reactions to stressors). Has both physical and psychological implications (Comer, 2001). |

Table 1. Showing definitions of well-being and associated terms.

WORK PSYCHOLOGY AND WELL-BEING

A review of work psychology literature reveals that research concerns often focus on the negative aspects of well-being, for example, examining the causes and consequences of stress (arnold et al., 1991 and newell, 2002). The two areas of 'well-being' of importance to those interested in work psychology are *job specific well-being* and *context free well-being*. Job specific well-being relates to an individual's feeling about themselves in relation to their job, while context free well-being is much broader referring to a person's feeling irrespective of the setting (warr 1996). The relationship between the two phenomena is bi-directional, as job specific well-being affects context free well-being and vice versa (warr, 1996), and this must be born in mind when investigating either phenomenon.

Definitions of well-being as perceived by work psychologists are reviewed by Warr (1996). Warr (1990, 1996) focuses on Affective Well-Being which can be defined as, the frequent experience of positive affects and the infrequent experience of negative effects (Daniels, 2000). A person's well-being can be described in relation to its location relative to the two dimensions of *pleasure* and *arousal* (representing the contents of the feelings) and the central point of the figure (a greater distance from the centre point indicates greater intensity of feeling) (Warr, 1996). A level of pleasure or displeasure may be associated with levels of arousal, and certain levels of arousal may be pleasurable or dis-pleasurable. This framework allows for the development of three main axes of measurement, which are summarised in the Table 2.

| Axes | Scale |
|-----------------------|---|
| Axis 1: Pleasure | Pleasure to displeasure |
| Axis 2: Anxiety: | Anxiety (low pleasure, high arousal) to comfort (high pleasure, low arousal). |
| Axis 3: Depression | Depression (low pleasure, low arousal) to Enthusiasm (high pleasure, high arousal). |

Table 2, Three axes of well-being (Warr, 1996)

Other components of job related well-being are competence, aspiration, autonomy and integrative functioning (Newell, 2002; Warr, 1996). Competence is the degree to which an individual believes they will be successful in the tasks which they undertake (Newell, 2002). Aspiration is an individual's desire to improve themselves (Newell, 2002). Autonomy is characterised by the sense of responsibility an individual feels over choosing a course of action and its consequences (Newell, 2002). Integrative functioning can be seen as the inter-relationship between affective well-being, competence, autonomy and aspiration and can refer to a person who is considered to be 'well balanced' (Newell, 2002).

JOB SATISFACTION.

Job related well-being is often explored through examinations of job satisfaction. Warr (1996) identifies nine job features which are linked to job-specific well-being. Newell (2002) refers to this as Warr's Vitamin Model of Well-Being. Each job feature is necessary for job satisfaction just as each vitamin is necessary for good health. An increase in each job feature will lead to an increase in job satisfaction until a plateau is reached where no further increase in job satisfaction is experienced (Newell, 2002). Just as excess of some vitamins can lead to poor health, excess levels of some job features, for example, externally generated goals can lead to decreases in job satisfaction (Newell, 2002). Tables 3 explains each of the job features by providing examples.

| JOB FEATURES | Examples of job features |
|---------------------------------------|---|
| Opportunity for personal control | Jobs which do not allow personal control over activities are associated with high levels of stress. Those at higher levels of organisations where they have a greater level of autonomy often score higher in this areas. |
| Opportunity for skill use | Allow an individual to use the skills they have and is linked to the ability to achieve personal goals which are linked to good mental health. |
| Externally generated goals | Mental health is improved where goals are clear and the individual has a role in establishing these goals. |
| Variety | Repetitive tasks do not promote good mental health. Variety of task promotes greater stimulation and motivation. |
| Environmental Clarity | The degree to which the job environment provides feedback about an individual's performance. |
| Availability of money | Money in itself does not promote good mental health, rather the absence of it is detrimental to well-being. |
| Physical Security | This can be where an individual feels physically safe/unsafe, or perceives psychological insecurity due to impermanence of contract. |
| Opportunity for interpersonal contact | Provides a support network to help cope with difficult or stressful situations. Allows for group working to achieve goals and can provide guidance on how to behave. |
| Valued social position | This relates to the job's perceived social value, for example medical doctors are afforded high social status due to the value placed by society on their work. |

Table 3 showing the nine features necessary for job satisfaction as identified in Warr's Vitamin Model of Job Satisfaction (Source; Newell, 2002).

The impact of well-being

The impact of well-being is often discussed in terms of the consequences of *poor well-being*. Within work psychology, the impact of poor well-being is often assessed by relating stress to performance at work (Newell, 2002). High levels of stress are associated with low productivity and poor health (Arnold et al., 1991). Stress can lead to individuals turning to unhealthy methods of coping, for example alcohol and tobacco, which negatively affect physical health (Haynes and Love, 2004) and absenteeism (Newell, 2002).

Factors linked to poor well-being are also linked to people choosing to leave their profession. Research examining the causes for women leaving the architectural profession has found that high stress work environments can act as a trigger for choosing an alternative career (RIBA, 2003). Organisations spend considerable amounts of money training their employees, if people chose to leave the organisation or the profession altogether, then this money is a wasted investment. This wasted investment is of particular concern if people are leaving a sector due to characteristics which are inherent to that sector. Other research examining the relationship between poor well-being and stress has indicated that men generally experience higher levels of physical and mental well-being than women, suggesting that while men and women experience similar stressors at work their impact differs depending on gender (Miller et al., 2000).

WELL-BEING AND THE CONSTRUCTION INDUSTRY

Stress, is an important facet of well-being and has been shown to be associated with both high and low levels of performance in construction, depending on the intensity of stress experienced (Djebarni, 1996). Djebarni (1996) found that low levels of stress are linked to increased performance levels and high levels of stress are associated with poor performance. There is evidence that just as high levels of stress are associated with low levels of performance, they are also linked to a poor immune response as increased levels of hormones linked to the production of infection fighting lymphocytes have an inhibitory affect at high levels (Comer, 2001). This has implications for absenteeism and health and safety. More recent work associates other well-being facets, for example, burnout and non-job related well-being, with cultural aspects of the construction industry, in particular the long working hours (Lingard and Sublet, 2002; Lingard, H., 2003). The construction industry has a culture of long working hours, and this has been associated with poor well-being in terms of burnout (Lingard, 2003) and relationship dissatisfaction (Lingard and Sublet, 2002). There is also evidence linking long working hours to adverse health and safety outcomes (Goldenhar et al., 2003).

NON-JOB RELATED WELL-BEING

Lingard and Sublet (2002) conducted research exploring the impact of job and organisational demands of Australian civil engineers on their marital or marital type relationship satisfaction. Job conditions (or stressors) which had been identified from previous research were assessed, including, role ambiguity, responsibility, satisfaction with pay, promotion prospects and job security. These broadly correlate with those factors determined by Warr (1990, 1996) in the Vitamin Model of Job Satisfaction to be necessary for healthy job related well-being. Respondents were asked to rate the frequency with which they experiences satisfying or conflict activities in nine key areas with their partner in the weeks prior to date of data collection.

Factors which place demands on a person's resources both at home and at work, were found to be negatively correlated to relationship quality. These variables included number of children, level of responsibility at work and perceived work overload. The most significant factor affecting relationship conflict and satisfaction was the length of working hours undertaken. The research undertaken by Lingard and Sublet (2002) is important for a number of reasons. It highlights that while much research exploring the impact of work life on home life has focussed on women, men experience similar, potentially damaging, spill-over effects. This is important in a male dominated industry such as construction. Poor non-job related well-being can negatively impact job related well-being (Warr, 1996) and therefore have implications for performance at work (Arnold et al., 1991). The research focussed on one profession and it may be that findings are limited to that particular construction profession. However, long working hours are a common thread of working in construction (RIBA, 2003) and so it seems reasonable that it will affect those at all levels working in the industry, who experience this phenomenon.

BURNOUT

Lingard (2003) conducted research examining the phenomenon of burnout among Australian civil engineers. Burnout describes a state of emotional exhaustion, depersonalisation and reduced personal accomplishment (McLeod, 1998). Emotional exhaustion is indicated by a lack of energy and a feeling that emotional reserves have been depleted (McLeod, 1998). Depersonalisation is characterised by an exaggerated distancing from work and increased cynicism (McLeod, 1998). In a situation where individuals negatively assess their work and feel unsatisfied with their work achievements a person is said to be experiencing diminished personal accomplishment (Lingard, 2003). There are a number of predictors of burnout, for example, subjective overload, responsibility, role clarity or conflict, job satisfaction and autonomy (Lingard, 2003).

Lingard's (2003) study explored the phenomenon of burnout with a largely male (only 7.7% were female) subject group, who were mostly employed within consulting firms within an office environment. Likert type self assessment scales were used to assess burnout and personality traits. Respondents were also asked to assess the likelihood that they would be actively seeking a new job within the next year. The study found that the interaction between a number of individual (employee) and organisational factors lead to burnout amongst civil engineers, with job characteristics having the greatest influence over feelings of emotional exhaustion and cynicism. As many of the respondents were involved in contract based work there was difficulty in taking time off which could help restore emotional health. In this sense it would seem that the project based culture negatively impacts upon well-being. Warr (1996) determined that feelings of autonomy, professional worth, role responsibility, availability of money and social interaction are important job-related factors which impact well-being. Concern over these factors emerged as predictors of burnout amongst the sample group suggesting that the absence of autonomy, career and pay satisfaction maybe be significant inhibitors to health well-being of construction workers.

Intentions to actively search for a new job were predicted by emotional exhaustion and cynicism (Lingard, 2003). This is important as burnout would seem to be linked to intentions to leave an organisation leading to potential retention problems. As both individual and organisation factors are predictors of burnout, there is scope for the

organisation to help prevent burnout and improve retention (Lingard, 2003). In an industry where recruitment and retention is a serious problem, the factors which lead to burnout and intention to leave an organisation should be taken seriously. If similar patterns are observed in the UK construction industry among other professions then actions to reduce burnout could have a significant impact on retention of employees. This work highlights that there are a number of characteristics of the construction industry which may lead to burnout (Lingard, 2003), but there is a need to explore the phenomenon in a UK context. The sample group used by Lingard (2003) was mostly male and office based, and there is a need to determine if findings are limited to this group or if different stressors may be linked to burnout amongst women and site based workers.

PSYCHOLOGICAL WELL-BEING AMONGST CONSTRUCTION SITE MANAGERS

Haynes and Love (2004) conducted research examining; anxiety, depression, stress, coping and adjustment (identified as psychological well-being) amongst site managers in the Australian construction industry. The Ways of Coping Questionnaire (WAYSS) was used to measure and define coping mechanisms. The Bradburn Affect Balance Scale was used to measure negative and positive affect and The Depression Anxiety Scale (DASS) was used to assess adjustment. Working in construction was seen to produce three main stressors which negatively impact levels of well-being. In descending order of intensity these stressors are, high workload, long working hours and insufficient time spent with family. The long working hours and insufficient time spent with family may lead to a reduction in social support which aids site managers cope with stress. The smaller the project the greater the level of stress and anxiety experiences, possibly because small projects are likely to be run by smaller companies placing greater responsibility on the site manager. This is of particular importance considering the large number of small companies within the UK construction industry (DTI, 2003).

This is an important piece of research which explores a number of facets of well-being, but there are limitations to the findings. All respondents were male and so it is not possible to infer the impact of working in such a high stress role on female employees. There is evidence to suggest that while men and women in non construction based management positions experience similar stressors, the impact of well-being is greater for women (Miller et al., 2000). Of all the research explored here there is an absence of work that has drawn comparison on gender. The sample was limited to Australian site managers, as such it may not be possible to draw conclusions about the whole sector. Sutherland and Davidson (1989) explored stress with UK site managers, discovering a lower level of well-being than with other population groups, possibly due to understaffing and high levels of workload, leading to insufficient time spent with family. This piece of research shows that UK construction site managers experience similar stressors to those reported in Haynes and Love (2004). These two papers provide a useful start point for further research.

CONCLUSIONS AND DIRECTIONS FOR FURTHER WORK

While some important research has been undertaken exploring some aspects of well-being, there are limitations to the research. Much of the research conducted to date appears to examine the Australian construction industry, with only the work of RIBA

(2003) and Sutherland and Davidson (1989) looking at the UK context. The work by RIBA (2003) explored the reasons for women leaving architectural practice in the UK, but did not explicitly examine well-being, for female architects. Women entering and working in the UK construction industry face discrimination and prejudice, which contribute to problems with recruitment and retention (RIBA, 2003; Greed, 2000; Fielden et al., 2000 and Dainty et al., 1999). If the construction industry is to continue experiencing the well documented skills shortages (DFEE, 2000; Dainty and Edwards, 2003), attention needs to be paid on retaining those currently working in the sector. As women's labour market and academic achievement is increasing (EOC, 2003) they represent a pool of talent which must be properly accessed by the construction sector if it wishes to recruit and retain a well qualified workforce. An exploration of the impact of working in the construction industry on the well-being of employees will provide direction towards performance improvement, in terms of the performance of the individual and of the sector as an employer. If those working in the sector are found to be under performing due to organisational or cultural factors as is suggested with the burnout phenomenon (Lingard, 2003), or are leaving the sector in favour of improved employment conditions (RIBA), then an analysis of these factors will provide direction for organisational and cultural change. The link between poor well-being and low levels of performance potentially provides a compelling business case for improving the working conditions of construction employees.

Further work will explore the concept of well-being in the UK construction industry. Data collection will take the form of interviews and the use of questionnaires. Existing questionnaire style tools, which have proven validity, will be used to assess well-being, in order to ensure robustness of findings. The well-being of construction professionals will be assessed in relation to the structure and culture of the construction industry, for example, project based work and long working hours. This will enable a discussion of the UK construction industry impacts on the psychological health of its employees. A sample group consisting of men and women will allow for a gendered analysis of results, in order to determine if men and women experience similar influences on well-being. Such an analysis will help provide direction for the construction industry to implement change in order to become an employer of choice.

REFERENCES

- ARNOLD, A., ROBERTSON, I.T. and AND COOPER, C. L., 1991. *Work Psychology. Understanding human behaviour in the workplace.* London: Longman Group UK Ltd.
- BRYCE, J. and HAWORTH, J., 2002. Wellbeing and flow in sample of male and female office workers. *Leisure Studies*, **21**, pp. 249-263.
- BRYSON, A., FORD, R. and WHITE, M., 1997. *Making work pay. Lone mothers, employment and well-being.* York, England: HMSO.
- COMER, R.J., 2001. *Abnormal Psychology.* 4th edn. USA: Worth Publishers and W.H. Freeman and Company.
- DAINTY, A. R. J. and EDWARDS, D.J., 2003. The UK Building Education Recruitment Crisis: A Call For Action. *Construction Management and Economics*, **21**(7), pp. 767-775.
- DAINTY, A. R. J., NEALE, R.H. and BAGILHOLE, B.H., 1999. Women's careers in large construction companies: expectations unfulfilled. *Career Development International*, **4**(7), pp. 353-357.
- DANIELS, K., 2000. Measures of five aspects of affective well-being at work. *Human Relations*, **53**(2), pp. 275-294.
- DEINER, E., SUH, E. and AND OISHI, S., 1998. Recent Findings on Subjective Well-Being. *Indian Journal of Clinical Psychology*, **24**, pp. 24-51.
- DJEBARNI, R., 1996. The impact of stress in site management effectiveness. *Construction Management and Economics*, **14**, pp. 281-293.
- DTI, 2003. *The Construction Statistics Annual, 2003.* The Stationary Office, UK
- Equal Opportunities Council, 2003. *Facts about men and women in Great Britain, 2003.* <http://www.eoc.org.uk/cseng/research/factsgreatbritain2003.pdf>: EOC.
- FIELDEN, S.L., DAVIDSON, M.J., GALE, A.W. and DAVEY, C.L., 2000. Women in construction: the untapped resource. *Construction Management and Economics*, **18**(1), pp. 113-121.
- GOLDENHAR, L.M., HECKER, S., MOIR, S. and ROSECRANCE, J., 2003. The "Goldilocks model" of overtime in construction: not too much, not too little, but just right*1. *Journal of Safety Research*, **34**(2), pp. 215-226.
- GREED, C., 2000. Women in the Construction Professions: Achieving Critical Mass. *Gender, Work and Organisation*, **7**(3), pp. 181-196.
- HAYNES, N.S. and LOVE, P. E. D., 2004. Psychological adjustment and coping among construction project managers. *Construction Management and Economics*, **22**(2), pp. 129-140.
- LINGARD, H., 2003. The impact of individual and job characteristics on 'burnout' among civil engineers in Australia and the implications for employee turnover. *Construction Management and Economics*, **21**, pp. 69-80.
- LINGARD, H. and SUBLET, A., 2002. The impact of job and organizational demands on marital or relationship satisfaction and conflict among Australian civil engineers. *Construction Management and Economics*, **20**, pp. 507-521.
- MCLEOD, J., 1998. *An Introduction to Counselling.* 2nd edn. Buckingham, UK.: OUP.

- MILLER, K., GREYLING, M., COOPER, G., LU, L., SPARKS, K. and SPECTOR, P.E., 2000. Occupational Stress and Gender: a cross cultural study. *Stress Medicine*, **16**(271), pp. 278.
- NEWELL, S., 2002. *Creating the Healthy Organization. Well-being, diversity and ethics at work.* London: Thomson Learning.
- PARASURAMAN, S. and SIMMERS, C.A., 2001. Type of Employment, work-family conflict and well-being. *Journal or Organizational Behaviour*, **22**(5), pp. 551.
- RIBA, 2003. *Why do women leave architecture?* www.riba.org.uk: RIBA.
- SUTHERLAND, V. and DAVIDSON, M., 1989. Stress among construction site managers – a preliminary study. *Stress Medicine*, **5**, pp. 221-235
- WARR, P., 1990. The measurement of well-being and other aspects of mental health. *Journal of Occupational Psychology*, **63**, pp. 193-210.
- WARR, P., 1996. Employee Well-Being. In: P. WARR, ed, *Psychology at Work*. 4th edn. London: Penguin Books, pp. 224-253.