Can Coaching Reduce Workplace Stress?
A Quasi-Experimental Study

Kristina Gyllensten, City University, London, UK
k.gyllensten@city.ac.uk
Stephen Palmer, City University, London, UK
s.palmer-1@city.ac.uk

Abstract
This paper presents the main findings from Part I of a study investigating if workplace coaching can reduce stress. Thirty-one participants from a UK finance organisation took part in the quasi-experimental study. Depression, anxiety and stress were measured before and after coaching in a coaching and control group. Levels of anxiety and stress had decreased more in the coaching group compared to the control group, and were lower in the coaching group compared to the control group at the end of the study. However, levels of depression had decreased more in the control group compared to the coaching group. Mixed ANOVAS found no significant interactions between time and coaching for depression, anxiety or stress. Nevertheless, high levels of perceived coaching effectiveness were reported by the participants.

Keywords: work related stress, coaching, coaching psychology, research into effectiveness, coaching and stress

Introduction

Stress in the workplace
Workplace stress is increasing (Palmer, Thomas & Clarke, 2003), and the Health and Safety Executive (HSE) (2003/2004) has estimated that work-related stress, depression, and anxiety account for the loss of approximately thirteen million working days per year in Britain. The HSE (2001, p. 1) defines work-related stress as “the adverse reaction people have to excessive pressures or other types of demands placed on them”. When considering work-related stress it can be useful to distinguish between stressors and strain. Environmental factors that may be sources of stress are called stressors, and the individual’s response to the stressors is called strain (Cooper, Dewe & Driscoll, 2001).

Coaching and stress
Organisations employ many different interventions to tackle stress. Stress-management interventions have been defined as “any activity, program, or opportunity initiated by an organisation, which focuses on reducing the presence of work-related stressors or on assisting individuals to minimise the negative outcomes of exposure to these stressors” (Ivancevich, Matteson, Freedman & Phillips, 1990, p. 252). One widespread stress-management intervention employed by organisations is counselling (HSE, 2003). Counselling can be defined as a tertiary level intervention that aims to assist individuals who are experiencing problems (work or home related) and high levels of distress (Briner, 1997). Although counselling is commonly used to tackle stress, it has been reported that in some organisations employees may be concerned that going for counselling will be viewed as a weakness and will have a negative effect upon career
A qualitative study of finance organisations’ perceptions of stress found that some organisations have negative views of counselling and consequently do not use it to tackle stress (Gyllensten, Palmer & Farrants, 2005). The study also found that coaching could be a useful alternative to counselling when dealing with stress. Furthermore, Peltier (2001) states that coaching does not carry the same stigma as counselling in the corporate arena. Counselling is viewed as slow, ineffective and expensive, whereas coaching is viewed much more positively with competent and high performance individuals seeking it out.

Coaching is gaining increased attention (Kampa-Kokesch & Anderson, 2001), and the area of coaching psychology is becoming established in Britain (for further details see Whybrow & Palmer, 2003, 2004). According to Grant & Palmer (2002), “coaching psychology is for enhancing wellbeing and performance in personal life and work domains with normal, non-clinical populations, underpinned by models of coaching grounded in established adults learning or psychological approaches” (adapted Grant & Palmer, 2002). Organisations and individuals are using coaching to improve performance, achieve goals, and manage stress (Palmer, Tubbs & Whybrow, 2003). According to Hearn (2001) coaching can be useful in reducing stress by assisting to identify factors that are causing stress, develop effective strategies for change, and uncover lasting solutions. As well as tackling stress directly, coaching could reduce stress indirectly by helping an individual to reach their personal goals (e.g. improve performance, efficiency, or communication), and thereby decrease any stress caused by the perceived deficiency in the area targeted in coaching (Gyllensten & Palmer, in press).

Only a limited amount of research relating to coaching and stress has been published, nonetheless, a number of case studies have reported that coaching helped to reduce the clients’ stress (Hearn, 2001; Richard, 1999). Ascentia (2005) reported a number of benefits of coaching in a case study involving a Regional Drug Strategy manager who attended coaching for a period of six months. After the coaching the manager felt more confident, energetic, productive, and less stressed (stress reduction was not a goal in the coaching) despite experiencing demanding periods of change. Interestingly, the stress levels in the manager’s team had also been reduced and levels of sickness leave were low.

A qualitative study investigated the experiences and views of coaching in a sample of sixteen managers (Wales, 2003). A phenomenological approach was taken in the research and one of the main themes that emerged was stress management. At the beginning of coaching many managers reported that they were experiencing high stress levels, following coaching, however, the participants felt more relaxed and experienced more tolerance towards events and people. Coaching also helped the managers to gain an increased understanding of, and ability to deal with, job and personal pressures. The Executive Coaching Project (Compasspoint Nonprofit Services, 2003) investigated the effects of coaching in a group of participants (N = 24) that were recently appointed Executive Directors. Both qualitative and quantitative approaches were used, and the study investigated the impact of coaching in several areas. Three survey items related to perceived levels of work stress and burnout but there were no significant changes, to any of these items, between the baseline-test and the final post-coaching test. The authors pointed out that work-related stress and burnout are complex processes affected by many different factors. Despite the lack of significant differences in the survey it was reported, in the qualitative interviews, that coaching in fact helped several of the participants to
reduce stress and burnout (Compasspoint Nonprofit Services, 2003). Thus, the qualitative and quantitative methodologies produced somewhat different findings regarding coaching and stress. Grant (2001) compared the effects of cognitive, behavioural, and cognitive behavioural coaching approaches in a sample of students. Test anxiety was found to be significantly reduced within all three coaching approaches. Nonstudy-related depression, anxiety, and stress were also investigated. The cognitive coaching was the only approach that significantly reduced nonstudy related depression and anxiety. None of the coaching approaches significantly reduced nonstudy-related stress. In addition, Grant (2003) investigated the impact of a life coaching programme. Twenty adult post-graduate students participated in the coaching programme that involved developing specific goals and attending ten group coaching sessions. Despite the fact that mental health was not specifically targeted in the programme it was found that levels of depression, anxiety and stress were significantly reduced in the post coaching test. In view of these results Grant (2003) suggests that future research should investigate the usefulness of life coaching in the enhancement of well-being.

The aim of the study

It has been suggested that coaching could be useful in tacking workplace stress directly (Hearn 2001), and indirectly (Gyllensten & Palmer, in press). Case studies and a limited amount of research have found that coaching reduces workplace stress (Hearn, 2001; Richard, 1999; Wales, 2003) although some research has showed less positive results (Compasspoint Nonprofit Services, 2003). Furthermore, there is evidence that stress was reduced following coaching despite the fact that stress was not specifically targeted in the intervention (Grant, 2003; Ascentia, 2005). However, there is a lack of research on this topic and the aim of the current study was to investigate if workplace coaching reduces stress. The current study was conducted in three parts, with Part I using a quasi-experimental design (N = 31), Part II using a correlational design (N = 103), and Part III using a qualitative design (N = 9). This article will present the main findings from Part I of the study.

The main objective of Part I of the study was to investigate if strain was reduced after workplace coaching compared to before coaching.

Hypothesis

The main hypothesis was that workplace coaching will reduce stress. More specifically it was predicted that:

- individuals in the coaching group will report significantly lower levels of strain after coaching compared to before coaching
- individuals in the coaching group will report significantly lower levels of strain after coaching compared to the individuals in the control group

Methods

Design

The study was quasi-experimental and a non-equivalent groups pretest – posttest design was used (Baker, Pistrang & Elliot, 2002). A coaching group and a control group participated in the study and strain (depression, anxiety and stress) was measured before and after coaching.
Randomised controlled trials (RMC’s) are often viewed as the highest standard in the evaluation of interventions within psychology, medicine and health care. However, the conditions of RMC’s cannot always be achieved and may involve ethical problems (Clark-Carter & Marks, 2004). Quasi-experimental procedures in naturalistic settings are an alternative to RCT’s and they are suitable when investigating whether interventions work in practice (Howard, Moras, Brill, Martinovich & Lutz, 1996). A quasi-experimental design was suitable for Part I of the study as it was not possible to randomise individuals into conditions or to have the level of control over the intervention needed in RCT’s. More importantly, the current study aimed to investigate whether coaching produced beneficial results as it is practiced in actual workplace settings.

Participants

Organisation
A UK finance organisation with an excess of 3,500 employees participated in the study. A considerable proportion of the business conducted by the organisation was telephone based. Coaching was provided at one of their four sites and three internal coaches were employed. All employees at the site where coaching was provided had access to coaching but no stress management training or counselling were provided.

Individual Participants
All individuals that booked an initial coaching session during the time period the study took place were asked by a coach if they would like to participate in the study. The participants in the control group had never received coaching and worked at the same site as the participants in the coaching group. Completion of the study involved completing the same questionnaire twice. In the first phase seventy questionnaires were administrated and forty-two were returned. In the second phase forty-two questionnaires were administrated and thirty-one were returned. Thus, thirty-one participants completed the study, sixteen in the coaching group and fifteen in the control group. Seventeen males and fifteen females took part, with a mean age of 32 years, and all participants worked full-time.

Procedure
The data collection took place over an eight months time period. In the coaching group the questionnaires were completed before coaching and after coaching (thus the timing and number of coaching sessions differed between individuals). In the control group the participants completed the questionnaires at the start of the study and at the end of the study. The questionnaires were administered by the coaches and returned sealed in a collection box at the worksite or via post to the researchers.

The Questionnaire
The questionnaire used in the study included demographic variables, questions relating to number of coaching sessions and effectiveness of coaching, job satisfaction, stressors and strain. Job-satisfaction was measured with a single Likert-scale item; the same item has been used in the British Household Panel Survey (Oswald & Gardner, 2001). The HSE’s Indicator tool was used to measured stressors. This tool has been found to be a reliable and valid risk assessment measure of workplace stressors in the UK (Cousins, Mackay, Clarke, Kelly, Kelly & McCaig, 2004). Strain was measured by the Depression, Anxiety, and Stress Scales-21 (DASS-21) (Lovibond & Lovibond, 1995). DASS-21 has been
found to be a valid and reliable measure of depression, anxiety and stress in a non-clinical sample of the UK population (Henry & Crawford, 2005).

**Results**

The results presented include the data from all participants that completed Part I of the study (N = 31).

**DASS-21 - Levels of strain**

The pre-coaching data was investigated in order to investigate whether there were any differences, on the three dependent variables, between the coaching group and control group. Independent t-tests, with a Bonferroni adjusted alpha level of 0.017, did not find a significant difference between the two groups on depression (t = -0.297, df = 29, p = 0.769, two-tailed), anxiety (t = -0.190, df = 29, p = 0.850, two-tailed) or stress (t = -0.348, df = 29, p = 0.730, two-tailed). These results were useful as it has been suggested that it is possible to draw conclusions regarding treatments, in the non-equivalent control group design, if the groups’ baseline scores are similar (Schaughnessy, Zechmeister & Zechmeister, 2000).

The hypothesis predicted that the coaching group would experience lower levels of strain (depression, anxiety and stress) after coaching compared to the control group, thus that there would be a significant interaction between time and group. Graphs have been included to represent the changes in levels (mean scores) of depression, anxiety, and stress between pre and post coaching in the coaching group and control group. The graphs representing the change in anxiety and stress levels (Figure 2 and 3) between pre and post coaching show some support for the hypothesis. These graphs highlight that the anxiety and stress levels have decreased more in the coaching group than in the control group. The graph representing the changes in levels of depression (Figure 1) does not support the hypothesis as the depression scores have decreased more in the control group compared to the coaching group.

![Figure 1: Depression Graph](image-url)
Figure 2: Anxiety Graph

Figure 3: Stress Graph
The hypothesis stating that there would be a significant interaction between time and coaching (with the coaching group reporting lower levels of strain post coaching) was tested in three 2*2 mixed ANOVAs. Using a Bonferroni adjusted alpha level of 0.017 no significant interaction was found between time and group on the dependent variable depression ($F(1,29) = 0.267, p = 0.609$); anxiety ($F(1,29) = 1.357, p = 0.254$); or stress ($F(1,29) = 0.306, p = 0.584$). Therefore the experimental hypothesis was rejected and the null hypothesis accepted.

Although the main effects for time and group reported in the ANOVAs are not directly relevant to the hypothesis they are interesting to present as they provide further information of the data. No significant main effects were found for group (coaching and control) on depression ($F(1,29) = 0.001, p = 0.970$), anxiety ($F(1,29) = 0.807, p = 0.376$), or stress ($F(1,29) = 0.538, p = 0.469$). In addition, no effects of time were found on anxiety ($F(1,29) = 1.00, p = 0.326$) or stress ($F(1,29) = 1.258, p = 0.271$). A significant effect of time was found on depression ($F(1,29) = 8.374, p = 0.007$), thus depression levels decreased post coaching in the coaching and control group. As depression levels decreased in both groups it is not possible to conclude that the effect was derived from coaching.

**DASS-21 clinical levels of strain**
The three DASS scales have got cut-off scores that indicate clinical levels of strain. The cut-off scores are: 10 for depression, 8 for anxiety and 15 for stress (Lovibond & Lovibond, 1995). Table 1 presents the percentage of participants, in the coaching group and control group that scored clinical levels of psychological strain, before and after coaching. The table highlights that percentages of clinical levels of depression, anxiety, and stress were reduced post coaching both in the coaching and control group.

<table>
<thead>
<tr>
<th></th>
<th>% above normal depression levels</th>
<th>N</th>
<th>% above normal anxiety levels</th>
<th>N</th>
<th>% above normal stress levels</th>
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<td>pre-coaching</td>
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<td>31%</td>
<td>5</td>
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<tr>
<td>post-coaching</td>
<td>44%</td>
<td>7</td>
<td>19%</td>
<td>3</td>
<td>19%</td>
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<tr>
<td>pre-coaching</td>
<td>53%</td>
<td>8</td>
<td>40%</td>
<td>6</td>
<td>47%</td>
<td>7</td>
</tr>
<tr>
<td>post-coaching</td>
<td>33%</td>
<td>5</td>
<td>27%</td>
<td>4</td>
<td>27%</td>
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</tr>
</tbody>
</table>

Table 1: Percentage of clinical levels of psychological strain as identified by DASS-21

**Coaching data**
The coaching data only refers to participants in the coaching group (N = 16). The total number of coaching sessions attended differed between individuals with an average of 3.8, a minimum of 1, and maximum of 10 sessions (data missing from one participant).

The Likert-scale question relating to coaching effectiveness ranged from 1 (not at all effective) to 7 (very effective). High levels of coaching effectiveness were reported in the current study with a mean of 6.4 (SD 0.51), and a minimum of 6 and maximum of 7 (data missing from two participants).
Discussion

Summary of findings and previous literature
The graphs, representing the changes in DASS-21 scores, highlighted that reported levels of anxiety and stress decreased more in the coaching group compared to the control group, and were lower in the coaching group compared to the control group post-coaching. Levels of depression decreased in both groups, but to a greater extent in the control group. The statistical tests did not find a significant interaction between time and group, thus, levels of depression, anxiety, and stress did not decrease significantly more in the coaching group compared to the control group.

In the coaching group the percentages of clinical cases, according to DASS-21, were lower after coaching compared to before coaching. However, it is important to recognise that this tendency was also apparent in the control group where the percentages of clinical cases were lower after coaching. Therefore, it is not possible to conclude that this effect was related to coaching. Finally, the participants in the study reported high levels of coaching effectiveness.

As stated in the introduction there is only a limited amount of research on coaching and stress. Nonetheless, the results from Part I of the current study were similar to the findings in CompassPoint Nonprofit Services (2003) study, where stress levels were not significantly reduced after coaching. However, the participants reported that coaching reduced stress in the qualitative part of the study. Grant (2001) found that that behavioural and cognitive behavioural coaching did not have a significant impact on mental health. Nevertheless, cognitive coaching reduced levels of depression and anxiety, and all three coaching approaches reduced test anxiety. The findings from Part I of the current study were different to the findings in Wales’ (2003) qualitative study of Executive Directors. Wales (2003) found that coaching helped to reduce the participants’ stress. Similarly, Grant’s (2003) study found that levels of anxiety, depression, and stress were reduced by life coaching.

Limitations of the study
A risk with not using randomisation is that the groups may differ in ways that could influence the results (Beehr & O’Hara, 1987). Moreover, in quasi-experimental/naturalistic studies it is important to recognise that the less control exercised over variables the greater number of variables can account for the results (Howard, Moras, Brill, Martinovich & Lutz, 1996). In the current study the researcher did not have any control over group assignment, characteristics of coaching clients, types of coaching, duration of coaching. Thus, these factors may have had an influence on the results. Howard et al (1996) propose that findings from such studies need to be replicated in order for the competing hypotheses to be tested, and replication is suggested for the current study.

Because randomisation was not used the selection of an appropriate control group was a problem in the current study. Employees who had never received coaching were selected for the control group as it could be suggested that all employees in the organisation were potential wait-list controls (they could self-refer at any time). It is important to note that the coaching group and control group reported similar levels of
depression, anxiety, and stress at the baseline test. Previous research on workplace counselling has also used employees not seeking help as control groups (Cooper & Sadri, 1991). There may have been effects of diffusion the current study. Diffusion refers to the tendency for the effects of a psychosocial intervention to influence not only the employees receiving the intervention, but also employees working closely with the intervention group (HSE, 1998). A final noteworthy point is that many studies investigating stress have small sample sizes (Beehr & O’Hara, 1987) and the current study was no exception with only thirty-one participants.

**Implications**

Although the descriptive statistics showed some support for the hypothesis that coaching reduces stress the statistical tests did not find any support for the hypothesis. As stated by CompassPoint Nonprofit Services (2003) stress is a complex phenomenon and many factors, other than coaching, can influence individuals’ levels of stress. Factors that may have influenced stress levels in the current study include organisational, family, economical, health and relationship issues. It is possible that coaching was not sufficient to significantly reduce stress levels in the current study. Primary interventions aiming to tackle the causes of stress may be more effective in reducing stress. Cooper and Cartwright (1997) suggest that stress management interventions are unlikely to be effective unless environmental stressors are prevented or reduced. The current study did, however, find that the participants perceived coaching to be highly effective. Thus, it is possible that the coaching was effective at tackling the specific issues targeted in coaching while failing to significantly affect stress levels. Consequently, coaching can still be effective in dealing with issues in the workplace. Finally, it is important to highlight that the study suffered from a number of limitations that may have influenced the results, and the findings from the present study need to be replicated in order for firm conclusions to be drawn regarding coaching and stress.

**Future research**

Future studies should employ larger samples sizes as this would increase the power of the statistical analyses. Both naturalistic studies, investigating the effectiveness of coaching as it is practiced in the workplace, and randomised controlled trials, are needed in order to determine the effectiveness of coaching in general and in reducing stress in specific. It would also be valuable to investigate the effectiveness of specific coaching approaches in reducing workplace stress. Grant (2003) found that cognitive-behavioural and solution-focused life-coaching improved mental health. Moreover, it would be valuable to investigate the effectiveness of coaching in a group of clients that were seeking coaching because of problems with workplace stress. In addition, the introduction highlighted that the findings from qualitative and quantitative research approaches appear to be inconsistent regarding the effects of coaching on stress. Further qualitative research focusing specifically on stress and coaching would be useful in exploring individuals’ experiences of coaching and stress. Indeed, Part III of the current study uses a phenomenological interpretative approach to investigate coaching and stress, and these findings will hopefully be published within the next twelve months.
References


