

The relationship between coaching and workplace stress: A correlational study

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Abstract

There is a limited amount of research investigating the relationship between coaching and stress. This paper will present the findings from Part II of a study investigating whether workplace coaching can reduce stress. A correlational design was used and 103 participants from a UK and a Scandinavian organisation participated. Multiple regression analyses were used to investigate whether participation in coaching was a significant predictor of levels of depression, anxiety and stress as measured by the DASS-21 (Lovibond & Lovibond 1995). Demographic factors and the workplace stressors included in the Health and Safety Executive's Stress Management Standards were also included in the analyses (Cousins *et al* 2004). It was found that workplace coaching was not a significant predictor of levels of depression, anxiety and stress. However, the participants reported high levels of coaching effectiveness. Lack of control and high role ambiguity were found to be significant predictors of depression, and high demands and role ambiguity were found to be significant predictors of stress.

Introduction

According to the Health and Safety Executive (HSE) (2001) there are three main reasons why organisations should take action towards work-related stress: the ethical argument emphasises the negative effects of work-related stress; the legal argument highlights the employer's legal duties to prevent stress; and the economic argument focuses on the vast cost ascribed to work-related stress. In order to support organisations in tackling workplace stress the HSE has developed Stress Management Standards that involve good practice in six key stressor areas. There is a build-up of research evidence, including findings from the Whitehall II study, suggesting that these particular stressors have the potential to cause negative effects on employee welfare (Cousins *et al* 2004). The Model of Work Stress (Palmer *et al* 2004) highlights the relationship between the HSE stressors, symptoms and outcomes of stress (see Figure 1).

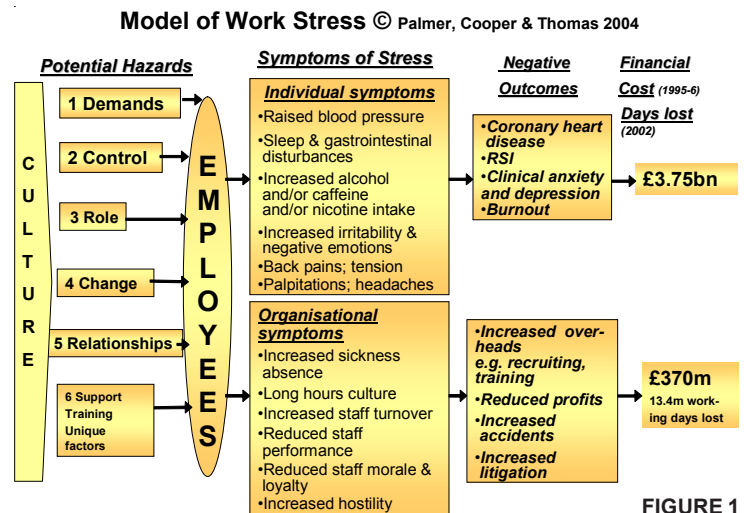


FIGURE 1

Definitions of stress

There are various definitions of stress and according to the HSE (2001, p.1) stress is “the adverse reaction people have to excessive pressures or other types of demand placed on them”. In a report by the European Commission work-related stress was defined as “...the emotional, cognitive, behavioural and physiological reaction to aversive and noxious aspects of work, work environments and work organisations. It is a state characterised by high levels of arousal and distress and often by feelings of not coping” (Levi 2000, p.3). Palmer, Cooper & Thomas (2003, p.2) have presented a cognitive definition of stress that emphasises the individual's perception of an event: “Stress occurs when the perceived pressure exceeds your perceived ability to cope”. Cooper *et al* (2001) suggest that potential sources of stress are called stressors, and strain is the individual's response to the stressors.

Coaching and stress

Many different interventions are used to prevent and manage stress in the workplace including counselling, stress management, redesign of the work environment, and flexible work schedules (Cooper & Cartwright 1997). In addition, several authors have suggested that coaching can be used to reduce stress (Busch & Steinmetz 2002, Hearn 2001, Jones 1996, Meyer 2003) and more specifically health coaching (Palmer, Tubbs & Whybrow 2003). Workplace

coaching is becoming increasingly popular and has been defined as "...a solution-focused, result-orientated systematic process in which the coach facilitates the enhancement of work performance and the self-directed learning and personal growth of the coachee" (Grant 2001a, p.8). There is a lack of research on coaching and stress but a few case studies have reported that coaching played an important part in reducing clients' stress levels (Ascentia 2005, Hearn 2001, Richard 1999). Wales (2003) found, in a qualitative study, that one of the benefits of coaching was reduced stress. A study by Grant (2001b) investigated the effects of cognitive, behavioural, and cognitive behavioural coaching approaches in a sample of students. It was found that all three coaching approaches significantly reduced test anxiety. Non-study-related mental health (depression, anxiety and stress) was also measured and only the cognitive coaching was found to significantly reduce depression and anxiety. The behavioural and cognitive behavioural coaching did not significantly reduce depression, anxiety or stress. A further study by Grant (2003) found that life coaching reduced participants' levels of depression, anxiety, and stress, although mental health was not specifically targeted in the coaching. Contrary to these studies, the quantitative part of the Compasspoint Nonprofit Services (2003) coaching study found that coaching did not have any effect on work stress and burnout. However, some participants reported that coaching had been helpful in reducing stress during the qualitative part of the study (interviews).

Aim of the study

Coaching could help to reduce stress directly by targeting stress in the coaching and indirectly by targeting areas that may cause pressure for the coachee. For example, a coaching client may seek coaching to improve a specific skill, increase efficiency, or reach work-related goals. Once the coaching client has improved in the area for which they sought help they may feel less stressed at work (Gyllensten & Palmer 2005). There is a lack of research investigating whether coaching can reduce stress and this was the aim of the current study. The study used both quantitative and qualitative methods and was conducted in three parts. This article will present the main findings from Part II of the study. Part I of the study used a quasi-experimental approach and measured strain before and after coaching. It was found that coaching did not significantly reduce levels of strain (Gyllensten & Palmer, in press). Part III of the study used a qualitative methodology and the data is currently being analysed.

Part II of the study used a correlational approach and aimed to investigate whether participation in coaching was a significant predictor of levels of

strain. The expected relationship was that participation in coaching would be a significant predictor of lower levels of strain. It also aimed to explore whether the seven stressors (support is divided into managerial and colleague) identified by the HSE, and demographic factors, were significant predictors of strain.

Methods

Design

Part II of the study used a cross-sectional correlational design and the data was analysed with multiple regression. The data was collected from two groups of participants: individuals who had participated in workplace coaching and who were regarded as having completed their coaching; and individuals who had never attended workplace coaching. The criterion variable was strain, operationalised by the Depression Anxiety and Stress Scales-21 (Lovibond & Lovibond 1995), and the predictor variables were participation in coaching, demographic variables, and the HSE stressors.

Participants

Organisations

Two organisations participated in Part II of the study, one UK organisation from the finance sector and one Scandinavian organisation from the telecommunications sector. Both organisations had in excess of 3,000 employees and mainly focused on telephone based work. Coaching was available to all staff in both organisations and coaching was provided by a number of coaches within the organisation. Counselling services or stress management training were not provided within the organisations.

Individual participants

Thirty-six individuals participated in Part II of the study from the UK organisation. Twenty-one participants had recently completed coaching within the organisation and 15 had never attended coaching, six were managers, and everyone worked full-time. Sixty-seven individuals participated from the Scandinavian organisation, 41 had recently completed coaching within the organisation and 26 had never attended coaching. All participants from the Scandinavian organisation were managers and worked full-time.

Overall 103 participants completed the questionnaire, 62 who had completed coaching and 41 who had never participated in coaching. Forty-six women and 57 men participated in the study and the mean age was 34 years. It has been suggested that in multiple regression there should be an absolute minimum of five times as many participants as predictor variables but that ten times as many

participants as predictor variables is a more acceptable ratio (Brace *et al* 2003). The current study included ten predictor variables and the minimum number of participants was therefore met ($n=103$).

Rationale for including both organisations

Part II of the study comprised participants from a UK and a Scandinavian organisation. Participants were recruited on the basis that they were working full-time within a large organisation, and that they had either participated or not participated in workplace coaching. Although the work within the both organisations was mainly phone based it is important to recognise that the characteristics of the participants, the work environment and the coaching may have differed between the organisations. Moreover, all Scandinavian participants were managers whereas only a small number of the UK participants were managers. Nonetheless, no statistical differences were found between the UK and Scandinavian organisations on levels of strain, and no significant differences were found between manager and non-managers on levels of strain. The two organisations were combined on all subsequent analyses.

Procedure

UK organisation

Thirty-one of the participants (from the total of 36 UK participants) completed paper-based questionnaires that were administered by the coaches. These were the same individuals who also took part in Part I of the study. The five additional participants only took part in Part II of the study. These individuals completed a web-based version of the same questionnaire, the coaches having provided them with an information sheet containing the web address for the questionnaire.

Scandinavian organisation

All participants from the Scandinavian organisation (67 participants in total) completed the web-based questionnaire. A web-based questionnaire was used at the request of HR as these have been found to have higher response rates than paper-based questionnaires within the organisation. Studies have found that internet-based questionnaires have similar psychometric properties to non-internet-based questionnaires (Buchanan & Smith 1999, Stanton 1998). An email explaining the aim and procedure of the study was sent to the participants, and if they consented to the conditions of the study they were invited to complete the questionnaire by clicking on an attached web-link.

The questionnaire

The first part of the questionnaire covered demographic variables and information regarding the

number and effectiveness of coaching sessions. Job satisfaction was measured with one Likert-scale item which has also been used in the British Household Panel Survey (Oswald & Gardner 2001). Stressors were measured by the HSE's indicator tool which includes 35 items and seven sub-scales. These seven sub-scales are demands, control, managerial support, colleague support, relationships, role and organisational change. The HSE's indicator tool was used as it has been found to be a reliable and valid risk assessment tool of workplace stressors in the UK (Cousins *et al* 2004). Strain was measured by the Depression, Anxiety and Stress Scales-21 (DASS-21) (Lovibond & Lovibond 1995). DASS-21 consists of 21 items and three sub-scales and has been found to be a valid and reliable measure of depression, anxiety and stress in a large UK sample (Henry & Crawford 2005).

Ethical considerations

Ethical consent for the study was obtained from City University and the study was carried out in accordance with the BPS *Code of Conduct, Ethical Principles & Guidelines* (2005). Informed consent and security of data are important ethical issues to consider in relation to internet research (Hewson *et al* 2003). The current study dealt with the issue of informed consent in the following manner: the initial email that outlined the aim of the study contained a web-link to the start-page for the questionnaire. This start-page did not automatically open the questionnaire but instead provided further information about the study and informed the participants about their rights to confidentiality, anonymity and withdrawal. It also clearly stated that the participants should only open the attached web-link, containing the questionnaire, if they had understood the information and fully consented to take part in the study. Finally, once the questionnaire was completed the participants were required to submit the data. The data was password protected and was completely anonymous, and could not be linked to individual email accounts.

Results

The main objective with Part II of the study was to determine, by multiple regression analyses, whether participation in coaching, the HSE stressors and demographic factors were significant predictors of strain. In addition, the study also aimed to explore the number of coaching sessions attended by the participants and the level of coaching effectiveness.

Level of strain (DASS-21)

Summary of DASS-21 scores

Overall, the means for the depression, anxiety and

stress scales were similar for the two groups. The summaries of the participants' DASS-21 scores are presented in *Table 1*. The mean in the coaching group is slightly higher than the mean in the control group on the depression scale, whereas the means in the coaching group are lower than the means in the control group on the anxiety and stress scales.

TABLE 1: Summary of participants' DASS-21 scores

	Depression		Anxiety		Stress	
	Mean	SD	Mean	SD	Mean	SD
Coaching group n=62	6.14 (missing n=6)	6.83	3.71 (missing n=6)	4.63	11.30 (missing n=8)	8.10
Control group n=41	6.00	6.83	4.42 (missing n=3)	5.98	11.85	8.12 (missing n=1)

Clinical levels of strain

The DASS scales have a cut-off score indicating clinical levels of depression (cut-off 10), anxiety (cut-off 8) and stress (cut-off 15) (Lovibond & Lovibond 1995). *Table 2* presents the percentage of participants who reported clinical levels of psychological strain according to the cut-off scores. The coaching group and control group displayed similar percentages of clinical cases on all three scales, with the coaching group displaying slightly lower percentages on the depression and stress scales.

TABLE 2: Percentage of clinical levels of psychological strain identified by DASS-21

Group	% above normal depression levels	n	% above normal anxiety levels	n	% above normal stress levels	n
Coaching group n=63	25% (6 missing)	16	17% (6 missing)	11	25% (8 missing)	16
Control group n=41	27%	11	17% (3 missing)	7	27% (1 missing)	11

Multiple linear regression

Multiple regression analyses were used to investigate whether coaching, the seven HSE stressors and demographic variables (age and gender) were predictive of levels of strain. Three criterion variables were included in the current study (depression, anxiety and stress) and one multiple linear regression was conducted for each criterion variable. The enter method was used as there was no particular theoretical rationale for entering the variables in a particular order and there was a relatively small number of cases (Brace *et al* 2003).

Multiple regression 1: Depression

The criterion variable was depression, as measured

by the depression scale in DASS-21. The predictor variables were participation in coaching, the seven HSE stressors, age and gender. Using the enter method a significant model emerged ($F(10,76)=3.030, p=0.003$). The strength of the model was weak, adjusted R square=0.191. The variable's control (Beta=0.318, $p=0.007$) and role (Beta=0.352, $p=0.002$) were found to be significant predictors of depression. The direction of the relationships indicated that participants experiencing lack of control and high role ambiguity were at greater risk of depression.

Multiple regression 2: Anxiety

The criterion variable was anxiety, as measured by the anxiety scale in DASS-21. The predictor variables were the same as for the depression analysis (see previous paragraph). Using the enter method a non-significant model emerged ($F(10,75)=1.608, p=0.121$). Thus, it was not possible to discard the idea that the variance accounted for in the dependent variable was due to chance (Wampold & Freund 1987). Moreover, the strength of the model was weak, adjusted R square=0.067.

Multiple regression 3: Stress

The criterion variable was stress, as measured by the stress scale in DASS-21. The predictor variables were the same as for depression and anxiety (see previous paragraphs). Using the enter method a significant model emerged ($F(10,75)=3.259, p=0.002$). The strength of the model was moderate, adjusted R square=0.210. Demands (Beta=0.309, $p=0.004$) and role (Beta=0.305, $p=0.006$) were found to be significant predictors of stress and both these factors were positively related to stress, indicating that participants experiencing high levels of demands and role ambiguity were at greater risk of stress.

Global job satisfaction

One Likert scale item ranging from a score of 1 (not at all satisfied) to 7 (completely satisfied) measured global job satisfaction. The participants reported high levels of job satisfaction and both groups reported very similar levels of job satisfaction, as shown by *Table 3*.

TABLE 3: Summary of participants' job satisfaction scores

	Mode	Median	Mean	Minimum	Maximum	Stan Dev
Coaching group n=62	6	6	5.26	1	7	1.25
Control group n=41	6	6	5.46	2	7	1.14

Coaching data

This section will present data that relates only to the coaching group ($n=62$). The average number of coaching sessions attended was 3.52 (SD 2.47) with the lowest number of sessions being 1 and the highest 10. A high proportion (78%) of the participants attended between one and four sessions. Coaching effectiveness was measured by one Likert scale item where a score of 1 indicated not at all effective and a score of 7 indicated very effective. *Figure 2* reports the frequencies of each score. Participants reported a high level of coaching effectiveness with a mode and median of 6, and a mean of 5.64 (SD 1.18).

Discussion

Summary of findings

Levels of strain and percentages of participants with clinical levels of strain were very similar for the coaching and control group. However, the conclusions that can be drawn from these findings are limited as there is no information regarding the levels of strain before coaching. Both groups reported high levels of job satisfaction and the levels were very similar for both groups. Participation in coaching was not a significant predictor of strain in the multiple regression analyses, contrary to what was predicted. Control and role were the only stressors that were significant predictors of depression, and demands and role were the only stressors that were significant predictors of stress. This means that lack of control, high role ambiguity and high demands were associated with higher levels of strain (depression and stress).

Although the regression models included coaching, stressors and demographic variables the overall model for depression only accounted for 19 per cent of the variance in depression and the overall model of stress accounted for 21 per cent of the variance in stress. In addition, the model for anxiety was not significant, thus the variables included in the analysis did not appear to account for the variance in anxiety. This suggests that there were important variables accounting for strain that were not included in the models. Variables that may have accounted for some of the variance in strain include personality factors, health factors, locus of control, career achievement, work/life balance issues, economical factors and family situation.

Previous literature

The findings in Part II of the current study were similar to the findings in Part I of the same study. In Part I strain was measured before and after coaching and coaching did not significantly reduce strain (Gyllensten & Palmer 2005). Likewise, the study

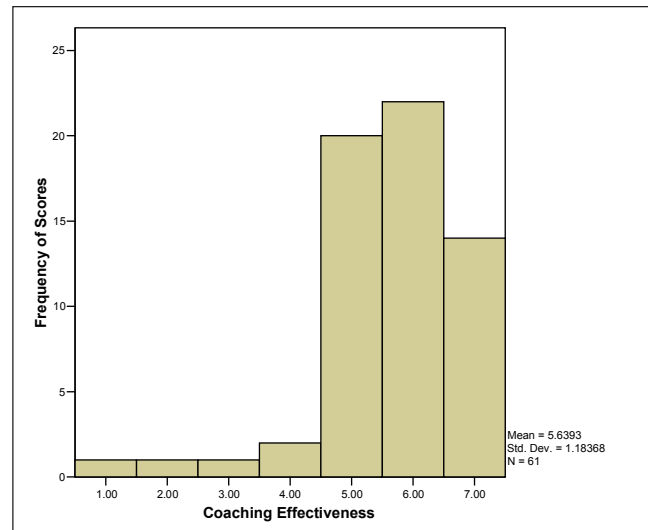


FIGURE 2: Coaching Effectiveness

conducted by CompassPoint Nonprofit Services (2003) found that stress levels were not significantly reduced after coaching. Nonetheless, the qualitative part of this study found that coaching helped to reduce stress for some participants. Grant (2001b) explored the effects of cognitive, behavioural, and cognitive behavioural coaching in students. It was found that all three coaching approaches reduced test anxiety. However, only the cognitive coaching was found to reduce non-study-related depression and anxiety. A later study by Grant (2003) found that life coaching helped to reduce levels of depression and stress. Similarly, Wales's (2003) qualitative study found that coaching reduced stress.

Lack of control, high role ambiguity and high demands were found to be predictive of higher levels of strain (depression and stress) in the current study. Previous studies have reported similar findings. The Whitehall II study (Stansfeld *et al* 2000) found that high job demands and low decision latitude were associated with poor mental health, and O'Driscoll & Beehr (1994) found that role stressors at work were related to psychological strain. The current study failed to find a relationship between strain and the remaining stressors highlighted by the HSE (support, relationships and change) and this was in contrast to previous theory and research (for a review see Mackay *et al* 2004).

Limitations

Part II of the current study used a cross-sectional correlational approach. A limitation of correlational designs is that they cannot establish causation (Baker *et al* 2002), and a limitation of cross-sectional studies is that they can only provide a snapshot of stress at one point in time. Cooper *et al* (2001) have suggested that it is important to measure intensity and meaning of stressors and these factors were not measured in the current study. In addition, the sample consisted

of individuals from two different countries and it is possible that cultural and/or organisational factors influenced the participants from the UK and Scandinavia differently. However, there were no significant differences between the two countries on levels of depression, anxiety and stress. A further limitation was the fact that the number of coaching sessions differed between the participants. However, correlational analyses did not find any relationship between number of coaching sessions and strain.¹ In addition, diffusion effects may have influenced the results of the current study. According to the HSE (1998) the effects of psychosocial interventions may spread to colleagues working closely with the group receiving the intervention. This process is called diffusion and may be a product of informal communication among employees.

Implications and future research

Coaching was not a significant predictor of strain and this suggests that individuals who had attended coaching were not experiencing lower stress levels than individuals who had not. Numerous factors can influence stress, and lack of control, role ambiguity and high demands were found to be significant predictors of strain in the current study. This may suggest that primary workplace interventions aiming to prevent or reduce stressors would have been more successful in reducing stress. According to Cooper *et al* (2001) primary interventions are the most proactive approaches to stress management and they are generally found to be effective in reducing stress. Similarly, the HSE (2001) suggests that sources of work-related stress should be combated at an organisational level before interventions focusing on the individual – for example coaching, counselling and training – are introduced. Nevertheless, the participants in the current study reported high levels of coaching effectiveness. It therefore appears that coaching was effective in dealing with the issues the individuals were seeking coaching for. Thus, the findings suggest that coaching can be an effective intervention in the workplace although stress reduction was not a secondary gain, as predicted by the authors. However, the findings need to be replicated as the current study was only a small-scale study with several limitations.

Further research investigating the effectiveness of coaching should include larger samples and use both qualitative and quantitative approaches (the findings from the qualitative part of the current study will be available in 2005). Longitudinal studies that are able to investigate the development of coaching are needed, both naturalistic studies and randomised controlled trials. Considering the relationship between coaching and stress it would be interesting

if future studies included participants who wanted help to reduce work-related stress. Finally, future studies investigating the relationship between workplace coaching and stress should consider further variables that may account for stress including personality factors, health factors, career achievement, job satisfaction, morale, work/life balance issues, economical factors and family situation.

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