The role of reversal theory in moderating occupational stress in British police officers, special constables and civilian support staff

Thesis

How to cite:

© 1999 The Author

https://creativecommons.org/licenses/by-nc-nd/4.0/

Version: Version of Record

Link(s) to article on publisher’s website:
http://dx.doi.org/doi:10.21954/ou.ro.0000e263

Copyright and Moral Rights for the articles on this site are retained by the individual authors and/or other copyright owners. For more information on Open Research Online’s data policy on reuse of materials please consult the policies page.
THE ROLE OF REVERSAL THEORY IN MODERATING OCCUPATIONAL STRESS
IN BRITISH POLICE OFFICERS, SPECIAL CONSTABLES AND CIVILIAN
SUPPORT STAFF.

A thesis submitted in partial fulfilment of the requirements of the Open University for
the degree of Doctor of Clinical Psychology

SEPTEMBER 1999

SALOMONS
CANTERBURY CHRIST CHURCH UNIVERSITY COLLEGE

(20,000 words approximately)
ACKNOWLEDGEMENTS.

I would like to thank all the police officers, special constables and civilian support staff who participated in this study, and without whom this research would not have been possible. In particular, I am grateful to Denis Sheppard, for his invaluable assistance and support in gaining permission to undertake this study and in accessing participants.

I am also indebted to my supervisor, Dr Margie Callanan, for her continuous support and patience throughout, and to Dr Sue Holtum for her time and advice regarding statistical analysis. I would also like to thank Professor Tony Lavender and Mr Garfield Harmon, Mrs Valerie Cade, Ms Claire Seymour and Ms Sophie Hayes for their understanding, patience and substantial assistance throughout the three years of my clinical training.

Finally, last but certainly not least, I thank my mother and father, Tricia and Vic Copping, for giving me nature and nurture, and their endless unconditional love, support and time. This is for them.
The causes and consequences of police stress has received considerable research interest. Reversal theory postulates some individuals may inherently require higher (i.e. paratelic) arousal levels, compared with those seeking lower (i.e. telic) arousal levels. This present study investigated: (i) psychological problems experienced between British police officers, special (voluntary) police and civilian support staff; (ii) telic and paratelic dominance; (iii) use of humour; (iv) dimensions of police humour; and (v) predictors of police psychological problems, telic dominance and humour use. A mixed, cross-sectional survey design was employed. Questionnaires were sent to all police officers, support staff and specials (N = 373) within one division of a provincial police service. Participants completed the following measures: (i) Coping Humour Scale (CHS); (ii) Multi-dimensional Sense of Humour Scale (MSHS); (iii) Telic Dominance Scale (TDS); and (v) Employee Assistance Program Inventory (EAPI). Questionnaires were returned from 191 participants (51% response rate). For overall CHS and MSHS scores, no significant differences between groups were found; although police gender differences were significant. MSHS police dimensions deviated from previous samples. Overall TDS scores were significantly higher for specials. For all three groups, EAPI subscale scores were normative, but with significantly higher substance use reported by police. Police EAPI scores were generally significantly higher, indicative of greater psychological difficulties. Predictors of police psychological problems, TDS, CHS and MSHS scores are reported. These results suggest that police may have a paratelic dominance, in which humour provides a valuable and adaptive mechanism for police stress. Clinical implications are discussed in light of these results.
**CONTENTS**

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction.</strong></td>
<td>8</td>
</tr>
<tr>
<td><strong>Occupational Stress</strong></td>
<td>8</td>
</tr>
<tr>
<td>Definition, Prevalence and Consequences</td>
<td>8</td>
</tr>
<tr>
<td>Occupational Stress Research</td>
<td>9</td>
</tr>
<tr>
<td>Legal Implications for Employers</td>
<td>10</td>
</tr>
<tr>
<td>Stress Moderating Variables</td>
<td>11</td>
</tr>
<tr>
<td>Arousal, Personality and Stress</td>
<td>11</td>
</tr>
<tr>
<td>Humour and Stress</td>
<td>12</td>
</tr>
<tr>
<td>Humour and Work</td>
<td>14</td>
</tr>
<tr>
<td><strong>Police Officers</strong></td>
<td>15</td>
</tr>
<tr>
<td>Police Stress: Background</td>
<td>15</td>
</tr>
<tr>
<td>Police Stress Research: Methodological Difficulties</td>
<td>16</td>
</tr>
<tr>
<td>Police Organisational and Operational Stressors</td>
<td>17</td>
</tr>
<tr>
<td>Police Stress: Individual Characteristics</td>
<td>19</td>
</tr>
<tr>
<td>Psychological and Physical Disorders in Police Officers</td>
<td>21</td>
</tr>
<tr>
<td>Police Humour</td>
<td>24</td>
</tr>
<tr>
<td><strong>Police Support Staff</strong></td>
<td>26</td>
</tr>
<tr>
<td>Civilian Roles Within the Police Service</td>
<td>27</td>
</tr>
<tr>
<td>Support Staff Stress: Research</td>
<td>27</td>
</tr>
<tr>
<td><strong>Special Police</strong></td>
<td>28</td>
</tr>
<tr>
<td><strong>Reversal Theory</strong></td>
<td>29</td>
</tr>
<tr>
<td>Overview</td>
<td>29</td>
</tr>
<tr>
<td>Protective Frames</td>
<td>31</td>
</tr>
<tr>
<td>Mechanism of Reversals</td>
<td>32</td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>------------------</td>
<td>------</td>
</tr>
<tr>
<td>Clinical Implications</td>
<td>77</td>
</tr>
<tr>
<td>Summary</td>
<td>80</td>
</tr>
<tr>
<td>References</td>
<td>82</td>
</tr>
<tr>
<td>Appendices</td>
<td>94</td>
</tr>
</tbody>
</table>
TABLES

Table 1. EAPI: means, standard deviations and one-way
ANOVA results between groups 49

Table 2. EAPI: independent t-tests by sex for police officers 50

Table 3. TDS: means, standard deviations and one-way
ANOVA results between groups 51

Table 4. TDS: independent tests by sex for police officers 52

Table 5. CHS: one way ANOVA results between police, civilians
and specials 52

Table 6. MSHS: one way ANOVA results between police, civilians
and specials 53

Table 7. MSHS items: varimax rotated factor matrix for police 54

Table 8. MSHS: Item analysis of mean police scores by sex 55

Table 9. Simultaneous multiple regression to identify factors
predicting police CHS scores 57

Table 10. Simultaneous multiple regression to identify factors
predicting police MSHS scores 58

Table 11. Simultaneous multiple regression to identify factors
predicting police TDS scores 59

Table 12. Simultaneous multiple regression to identify factors
predicting police EAPI: Depression scores 60

Table 13. . Simultaneous multiple regression to identify factors
predicting police EAPI: Anxiety scores 61

Table 14. Simultaneous multiple regression to identify factors
predicting police EAPI: Substance Abuse scores 62
**INTRODUCTION**

**Occupational Stress.**

**Definition, Prevalence and Consequences.**

The concept of stress has an established theoretical and research literature within psychology (Monat & Lazarus, 1991), although definitions of the term have varied. Stress has typically been delineated into three basic types: physiological, psychological and social. Physiological stress is concerned with the body's non-specific response to demands made of it (Selye, 1978), psychological stress with cognitive factors leading to the evaluation of threat, and social stress with the disruption of a social unit or system (Monat & Lazarus, 1991). Currently, stress is viewed as a transactional process between an individual and the environment, referring to any event in which environmental demands, internal demands, or both, tax or exceed an individual's adaptive resources (Lazarus, 1991).

This transactional model has been extensively applied to occupational stress (e.g. Lazarus, 1991) and has generally emphasised everyday chronic stressors (e.g. workload, time constraints, relationships with co-workers), common to many occupations. Occupational stress has become widely accepted as being a harmful experience, resulting in the development and maintenance of individual ill health, organisational problems, and productivity reduction (in both public and private sectors), and that consequently, it must be reduced or negated (Briner & Reynolds, 1994).

The cost to the nation and organisations of stress-related illnesses, which can contribute to absenteeism, early retirement on health grounds and premature death, are considerable and increasing (Brown & Campbell, 1994). Links have also been made between stress and mental breakdown, poor health behaviours, job dissatisfaction, accidents and family problems (Cooper & Cartwright, 1994).
Ivancevich and Matteson (1980) suggest that the personal consequences of occupational stress include coronary heart disease, rheumatic arthritis, ulcers, allergies, headaches, depression, anxiety and alcohol abuse.

In the UK, absenteeism for stress-related illnesses has increased by 500 per cent since 1950s (Demos, 1995), and currently, the collective cost of stress related absences are ten times more than the total amount of all other industrial relation disputes (Cartwright & Cooper, 1997). Furthermore, 360 million days are lost annually through sickness, of which half are estimated to be stress related in origin, at a cost to the UK economy of £8 billion per annum (Cartwright & Cooper, 1997). MIND, the mental health charity, has estimated that 30 to 40 per cent of sickness absence from work is attributable to emotional and mental disturbance, with another 40 million working days lost to the nation's economy (Cartwright & Cooper, 1997).

**Occupational Stress Research**

In the 1980s, considerable research was instigated on stress at work. Cooper, Cooper, and Eaker (1986) identified six major sources of pressure at work, varying in the extent that they are found linked to stress in a particular job or organisation. These were: (i) factors intrinsic to the job itself (such as poor working conditions, shift work, long hours, travel, risk and danger, new technology, work overload and work underload); (ii) role in the organisation, including role ambiguity (i.e. the absence of clear work objectives and responsibilities), role conflict (i.e. conflicting work demands); (iii) work relationships, particularly those with colleagues, subordinates and bosses; (iv) career development, such as lack of job security, fear of job loss, and performance appraisals; (v) organisational structure, climate, worker participation and autonomy; (vi) home-work pressures, whereby the effects of work pressures (such as work overload), impinges on the family and home environment.

Cartwright and Cooper (1997), and Maslach and Goldberg (1998), have predicted that the physical and psychological health risks of occupational stress will
increase in the next millennium, due to the various social, political and economic factors influencing the work environment. The development and consequences of the recession, the establishment of free trade associations, increasing international competition and joint ventures between organisations across both national and local boundaries have, and will continue to cause, rapid change, reorganisation and reallocation of roles and responsibilities within occupations (Cartwright & Cooper, 1997). For example, cutbacks in government funding for human-service agencies have resulted in fewer staff managing an identical or greater work load, and in many professions, real wages have declined and job benefits have been curtailed, whilst changes in government policies determine what services employees can or cannot provide. Consequently, the next millennium presents all the necessary factors for occupational stress: an increasing work load, higher job expectations, a decreased work force and resources, in a climate of rapid change, and little autonomy by workers (Maslach & Goldberg, 1998).

Legal Implications for Employers.

Another source of growing costs regarding occupational stress is the increased incidence of employees litigating against their employers for psychological or physical damage attributed to stressful working conditions (Earnshaw & Cooper, 1996). English common and statutory law, for example, Management of Health and Safety Regulations (1993), Health and Safety at Work Act (1974), Health and Safety Regulations (1992), as well as European law (e.g. EC Directive no: 89/391), places the liability for stress-related illnesses upon the employer. Employees must be provided with a reasonable standard of care for their physical and psychological health and safety. Therefore, the potential for costly litigation from workers suffering from unrecognised or untreated stress-related problems is considerable for employers.
The legal and economic consequences of occupational stress have led to the implementation of interventions for work-related difficulties. There has been an increasing application of psychotherapy, counselling and welfare schemes to employees (Reynolds & Briner, 1994), such as the employee advisory resource programme initiated by the British Post Office (Allison, Cooper, & Reynolds, 1989).

Central to these interventions is the assumption that holding negative attitudes to expressing emotions (e.g. viewing emotional disclosure as weakness), may maintain and exacerbate psychological distress (Pennebaker, Colder, & Sharp, 1990).

**Stress Moderating Variables.**

Not only have the effects of occupational stress been widely investigated in recent years (Fontana, 1989), but so have its antecedents and the possible moderating variables between exposure to potential stressors and the likelihood of suffering adverse consequences (Coyne & Downey, 1991). These have included studies of life events most likely to produce stress (Holmes & Rahe, 1967), organisational factors, such as work demands, managerial style, and conflict with colleagues (Cartwright & Cooper, 1997), and a wide variety of personality variables hypothesised to exert a stress moderating effect.

Generally, this research has assumed that because of fairly enduring differences (for example, cognitive style, coping strategies), individuals vary to the degree that they are adversely affected by negative life experiences. Variables investigated have included sensation seeking (Smith, Johnson & Sarason, 1978), the need for power (McClelland & Jemmott, 1980), extroversion, neuroticism and psychoticism (Fontana & Abouserie, 1993), and sense of humour (Lefcourt & Martin, 1986).

**Arousal, Personality and Stress.**

Arousal refers to a dimension of activity or readiness for activity based on the level subjective experiences of emotional intensity (such as high or low) and hedonic tone
(pleasant or unpleasant), and objective physiological processes, such as glandular and hormonal levels and muscular readiness (Apter, 1989).

Optimum arousal theory incorporates both components into a structure which relates felt arousal level to hedonic tone. Although there have been many variants, the fundamental premise is that there is a single optimal level of arousal, for optimal task performance and for hedonic tone to be experienced as pleasant. Over-arousal leads to performance deterioration, which occurs more quickly when the task to be performed is complex, under-learned or experienced as unpleasant (Duffy, 1962).

Individual differences in arousability have been the focus of a number of theories of personality. Eysenck's theory, for example, assumes that personality differences between extraverts and introverts reflects inherent biological differences in resting levels of cortical arousal, whereby introverts are naturally predisposed to experience higher levels of arousal than extraverts. Consequently, introverted individuals are hypothesised to prefer lower arousal situations to compensate for their inherent high arousability, whilst in comparison, extraverts tend to seek high-arousal situation to compensate for inherently lower levels of arousability (Lafreniere, Gillies, Cowles & Toner, 1993).

Arousability theories have also been applied to predicting individual differences in susceptibility to stress and psychological disorders. These perspectives have suggested that individuals vary in their probability of becoming either under or over-aroused, and that such under or over-stimulation may result in negative consequences, including Type A behaviour, psychosomatic symptoms, burnout and health anxiety (Lafreniere et al, 1993).

Humour and Stress.

Humour is the capacity to perceive or express the amusing aspects of a situation. In the literature, however, there are very few definitions and little consensus about the
components of the concept of sense of humour. Thorson and Powell (1993a) propose that each individual's sense of humour is a complex network of traits and constructs, in which they may be relatively high or low in different elements: creativity, appreciation, tolerance of ambiguity, skills in using humour to achieve social goals, and using humour as an adaptive mechanism. They argue that sense of humour is compounded by social factors, including cultural restraints, tradition and social acceptability on its uses, and in some instances, it may be related to aggression and situation coping.

Humour has consistently been regarded as a coping mechanism for problems and situational difficulties (Thorson & Powell, 1993a; 1993b). Studies have shown that an increased sense of humour moderates the detrimental effect of negative life events, resulting in less negative effect. Lefcourt and Martin (1986) conducted a series of studies on the stress buffering effects of sense of humour on various adverse outcomes of stress. They found a significant moderating effect of sense of humour on the relation between mood disturbance (depression, anxiety, anger, etc) and stressful life events. For individuals with a low sense of humour, greater levels of stressful events were strongly related to increased mood disturbance; those with higher sense of humour displayed less mood disturbance, even under high levels of stress.

Martin, Kuiper, Olinger, and Dance (1993) used various humour measures, and reported that greater levels of sense of humour were associated with higher self-esteem, more positive and self-protective cognitive appraisals in face of stress, and greater positive affect in response to both positive and negative life events. High humour individuals dealt with stressful situations in a more direct fashion, whilst simultaneously distancing themselves emotionally. Higher levels of coping humour were also associated with more positive cognitive appraisals, for example, individuals rated exams as a more positive challenge one week before and
immediately after. They concluded that humour buffers effects of stress and may enhance the enjoyment of positive life experiences. Furthermore, in Overholser’s (1992) study, the use of humour in coping with stressful events was positively associated with lower loneliness, lower depression and higher self esteem. Humour may therefore facilitate the types of cognitive appraisal made, with humorous individuals viewing stressful events as more positively challenging than those with less humour (Kuiper, McKenzie & Belanger, 1995). Humour may be one individual difference factor that mediates between a stressor and adverse reaction, by causing more positive appraisals of challenge.

Components of humour have also been shown to relate to other personality constructs. Thorson, Powell, Sarmany-Schuller and Hampes (1997) in their review of humour studies, concluded that humour was shown to correlate positively with personality variables, such as exhibition, dominance, warmth, gregariousness, assertiveness, excitement seeking, arousability, extroversion, positive emotions and cheerfulness. It was shown to correlate negatively with neuroticism, pessimism, death anxiety, seriousness, negative self esteem, aggression, perception of daily hassles seriousness, deference, avoidance, endurance and bad mood. It may be that different components of humour are related to other personality constructs and should be investigated further (Kuiper et al, 1995).

Humour and Work.
Morreall (1991) argues that humour at work has three benefits: (i) it promotes physical and mental health; (ii) by responding to potentially stressful situations with humour, unlike negative emotions, it maintains a sense of control, as individuals can disengage themselves temporarily from the situation, and thereby gaining some perspective; and (iii) it fosters mental flexibility and acts as a social lubricant, allowing people to work more effectively. Whilst some types of humour, such as “gallows” humour, may appear insensitive to those outside of a particular
occupation, they may operate to defuse negative emotions, such as disgust, anger, and sadness, arising as a consequence of the work, allowing staff to work more effectively, by diffusing situations and enhancing group camaraderie.

**Police Officers.**

**Police Stress: Background.**

Police officers are one of the groups that have received considerable research attention into the causes and effects of occupational stress (Brown & Campbell, 1994). Several factors have contributed to this growth in interest. In the early 1980s, a working party was commissioned by the Association of Chief Police Officers (ACPO) and the Home Office to study the effects of occupational stress on the health, well being and work performance of police officers, resulting in the report *Stress in the Police Service* (ACPO, 1984). Subsequently, many British police services have responded to the report's recommendations by instigating local schemes to promote health and welfare and to offer counselling services.

There have also been pragmatic considerations as well as welfare concerns about police employees. This concern has been driven by the need for public services to be economically rational, by increasing demands on police resources in general (Hayes, 1988) and also by the problematic impact upon the police service regarding absenteeism, early retirements and their effects on personnel shortages (House of Commons Home Affairs Committee, 1991).

Furthermore, in the UK, several disasters in the 1980s (such as the Hillsborough Football Stadium fire), generated interest in disaster preparedness, prevention and management and an increasing awareness of stress experienced by police officers and other professionals involved in disaster rescue work. This stimulated further concern about stressors arising from police service's own management style and organisational systems (Biggam, Power, MacDonald, Carcary & Moodie, 1997; Crowe & Stradling, 1993; Davidson & Veno, 1980).
In the literature, there appears to be several assumptions about the nature of police stress, namely: police work is inherently stressful; police work is more stressful than other occupations; police officers suffer from the negative effects of stress to a significant degree; officers need special interventions to reduce the causes and consequences of stress; and police work will become stressful in the future (Malloys and Mays, 1984). The available empirical evidence, however, is often methodologically limited or contradictory (Crowe & Stradling, 1993).

Police Stress Research: Methodological Difficulties.

The methodological problems of police stress research have been highlighted by many authors. Crowe and Stradling (1993) refer to many police stress studies as "Phase 1" research, being largely descriptive and argue for more hypotheses generating and testing analyses. Much of the originating research literature on occupational stress in policing is derived from studies of US police officers, and the relevance of extrapolating US results to the UK police service is questionable. Differences in cultural settings, age, and sex composition, physical fitness, specific police roles, the size and organisation of police departments, as well as the policy on firearms may render many comparisons meaningless (Brown & Campbell, 1994; Mackenzie, 1993). Violanti and Aron (1995) noted in their study of American police officers, that having to kill someone or experiencing a police colleagues being killed amongst the most stressful operational exposures, events relatively rare in the UK.

Methodological problems are also exacerbated because police participants can be difficult to recruit, due to forces' reluctance to open themselves up to scrutiny and/or expose themselves to adverse publicity (Horn, 1996; Kraska & Paulsen, 1997; Walker, 1997). Consequently, many police stress studies have had relatively small and limited sample groups, typically 25 to 30 officers (see Kroes, 1976), with few exceptions (Brown & Grover, 1998a). Research has also been confounded by the lack of an appropriate and equivalent occupational group with which to compare.
statistical results (Crowe & Stradling, 1993), as the police generally have a greater diversity of tasks than, for example, other emergency services, such as fire-fighters or ambulance crews, and arguably are perceived more negatively by the general population (Reiser, 1970). Given the unique nature of police work, Davidson and Veno (1980) argue that the problems of occupational stress in the police must be investigated in context.

The degree of inherent stress in police work and the extent of psychological distress in police officers would have implications for clinical or occupational interventions. For example, if it was established that policing was a potentially stressful occupation, it does not necessarily imply that officers will suffer psychological distress. There is a dominant police ideology that maintains officers should be emotionally robust to deal with incidents and situations that would be stressful to civilians. If the level of police stress is no greater than other occupations, then it could be argued police officers could utilise the various stress management techniques developed by other occupations. Conversely, if officers experience more distress because of factors unique to police work, then it may highlight the need to develop interventions specifically for the police to alleviate distress.

Police stress studies have generally investigated four areas: i) operational factors unique to police work, such as routine and traumatic policing incidents; ii) general organisational features; iii) intra-individual factors, such as personality variables; and iv) outcome studies of the consequences of stress, usually psychological and physical health problems.

Police Organisational and Operational Stressors.

Traumatic incidents may be characterised by being random, unexpected or arbitrary, life or health threatening, removing all or most of a person's autonomy and causing loss (whether of property, values, or self) to a person (Young, 1989). Characteristic stressors have been defined as being catastrophic, life threatening
events, such as individual trauma and disasters of natural or human origin (March, 1993). Despite the substantial literature on the primary victims of disasters, there is little empirical evidence of the effects of exposure to disasters for rescue personnel, such as police officers, fire-fighters and medical staff. In relation to police officers, the majority of studies have investigated police shooting incidents, rather than disasters. However, nearly all of these studies have conducted in the US, and as noted earlier, there are difficulties extrapolating the results to British officers. The majority of UK studies have concluded that traumatic police incidents rarely occur, and therefore British police officers are infrequently exposed to traumatic events (Manolias & Hyatt-Williams, 1993). Consequently, there has been a paucity of studies on traumatic stress in UK officers.

Whilst many US studies have investigated sources of stress arising from traumatic incidents (Martin, McKean, & Veltkramp, 1986), there is rather less research that has examined the role contributed by more routine operational activities to the experience of stress (Brown & Grover, 1998b; Storch & Panzarella, 1996). Furthermore, self-report studies, comparing rates of perceived stress in police officers between operational factors and organisational stressors, have reported officers rating organisational factors as being more stressful than dealing with routine policing incidents.

Crowe and Stradling (1993) reported that British officers cited shift work, time pressures and the internal complaints and discipline procedure as being more stressful than personal danger. Brown and Campbell (1990) in their sample of British officers found that staff shortages, shift work and time pressures were the most frequently reported stressors, compared to police duties. In relation to US police officers, a review by Storch and Panzarella (1996) concluded that the "dangers of the work and encounters with human misery were not among the major stressors of the work" (p.105). The broad conclusion of much police stress research
is that organisational and management stressors, common to most occupational groups, are the more likely sources of stressful psychological reactions than routine operational duties.

Results, however, from other studies have indicated that there may be a higher incidence of psychological distress from exposure to routine police duties than previously thought (Hetherington, 1993; Walker, 1997). A study by Brown, Fielding and Grover (1999), on over 600 British police officers, indicated a higher level of impact from routine occupational exposure than suggested by earlier research (Crowe & Stradling, 1993). An average of 40 per cent of respondents scored at or over the threshold value on the General Health Questionnaire 12 (Goldberg, 1978), which measures somatic and psychological distress. This was comparatively higher than for the general population reported by Goldberg (1978) and a greater proportion for a police sample compared with the 20 per cent reported by Brown and Fielding (1993).

Police Stress: Individual Characteristics.
Many studies have investigated individual personality differences that might affect how potential stressors are perceived and responded to. In relation to police officers, it has been suggested that it takes a particular personality type to be a police officer, or that the service attracts individuals with specific characteristics (Davidson & Veno, 1980). Identifying a "police personality" is potentially significant, as if it was demonstrated that certain personality styles were more suited to police work than others, then stress reactions would be attributed to the recruitment of stress-prone individuals. Similarly, it may have implications for the type and delivery of interventions to alleviate stress.

Studies have indicated that extrovert personality types, which is associated with stimulation-seeking, tend to perceive potential stressors as less threatening than introverts (Davidson & Veno, 1980). However, attempts to define a generic
"police personality" have been varied and inconclusive. A number of studies, mainly from the US, have suggested that police officers are more likely have personality characteristics that are authoritarian, conservative, dogmatic, and cynical. Findings from these studies are inconclusive, due to small sample sizes, and fail to distinguish whether the results are attributable to personality factors and/or social background, rather than occupational socialisation (Brown & Campbell, 1994).

Significantly less work has been undertaken with British officers. Gudjonsson and Adlam (1983) measured personality characteristics using the Eysenck Personality Inventory (EPI) across four different ranks of British police officers, and found that they did not differ significantly from normative scores of extroversion, introversion or neuroticism.

The other area of investigation into individual stress differences has been behaviour patterns associated with coronary heart disease (CHD). Type A behaviour has been associated with a great risk of CHD, and is characterised by competitiveness, aggressiveness, hostility, and a tendency to suppress fatigue to meet deadlines. Furthermore, Type A behaviour has also been associated with a higher incidence of mental and physical ill health, perceived job stress, and lower job satisfaction (Cartwright & Cooper, 1997).

Studies have reported a greater incidence of Type A behaviour in police officers than in the general population. Davidson and Veno (1980) reported that about 75 per cent of Australian and US police samples in a number of studies have Type A behaviour patterns. Robinson (1981) found a higher rate of Type A responses amongst a British police sample than in the general population. Whether the police service attracts Type A individuals or whether the organisational context promotes Type A behaviour is a pertinent issue, as it relates to possible interventions to mitigate potential ill health.
Psychological and Physical Disorders in Police Officers.

The most commonly reported psychological difficulties in the general population are depression, anxiety and alcohol problems. Relatively little research has been conducted on the association, if any, between occupation and the risk of psychological disorders, and currently, there appears to be no studies investigating the relationship between police work and psychological difficulties. Nevertheless, indicators of psychological distress and stress, such as higher rates of alcohol consumption, suicide and marital problems have been reported in US police officers (Somodevilla, 1978).

Alcohol problems have been cited as being particularly prevalent among police officers. In the US, it has been estimated that at least 10 per cent of adults have some form of social, psychological or medical problem resulting from alcohol use, with about 5 per cent addicted to alcohol (Rosehan & Seligman, 1984). Approximately one quarter of US police officers have reported having a significant problem with their alcohol consumption (Kroes, 1976). Cacioppe and Mock (1985) reported higher rates of alcohol consumption in Australian detectives, compared to a control group, but noted that there was little official evidence available on alcohol usage in Australian police forces.

Brown, Cooper and Dudman (1992), in their study on senior British police officers, found that these officers reported drinking significantly less than the general population, with 25 per cent claiming to be non or occasional drinkers, in comparison with 17 per cent in the general population. In another British police study, Alexander, Innes, Sinclair and Walker (1991) reported that 15 per cent of both male and female officers reported moderate or high alcohol consumption, which was statistically similar with the degree of alcohol use among fire-fighters, prison officers and nurses. Furthermore, differences by rank and duties were found: moderate/higher risk drinking was more frequent in male constables than higher
ranks, especially in male detectives. Increased alcohol consumption has also been used as coping mechanism for job stress, with nearly half of Scottish police officers reporting that they increased their alcohol consumption at least sometimes, and five per cent did so frequently (Alexander & Walker, 1994).

Another common assumption is that police officers have higher divorce rates than other occupational groups. Terry (1981) in a review of studies of the divorce rates in US officers, concluded that police divorce rates were lower than the national average, but argued that many of the studies had methodological limitations, making the generalisability of the results problematic. The issue of whether being a police officer has a negative impact on marital relationships is also difficult to address, as studies have tended to assert that marital problems reported by police officers can be attributed to features of police work, usually shiftwork and unpredictable hours (Brown & Campbell, 1994). There appears to be little research undertaken with reported marital problems by UK officers and the possible relationship with other factors, such as personality variables and coping styles.

Physical health resulting from stress reactions include hypertension (high blood pressure), ulcers, CHD, rheumatic arthritis, allergies, skin problems and headaches (Cartwright & Cooper, 1997). The effects of behaviours, such as smoking or drinking, which may be triggered or exacerbated in response to stressors, also have a negative effect on physical health.

Violanti, Vena and Marshall (1986) in a large follow up study of New York police officers, reported that officers had a similar mortality rate to the general male white population, but in comparison to a sample of municipal workers, police officers were found to have almost three times the suicide rate, and at a higher risk for cancers of the digestive organs and stomach ulcers.

Brown and Campbell (1990) reported that their British sample of police officers had better physical health and were less likely to smoke in comparison to
the general population. They concluded that the sources of stress for police officers were similar to those reported by nurse and teachers, namely organisational factors, such as poor management and inadequate resources. However, Alexander and Walker (1994), investigating coping methods in a Scottish police sample, found that officers as likely to increase their alcohol, smoking and food intake when feeling stressed, as they were to use more positive strategies, such as taking physical exercise.

Whilst there is some evidence that British officers have significantly higher levels of somatic and psychological distress than the general population (Brown and Grover, 1998a; 1998b), the majority of studies have reported officers rating organisational and managerial factors as being more stressful that operational duties and have concluded that police work is not inherently more stressful than other occupations (Crowe & Stradling, 1993).

These results, however, may be attributable to police officers employing cognitive coping strategies. Officers are taught to respond “professionally” to incidents (without displaying emotion), project strength and authority, and to put the demands of their work before their own emotional needs (Sewell, 1993). In order to minimise the impact of distressing events, it has been noted that the majority of officers may informally acquire, via police socialisation processes, similar responses for coping “professionally”, for example, emotional distancing, humour, technical jargon, alcohol abuse, denial and projection (e.g. Bonifacio, 1991; Joyce, 1989; Young, 1995a; 1995b). Implicit in these accounts, and consistent with the view that negative attitudes to expressing emotions are deleterious to psychological and physical health, is that using such coping strategies may be harmful in the long term. This premise infers that the facilitation of openly expressing emotions may have more clinical utility in dealing with disturbing events. Those interventions deemed appropriate and applied specifically, but not exclusively, to police officers
for occupational stress have included peer group counselling and critical incidents
de-briefings (Sewell, 1993). This work is based upon US police studies, which have
suggested that officers are generally reluctant to seek help from professional
clinicians, relying instead upon social support from colleagues to deal with
occupational stress (Graf, 1986).

To understand the context of stress exposure within work organisations,
investigators such as Briner (1996), argue the need to locate individual experiences
within the occupational culture. Fielding (1988) characterises the occupational
cultural values of the police as having a strong sense of competitiveness and being
preoccupied with the imagery of conflict. Professional socialisation requires officers
to develop appropriate skills in controlling affective responses to tragic or
unpleasant circumstances. Officers are expected to react personably, not
personally, in dealing with distressing operational events (Pogrebin & Poole, 1991),
with their effectiveness compromised if they fail to maintain this distinction.
Emotional control is an important part of the officer's occupational identity, in
relation to both the public's expectation and demands of the informal police culture.
Their authority lies with the suppression of affect (Reisser & Geiger, 1984).

Police Humour.

Within various occupational groups, humour represents a symbolic resource
through which social meaning are created. Certain types of humour actually come to
characterise these groups. As part of the group culture, humour entails a set of
joking relations that supports group values, beliefs and behaviours (Pogrebin &
Poole, 1988).

The police occupational culture does offer devices for discharging emotion
without loss of professional status, in using "gallows" or "sick" humour (Fielding,
1988), which allows officers to collectively empathise with each other's feelings,
without being perceived as being vulnerable (Pogrebin & Poole, 1991). This enables
officers to alleviate the immediate impact of tragic experiences and vent their feelings in an acceptable, indirect manner. Emotional anxieties and tensions are neutralised and normalised via collective coping strategies, reinforcing group solidarity and without damaging their professional credibility (Pogrebin & Poole, 1991). Such shared experiences and mutual social support could help or hinder the experiencing of negative effects of stressful events. Gallows humour, for example, may be used to transform crises and tragedy into something less threatening (Waters, 1996).

Pogrebin and Poole (1988) have also identified four different types of humour used by US police: jocular aggression, audience degradation, diffusion of tragedy/danger and normative neutralisation. Jocular aggression represent humorous attacks against supervisory or management personnel, allowing officers to collectively denounce departmental policies and regulations or the directives of supervisors, in an acceptable manner and without direct confrontation with a supervisor that could lead to organisational sanctions.

Audience degradation serves to promote a sense of moral superiority and to maintain the dichotomy between the officer and the public. "Naming" is inherent in this type of humour and refers to the process by which police classify people as social objects. Diffusion of tragedy/danger is effected among police by way of joking about dangerous interaction and threatening encounters. Officers are not expected to show or admit fear as it might be viewed by others as weakness. Through humour, police officers can empathise with each other's feelings of fear and vulnerability, and express their emotions without damaging their professional image of being confident and fearless. Furthermore, the humorous treatment of danger and tragedy promotes the normalisation of distressing events in police work.

Normative neutralisation is a process by which adverse circumstances are explained
or interpreted, and by extension, understood, within a humour context by police officers.

Consequently, rather than viewed as a being a negative coping strategy by inhibiting emotional expression, humour in the police service appears to offer a moderating effect for occupational stressors, and to have an adaptive function. Police personality variables may also be associated with the use of humour as a cognitive coping strategy. This may have implications for the effectiveness of psychological interventions employed in the police service. However, other than ethnographic police humour studies (Pogrebin and Poole; 1988; Young, 1995a), to date only one Finnish study (Kerkannen, 1998) has used psychometric measures to investigate police humour, which found no association between humour scores and police health.

**Police Support Staff.**

Approximately 193,000 personnel were employed within the police service in England and Wales in 1990. Of these, 63.3 per cent were police officers, 24.2 per cent civilians, 8 per cent special constables (voluntary, part-time police officers), and 2.5 per cent were traffic wardens (Audit Commission, 1992). The gender breakdown in a detailed examination of the civilian component in one force (Highmore, 1991) revealed that about 65 per cent of civilian staff were women, with the majority represented at the lower end of the pay scales. Since the 1940s, the number of civilian personnel has progressively increased and expanded to undertake work within an increasing range of police functions (Brown & Campbell, 1994). The (1983) Home Office Circular on "Manpower effectiveness and efficiency in the police service" states that increases in police establishment are unlikely to be approved by the Home Secretary if police officers are occupying posts which could properly and more economically filled by civilians.
There have been some indications of problems with the management of civilian staff. Mason (1988) reported an estimated turnover of about 30 per cent, which was partly attributed to no defined career structure and low morale for those civilians working alongside and performing the same duties as police officers, but receiving less pay.

**Civilian Roles Within the Police Service.**

In addition to clerical and administration work, other types of work undertaken by civilian staff includes scenes of crime work, finger printing, photography, training, computing and other technical support. Although not engaged in front-line policing role, support staff are increasingly being deployed in operational capacities, such as station duty officers (dealing with the public's enquires at police stations) and as control room operators (receiving incoming radio and telephone messages, and dispatching and supporting police personnel to deal with the operational situations).

**Support Staff Stress: Research.**

In a study of the stress experienced by police and civilian control room operators working in two English forces, Funnelle, Brown and Woolfenden (1991) reported few differences in the rate of exposures to stressors or experiences of stress between police and civilian staff. For both police and support staff, reported sources of stress were work overload, lack of resources, staff shortages and lack of consultation and communication.

In relation to station duties, a small scale study of civilian staff and police officers undertaking station duties was conducted in a metropolitan force. Mitchell (1991) reported that nearly three-quarters of all staff reported work overload, staffing levels, staff shortages and inability to take meal breaks were cited as the most stressful work events. However, working in isolation was a significant stressor for the civilian group and was three times as likely to be reported, compared to police officers. Lack of support, boredom, lack of consultation or communication,
criticism by the public and media, staffing levels and the work demands impinging on family life were all reported as having adverse impact for police and civilians engaged in front office duties. Furthermore, when comparing stressors experienced by operational police officers, with those experienced by front office staff, the latter reported a lower rate of exposure and less adverse stress reactions (Mitchell, 1991).

In contrast, however, to the research on police personality variables and coping strategies, such as humour, there has been a paucity of studies on the personality characteristics or cognitive coping strategies used by civilian personnel to deal with work stressors. In view of the operational roles undertaken by many support staff, it could be argued that they provide a valid comparison group for police stress studies.

**Special Police.**

Special constables are voluntary, part time uniformed constables, with full police powers, performing an average of four hours unpaid duty each week (Leon, 1996). In most British forces, they are uniformed and equipped to the same standard as regular officers and have to undergo a two year training programme and probationary period. They may be deployed on the same duties as regular officers and patrol either alone, or accompanied by regulars or other specials (Leon, 1996). Currently, there are over 20,000 special constables (Her Majesty's Inspectorate of Constabulary, 1992). The specials have adopted, following the Home Office Working Party (1976) recommendations, a variant of the regular police managerial structure and insignia. However, the adoption of this varies between individual police forces within England and Wales (Leon, 1993).

Despite undertaking front line uniform policing duties, like regular police officers, there is marked absence of research on this group, in relation to their demographic characteristics and personality variables. Furthermore, to date, there have been no studies investigating the perceived stress experienced by specials.
from their policing duties, nor have here been any comparison studies of reported stress or personality variables with regular police officers. In view of the methodological difficulties conducting police stress research cited earlier, specials may provide an appropriate and equivalent occupational group to compare statistical results.

**Reversal Theory**

**Overview.**

The current prevalent is that occupational stress must be reduced or negated (Briner & Reynolds, 1994). An alternative view, however, of understanding stress overall and, in particular, police officers’ cognitive strategies for dealing with threatening and dangerous events (as being both adaptive and potentially psychologically beneficial), may be provided by reversal theory (Fontana & Valente, 1993).

Reversal theory is a “grand theory,” in that it offers a theory of mental life (Apter, 1997). More specifically, reversal theory is concerned with motivation, personality, emotion, and psychopathology (Frey, 1997), and has been applied to a number of diverse topics, including stress (Svebak & Apter, 1997), and humour (Murgatroyd, 1991).

The central concept of reversal theory is a typology of different psychological states of mind, which determine the desire for particular experiences. (Frey, 1997). These states are metamotivational, as they temporarily determine what people want. In different metamotivational states or modes, people vary as to how they process information and experience emotions, desiring different things in different metamotivational states. Reversal theory focuses upon intra-individual differences (differences within the person over time) and postulates that individuals experience the world in qualitatively different experiential states, distinguishing individuals from each other, and, over time, from themselves.
Reversal theory, therefore, adopts the subjective experience of people as being its primary concern, with the phenomenological experiences of arousal being a central concept. The emotional intensity of arousal for individuals is regarded in reversal theory as being a fluctuation between two opposite preferred points or metamotivational states, between which individuals frequently switch or "reverse" from one state to its opposite, whether over a few seconds or several hours (Apter, 1989; 1997).

Reversal theory postulates that for subjective experiences of arousal, individuals fluctuate between two metamotivational states: telic and paratelic. The telic state is one in which people regard themselves as being engaged in purposeful, serious minded, and goal orientated activity, which is important beyond itself, for example, academic study, in order to fulfil desires for significant achievement (Apter, 1997). In the telic state, low arousal or calmness is experienced as being pleasant, with high arousal experienced as unpleasant and anxiety-provoking.

In contrast, the paratelic state is one in which the behaviour or activity is valued for its own sake, that is, for the immediate enjoyment or gratification it offers, such as humour, in order to fulfil a desire for pleasure (Apter, 1997). In the paratelic state, low arousal is viewed as being unpleasant and boring, with high arousal being regarded as pleasant and exciting. Any given level of arousal may be experienced as being either pleasant or unpleasant, exciting or anxiety-provoking.

Reversal theory also postulates that individuals may put themselves in situations which may increase the potential for reversals between these two states to occur. For example, following an examination in the telic state, a student may visit a bar where alcohol, noise and celebrations, may increase the possibility of a reversal to a paratelic state. Those who achieve the most fulfilling state of
psychological health are those deemed able to reverse regularly between telic and paratelic states and experience them appropriately (Apter, 1992).

The two pairs of a state are said to be mutually exclusive and exhaustive: an individual is always in one state or another, never both simultaneously or neither one (Frey, 1997). According to reversal theory, an individual may be predisposed to spend more time in one state than its opposite at any particular time, although he or she will be expected to change to the opposite state at times, under certain conditions (Murgatroyd, Rushton, Apter, & Ray, 1978). For that individual, one member of the pair may be dominant over the other and this dominance can be regarded as feature of his or her personality. However, reversal theory argues that this differs from the concept of a personality trait, as the notion of trait which implies consistency over time, and emphasises inter-individual, rather than intra-individual differences (Apter & Apter-Desselles, 1993).

Protective Frames.
Apter (1992; 1997) postulates that within each metamotivational state, the world is viewed via a different experiential structure or “protective frame”, present in the paratelic state but absent in the telic state. Three types of protective frame have been proposed, each allowing an individual to perceive high arousal as enjoyable thereby maintaining an excitement-seeking or paratelic state (Apter, 1992). The first, the “confidence frame”, describes the confidence an individual feels in facing danger, whether he or she ascribes this to their own ability, equipment or colleagues, etc. The second, the “safety-zone frame”, enables the individual to feel psychologically safe, that is, protected from trauma and feelings of potential danger. Apter (1992) succinctly describes this structure as having “no threat of threat”, such as having sexual intercourse, having a drink at home after a day’s work, and so on. Finally, the “detachment frame” provides an additional degree of removal from experiences of the real world from the safety zone frame. Here, individuals adopt
the stance of a vicarious observer of potentially stressful events. Apter (1992) suggests that this includes "parapathic emotions" (enjoyable forms of negative emotions), such as watching horror movies, witnessing distressing news events, and so on.

Apter (1992; 1997) also proposes that these protective frames may be used to account for the pursuit of dangerous sports, the nature of sexual dysfunction, the attraction of combat and the experience of post-traumatic stress disorder. For police officers, the nature of their work may introduce protective frames into, and from, their occupational experience (such as colleague support, "gallows" humour and alcohol consumption), providing confidence and safety zones to deal with policing duties. For police officers able to reverse appropriately between the telic state of police functions, structure and philosophy, and the paratelic state of police cognitive coping strategies, these protective frames may provide an adaptive coping strategy.

Mechanisms of Reversals.
The lability of a person, i.e. how frequently they reverse between opposite states varies at different periods, sometimes extremely frequently (for example, a rock climber on a sheer cliff experiencing high arousal may reverse between feelings of excitement and anxiety many times in the course of seconds) or less often, such as following a couple of hours completing domestic chores, a person decide to watch television (Frey, 1997).

Reversals occur for one or a combination of three reasons: contingency, frustration and satiation. Common to all these factors is that they all in different ways insert or remove one of the types of protective frames, by respectively inducing paratelic or telic states (Apter, 1989).

The first, contingency occurs when an external or internal stimulus triggers reversal to the opposite mode, and includes events, settings and nonverbal cues from others. Telic states will be induced if the external or internal stimulus is
perceived as sufficiently threatening or a sufficiently important and necessary duty, such as completing a day's work or sitting examination (Potocky & Murgatroyd, 1993). To induce the paratelic state requires the inverse process of the removal of threat or duty, for example, following the completion of a duty, such sitting an examination, a student may retire to the bar (Apter, 1989).

The second, frustration, is triggered when an individual has been in a particular state and goes without achieving the satisfactions of that state for too long. For example, a person in a telic state experiencing frustration at not being able to obtain a consensus in a business meeting, may reverse into a paratelic state and start joking to create excitement. Similarly, a person playing tennis for pleasure in the paratelic state experiencing frustration at continuously missing the ball may revert to a telic state and become anxious about hitting the ball (Apter, 1989).

Finally, satiation occurs when individuals have spent a certain length of time in one state, they will then eventually reverse to the opposite state, even in the absence of contingency or frustration factors. This may be exemplified by the "Saturday morning phenomenon" in which a person spends the morning relaxing in the paratelic state and then suddenly begins to feel worried about not having accomplished anything all morning, and reverses to the telic state (Potocky & Murgatroyd, 1993).

Reversal theory holds that reversals are involuntary, although people can indirectly control reversal by engineering the contingencies that are likely to increase the possibility of reversal occurring. As cited in the earlier example, following examinations undertaken in the telic state, a student may intentionally visit a bar, where the music, ambience, other's laughter and alcohol are all external contingencies that increase the likelihood of reversal to the paratelic state (Frey, 1997).
Reversal Theory and Humour.

Reversal theory postulates that the primary function of humour is to increase felt arousal (Martin et al., 1987, 1988, 1993; Murgatroyd, 1991). Humour, by definition, needs to be experienced as being pleasant, and therefore, the individual needs to experience this in the paratelic state, as if experienced in the telic state, the increased arousal will be experienced as unpleasant. According to Apter (1982), humour is an example of a "cognitive synergy", which he defined as the bringing together in consciousness of opposite qualities in relation to a given identity (person, object or situation). In humour, these opposites exist in identity synergies or situations that contain a contrast between appearance and reality, or between make-believe and reality (Murgatroyd, 1987). For humour, this is a synergy that: (a) what purports to be real turns out to be something that was only apparent and (b) what transpires to be real is in some way inferior to that was purported (Murgatroyd, 1991).

Murgatroyd (1987) argues that humour occurs when one suddenly realises the difference between appearance and reality (transition humour) or when one comes to see some amusing incongruity between these two components of the synergy (non-transition humour). Furthermore, to be humorous, an identity synergy needs to be experienced both emotionally and cognitively: the individual needs to be able to evaluate the components of the humour situation, as well as being able to experience their own emotional and intellectual reaction to that situation. An individual's ability to interpret real life experiences in a humorous way involves the potential for appraisal and reappraisal in a manner that seemingly threatening events and circumstances are construed as less threatening than they initially appeared (Svebak & Martin, 1997). Such a situation will lead to higher arousal.

Typically, the experience of a humour synergy enables a person to switch from the telic to the paratelic meta-motivational state, so that the resulting arousal is...
enjoyed, facilitated by environmental cues and social expectations, such as smiles and laughter (Murgatroyd, 1987). If the individual is already in the paratelic state, humour functions to maintain that state (Svebak & Martin, 1997). The full expression of humour will depend on the environmental context in which people find themselves. Inappropriate environments may lead to the experience of arousal as anxiety, rather than fun.

**Reversal Theory and Stress.**

Apter and Svebak (1989) have provided a structural paradigm for an interactional model of stress whereby the relationship between a potential stressor and stress response is mediated by the prevailing metamotivational state. Two types of stress have been identified: "tension-stress", occurring when an individual experiences a discrepancy between preferred and actual levels of a metamotivational state; and "effort-stress", referring to the efforts undertaken to reduce tension stress, or the experience of coping, coping being defined in this respect independently of outcome. Therefore, in contrast to other theories of stress, tension is not equated with arousal, as high arousal can be related to tension (e.g. anxiety), whilst low arousal can also represent tension (e.g. boredom).

Tension-stress and effort-stress can be experienced in both telic and paratelic states. Telic tension-stress is likely to be associated with heightened arousal, blocking the pursuance of essential goals and resulting in feelings of anxiety. High arousal in the paratelic state may convert potential stressors into exciting challenges whilst tension-stress in this state is more likely to arise from low arousal situations, experienced as boredom. Effort-stress in the telic state will arise from the experience of coping efforts undertaken to reduce tension and move towards goals. Paratelic effort-stress results from the experience of intrinsically enjoyable, present-orientated coping activities, frequently involving increased
arousal (Baker, 1988). High tension-stress may also be reduced or eliminated if coping efforts are successful, or maintained if coping efforts fail.

Apter (1982) suggests that the psychopathology of arousal, that is, susceptibility to stress, can be experienced by those highly dominant in one mode but unable to experience the preferred arousal level, characteristic of that mode. A telic dominant person (i.e. anxiety-avoidance dominant), who experiences high arousal more frequently than low arousal, may suffer from chronic anxiety or depression as a result. A paratelic dominant person (i.e. excitement seeking) commonly in a state of low arousal, might experience chronic boredom, manifested in different ways, such as sensation-seeking or risk-taking behaviours, for example, substance abuse, to achieve a preferred high arousal level. Lafreniere and colleagues (1993) found that paratelic dominant students appeared to seek high levels of stimulation as means to cope with high levels of tension-stress.

Individuals who remain in the telic state and experience prolonged tension-stress and effort-stress may suffer adverse somatic as well psychological consequences. Individuals who remain in, or reverse to, the paratelic state may reduce the adverse effects by parapathically reframing their perception of the situation (Baker, 1988). Humour has been cited as one mechanism in which high arousal may be either achieved or maintained. However, even the most paratelic dominant individuals are likely to reverse into the telic state when confronted by a large number of stressors, or when experiencing an extremely high level of arousal which exceeds the preferred level (Baker, 1988). In studies by Martin and colleagues (1987; 1988), paratelic individuals became disturbed by a lack of stressors in their lives, up to a certain degree of stress, and tended to seek ways of increasing their arousal. However, when the magnitude of stressors became too great, they reverted to the telic state and began to display the telic pattern of behaviour.
Reversal Theory and Occupational Stress.

Fontana and Valente (1993) argue that institutions and occupations can be categorised in terms of dominant metamotivational modes, in a similar way to how it is currently possible to categorise people. Institutions are human creations and reflect, respond and influence the preferred modes of those who operate them, whether these modes are self determined, or shaped by market and economic forces. For example, where managerial styles are telic-dominant, the institutions will reflect telic dominance in their operational structures. Different organisations in which people work may provide more opportunities for the satisfaction of one state than its opposite. Therefore, the individual whose dominance conflicts with the tendency of the organisation may be expected to experience more work tension-stress than for someone for whom this not the case (Apter, 1997).

Work place situations are characterised on the telic dimension by being highly convergent, goal directed, secure, with rewards given for recognisable task related behaviour, conflict avoidance and calmness. Examples of these include banking, insurance and stock control. Individuals in a paratelic mode will be more likely to be stressed when confronted by them. Conversely, work place situations characterised on the paratelic dimension are open ended and unstructured, with elements of ambiguity; exciting, challenging, rewarding and conflict-seeking, with rewards given for boldness, unpredictability and risk-taking behaviour. Examples of these include institutions dealing with the creative arts and with creative artists. Individuals in the telic state will be more stress prone when confronted by paratelic work environments (Fontana & Valente, 1993; 1997).

Reversal theory, therefore, would predict that an individual’s preferences within an occupation would reflect the relative dominance of telic or paratelic modes. Equally, job satisfaction and other work-related indices would be related to the
degree that the chosen job activity allows for the expression of telic and paratelic modes.

Just as individuals reverse from telic to paratelic states, relevant work place situations may also reverse between modes. Even predominately paratelic organisations may need to reverse to a telic state at times, if they are to exercise the proper degree of control over their enterprises, while predominately telic organisations may need to reverse to a paratelic state at times, if apathy is to be avoided. It hypothesised that the police service, although predominately telic, also presents a paratelic mode: telic in rewarding recognisable task-related, goal-orientated behaviours, such as arrests, satisfactory paper work, file preparation, being serious-minded when attending situations; and paratelic by rewarding boldness, courage, risk-taking, and exciting, for example, police chases.

Therefore, police officers may be attracted to the paratelic aspects of police work, suggesting a paratelic dominance in police officers, the expression of which is constrained by the telic nature of the police organisation. Police officers may therefore resort to strategies, such as generating humour or alcohol consumption as a means of dealing with tension-stress and effort-stress, that is, low arousal.

Overview and Rationale.
The general consensus of the literature is that the experience of organisational stress is influenced, and may be moderated by, a complex relationship between various individual differences, such as personality variables, preferred and actual levels of arousal, and organisational factors. The issues, therefore, to be reviewed are those of personality factors and subjective experiences of arousal, within the context of occupational stress, in order to broaden the understanding of their inter-relationship, and to inform clinical interventions for police employees.
**Contribution to Knowledge and Clinical Implications**

This study would extend the applicability of reversal theory to psychological problems in an occupational and clinical context, and offer implications for the clinical assessment, intervention and management of psychological stress in police officers and allied support staff.

Specifically, it may provide a deeper clinical understanding (for both theory and intervention), regarding the role of suppressed affect and cognitive coping strategies, such as gallows humour, which may, contrary to prevalent views of occupational stress interventions, suggest that they are adaptive psychological strategies for the unique role undertaken by police employees. The police culture may utilise these means for discharging emotion (without the loss of professional status), for example, in using off-colour humour, permitting officers to collectively identify with each other's feelings (e.g. Fielding, 1988), and so help experiences of distressing events.

Difficulties in reporting quantitative results of psychological distress from UK police officers with a comparable occupational group have been noted (e.g. Brown & Campbell, 1994; Brown & Grover, 1998). This study provides the first reported comparison group of perceived arousal measures and cognitive coping strategies between full-time police officers, civilian support staff and specials.

**Research Questions**

It is hypothesised that differences between scores reported by operational and support staff will be found. These differences may be attributable to individuals being attracted to police work because of their personality (i.e. having telic or paratelic dominance), and/or becoming acclimatised to police work and the informal occupational culture over time. The null hypothesis is that there will no significant associations between scores reported by any occupational group.
Specifically, the research questions of this present study were:

1. Are there a significant difference between police officers, civilian support staff and specials on the EAPI domains? Are there significant differences between male and female police scores?

2. Are there significant differences between police, civilians and specials Telic Dominance Scale (TDS) scores? Are there significant differences between male and female police scores?

3. Are there significant differences between police, civilian staff and specials on their use of humour?

4. What are the police dimensions of humour?

5. Are specific factors involved in mediating police scores on humour, telic/paratelic dominance and EAPI domains?

**METHOD.**

**Participants.**

Permission was granted by the Chief Constable of an English provincial police service and the Commander of a police division within that police area, to conduct the study with all police officers, civilian support staff and specials stationed within that division. A total of 373 participants (244 males and 129 females) were sent the questionnaire battery, comprising of 248 police officers (196 males and 53 females), 79 civilian staff (17 males and 62 females) and 46 special police (31 males and 15 females). Participants worked in police stations situated within a densely populated urban area, with a correspondingly high crime rate.

In total, 191 questionnaires (51 per cent response rate) were returned, completed by 125 males and 66 females. The mean sample age was 34.93 years (SD = 8.82) with an age range of 20 to 59 years. Using an independent t-test, males respondents (mean = 36.12 years, SD = 8.96) were significantly older
(t= 2.60, d.f. = 189, p < 0.05) than female respondents (mean = 32.68 years, SD = 8.14). The mean length of time respondents had been employed by the police service was 10.18 years (SD = 8.39), ranging from less than one year to 32 years. 

The majority of the respondents were married (46.6 per cent, N = 89), whilst over a quarter were single (27.2 per cent, N = 52). Less than 3 per cent (N = 5) were co-habiting, and 14.6 per cent (N = 28) were either divorced or separated. Widowed respondents consisted of 8.9 per cent (N = 17). Over half of the participants had no children living with them (52.4 per cent, N = 100), whilst one-third had one or two children living with them (37.2 per cent, N = 71). Respondents with three or more children comprised 10.4 per cent (N= 20) of the sample.

Demographic statistics for each occupational group are provided below.

**Police Officers.**

A total of 151 (109 males and 42 females) police officers returned questionnaires, with an overall police response rate of 40.48 per cent. The mean police age was 34.42 years (SD = 8.29), and ranged from 20 to 53 years. Using an independent t-test, males officers (mean = 35.77 years, SD = 8.78) were found to be significantly older (t = 4.07, d.f. = 118.12, p < 0.001) than female officers (mean = 30.91 years, SD = 5.49).

The mean length of police service was 11.09 years (SD = 8.55), ranging from less than one year to 32 years. Using an independent t-test, male police officers (mean = 12.63 years, SD = 9.02) were found to have significantly longer police service (t = 4.55, d.f. = 120.9, p < 0.001) than their female colleagues (mean = 7.11 years, SD = 5.54).

The majority (79.5 per cent) of police officers were constables (N = 120), with 3 per cent (N = 14) being Sergeants and 11.3 per cent (N = 17) holding the rank of Inspector or above.
Civilian Staff.

A total of 27 civilian support staff (7 males and 20 females) returned the questionnaires, with a response rate of 7.23 per cent. The mean age of civilian staff was 38.60 years (SD = 10.94), and ranged between 20 and 59 years. Using an independent t-test, there was no significant difference found between the ages of male (mean age = 42.01 years, SD = 9.79) and female civilians (mean age = 37.41 years, SD = 11.16).

The mean length of time support staff had been employed by the police service was 7.23 years (SD = 6.55), and ranged from less than one year to 23 years. Using an independent t-test, there was no significant difference (t = 2.24, d.f. = 7.31, p > 0.05) found between the length of service between male (mean = 12.76 years, SD = 8.38) and female staff (mean = 5.30 years, SD = 4.61). The majority (74.1%) of civilian staff were engaged in administrative work (N = 20) with 14.8% (N = 4) engaged in supervisory duties and 11.3% (N = 3) employed in manual work.

Special Police.

Completed questionnaires were returned by 13 special police officers, nine males and four females, with an overall response rate of 3.48 per cent. The mean age of these respondents was 33.26 years (SD = 9.17), and ranged from 23 to 49 years. Using an independent t-test, males (mean = 35.79 years, SD = 10.00) were found to be significantly older (t = 2.30, d.f. = 10.08, p = < 0.05) than females (mean = 27.55 years, SD = 2.67). The mean length of their police service was 5.73 years (SD = 7.43), and ranged from one year to 22 years. In relation to their civilian occupations, three specials were employed in business, four specials worked in a technical or computing role, two were employed in administration/clerical work, one special was a police employee, one was manual worker, and the remaining two respondents declined to specify their occupation.
Design.

A mixed correlational design, using a cross-sectional postal survey, was used, with the aims of examining within-group and between-group factors, as described in the research aims.

Settings.

The setting were all police stations within the division, located within a densely populated urban area.

Measures.

The following measures were collected via a battery of self-report questionnaires:

1. Demographic variables of participants: age, sex, marital status, number of children, level of educational attainment, length of employment with the police service, job title, rank/position and duties undertaken. Specials were also asked their main civilian occupation or job title.

2. Coping Humor (CHS; Martin & Lefcourt, 1983). This seven-item questionnaire measure the degree to which respondents report actively using humour in coping with stress, using a four point Likert rating scale, from (1) "strongly disagree", to (4) "strongly agree", with two items reverse scored (appendix 3). Scores are summated, with higher scores indicating a higher degree of using humour as a coping strategy. The CHS has demonstrated reliability and validity in numerous studies (Martin, 1996). Written permission to use the CHS from the first authors was obtained prior to commencing this study.

3. Multi-Dimensional Sense of Humor (MSHS; Thorson & Powell; 1993a). This is a 24-item scale, evaluating the use of humour across four dimensions: humour generation or creativity, as a coping mechanism, humour appreciation, and attitudes towards humour and humorous persons. It is scored on a five-point Likert rating scale, from (0) "strongly disagree", to (4) "strongly agree", with six items reverse scored (appendix 5). The authors do not emphasise each factor as
subscales, which would imply their equal importance or weight. Instead, each sample's scores are subjected to a factor rotation analysis to evaluate the factor structure and how individuals view themselves and others vis-à-vis humour. Thorson et al. (1997) have reported extensive data with large samples in several countries, demonstrating consistent reliability and validity for the MSHS. Written permission to use the MSHS was obtained from the first author before commencing this present study.

4. Telic Dominance Scale (TDS; Murgatroyd et al., 1978). This is a 42-item scale, which measures three 14-item subscales of dominance in the telic dimension: Serious-mindedness (SM); Planning Orientation (PO) and Arousal Avoidance (AA), with SM considered the defining subscale for telic dominance. Each item requires the respondent to choose between two alternatives, representing telic and paratelic choices respectively, with a "not sure" option also available to respondents. The TDS is scored in a telic direction, with a telic response on each item scored as (1), paratelic choices scored as (0), and "not sure" responses are scored as 0.5. The scale therefore provides three separate subscale scores and an overall telic dominance score. Murgatroyd et al (1978) have published full details of the TDS, permitting its use for further research.

5. Employee Assistance Program Inventory (EAPI; Anton & Reed, 1994). The EAPI is a 120-item clinical measure designed as an assessment and screening measure for employed adults, to identify and profile common psychological problems, and may be utilised for appropriate referrals and effective interventions. The EAPI assesses 10 domains of psychological adaptation, namely: anxiety, depression, self-esteem problems, marital problems, family problems, external stresses, interpersonal conflicts, work adjustment, problem minimisation and substance abuse. Scaled off scores are measured through simple summative scaling, ranging from 10-40, with some questions reversed scored. Higher scores indicate greater
problems in each of the 10 domains. Respondents are required to rate their level of agreement or disagreement with these statements, using a four-point Likert scale, ranging from "false" to "very true". Furthermore, with the exception of substance abuse scores, Anton and Reed (1994) provide guidelines to calculate t-scores (i.e. 0-100, mean = 50, SD =10), based upon large normative data sets and screening for substance abuse problems, with t-scores at or above 60 identifying areas for further evaluation and possible intervention. Anton and Reed (1994) have reported extensive data, with large US samples, demonstrating reliability and validity for the EAPI. Kuyken (1997), has also demonstrated reliability and validity for the EAPI with a group of Clinical Psychologists in Training. Use of the EAPI had been authorised for the Clinical Psychology Training Scheme.

In this present study, as the respondents surveyed worked within the police service, the majority being police officers, minor amendments were made to the wording of some items, to make them more relevant. The word "co-workers" was replaced throughout by the more familiar British term "colleagues". Item 24 was altered from "I have to go to court in the near future" to "I have to attend court in the near future". Item 54 was changed from "I have recently thought about calling a lawyer" to "I have recently thought about taking legal advice". Item 94 was altered from "I am having legal trouble" to "I am having legal or disciplinary trouble".

Procedure

Data collection occurred over 12 weeks. Questionnaires, with a covering letter were sent to all staff within the police division via the police internal mail. Completed questionnaires were returned to the author in the self-addressed envelopes provided.

Data Analysis

Multiple regression and comparative statistical analyses were employed, using SPSS for Windows, version 6, and is described further in the Results section.
**Ethical Issues.**

Full ethical approval was sought and obtained from the appropriate Ethics Committee prior to commencing this study. This study was conducted in accordance with the statutory requirements of the Data Protection Act (1988), the British Psychological Society's (1996) Code of Conduct: Ethical Principles for Conducting Research with Human Participants, and the Division of Clinical Psychology's Professional Practice Guidelines (1995), as detailed below. Furthermore, in accordance with these guidelines, the author had professional liability insurance, providing full indemnity throughout this study.

**Consent and Confidentiality.**

Consent to use the measures in this study was obtained from the relevant authors. No pilot study was undertaken. However, three serving officers initially completed the questionnaire battery. The completion time ranged from 10 to 20 minutes, the mean time being 16 minutes. The frontisheet informed participants of this. As cited previously, consent to undertake the study was obtained both from the Chief Constable and the Divisional Commander. The police service in which this study was undertaken will remain anonymous and confidential, unless prior express permission from the Chief Constable is obtained. All respondents were assured on the covering letter that completing the questionnaire was entirely voluntary, and that their answers would remain confidential, anonymous and only used for the purpose of the study, the objectives of which were also stated. Participants electing not to participate indicated this by not returning the completed questionnaires. The completed questionnaires remained confidential and were used only for the purpose of this study. All participants were informed of this on the covering letter. The author will destroy the questionnaires after final submission of the dissertation. Any future publication(s) of this study will ensure that neither participants nor the police service involved can be identified.
RESULTS.

The results obtained from the quantitative analyses are presented in two sections. First, the integrity of the data is reviewed and second, descriptive results and exploratory statistical testing for each research question are presented.

Data Integrity.

Data were analysed using SPSS for Windows, version 6. Examination of the data distributions using histograms and the Kolgomorov-Smirnov test indicated that the data were normally distributed, with three exceptions. Of these variables, the variations in skew and kurtosis were not conducive to transformation prior to analysis. Analysis of the scores confirmed homogeneity of variance had been established except where noted otherwise. Following statistical advice, and on the basis that a normal distribution is less likely to occur with a small sample size (Tabachnick & Fidell, 1989), parametric tests were used, as the criteria had been generally been fulfilled, and in order to have consistency of data analysis with the scores that did not fulfil the parametric assumptions.

Differences between the three professional groups were investigated using one-way Analysis of Variance (ANOVA), and differences between gender investigated using independent t-tests. As this was an exploratory study, a two-tailed significance level of $p < 0.05$ was used. Exploration of factors contributing to outcome variables were examined using multiple regression.
Research Questions: Quantitative Analysis.

Research Question 1. Are there significant differences between police officers, civilian support staff and specials on the EAPI domains? Are there significant differences between male and female police scores?

EAPI raw scores (with the exception of Substance Abuse scores) were converted to t-scores for ease of comparison. To compare EAPI scores between the three groups, one way ANOVAs were conducted for each of the ten domains. For significant results, Scheffe's post hoc test was used. The results are shown in Table 1.

Table 1. EAPI: Group means, standard deviations and one-way ANOVA results.

<table>
<thead>
<tr>
<th>EAPI Domain</th>
<th>POLICE (N = 181) mean (SD)</th>
<th>CIVILIANS (N = 27) mean (SD)</th>
<th>SPECIALS (N = 13) mean (SD)</th>
<th>F ratio</th>
<th>d.f.</th>
<th>p</th>
<th>Scheffe's test*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal</td>
<td>56.38 (10.68)</td>
<td>52.48 (10.20)</td>
<td>47.15 (7.06)</td>
<td>5.76</td>
<td>2, 188</td>
<td>0.003**</td>
<td>Police &gt; specials</td>
</tr>
<tr>
<td>Conflict</td>
<td>51.53 (9.51)</td>
<td>47.22 (5.80)</td>
<td>44.77 (4.74)</td>
<td>5.60</td>
<td></td>
<td>0.004**</td>
<td>Police &gt; specials</td>
</tr>
<tr>
<td>External Stressors</td>
<td>15.04 (4.56)</td>
<td>12.74 (1.75)</td>
<td>12.38 (0.87)</td>
<td>5.43</td>
<td></td>
<td>0.005**</td>
<td>Police &gt; specials</td>
</tr>
<tr>
<td>Substance Abuse</td>
<td>47.64 (8.63)</td>
<td>47.48 (6.51)</td>
<td>40.36 (2.29)</td>
<td>4.83</td>
<td></td>
<td>0.009**</td>
<td>Police = civilians</td>
</tr>
<tr>
<td>Anxiety</td>
<td>54.30 (8.99)</td>
<td>56.55 (7.28)</td>
<td>47.70 (8.91)</td>
<td>4.59</td>
<td></td>
<td>0.01*</td>
<td>Police = civilians</td>
</tr>
<tr>
<td>Self Esteem</td>
<td>53.23 (10.50)</td>
<td>53.15 (8.82)</td>
<td>46.23 (4.39)</td>
<td>3.86</td>
<td></td>
<td>0.02*</td>
<td>Police = specials</td>
</tr>
<tr>
<td>Depression</td>
<td>48.38 (8.92)</td>
<td>48.22 (8.79)</td>
<td>46.88 (8.70)</td>
<td>2.09</td>
<td></td>
<td>0.13</td>
<td>Police &gt; specials</td>
</tr>
<tr>
<td>Family Problems</td>
<td>45.33 (10.48)</td>
<td>45.04 (7.73)</td>
<td>51.31 (6.77)</td>
<td>2.23</td>
<td></td>
<td>0.11</td>
<td></td>
</tr>
<tr>
<td>Problem</td>
<td>56.18 (9.68)</td>
<td>54.26 (8.82)</td>
<td>52.15 (9.64)</td>
<td>1.36</td>
<td></td>
<td>0.25</td>
<td></td>
</tr>
<tr>
<td>Minimisation</td>
<td>53.34 (5.96)</td>
<td>54.85 (9.87)</td>
<td>51.69 (5.31)</td>
<td>1.09</td>
<td></td>
<td>0.34</td>
<td></td>
</tr>
</tbody>
</table>

*p< 0.05, **p< 0.01

The t-scores for all three groups, with the exception of police SA scores, fell within the normal range, i.e. below 60. Police officers had significantly higher scores than specials on the domains of Interpersonal Conflict (IP), External Stressors (ES) and Depression (DP). These results suggest that, in comparison with specials, regular police officers are significantly more likely to experience conflict with or express hostility towards co-workers or supervisors, to experience difficulties in stressful
events external to work (such as health, financial or legal areas), and to experience
the psychological and physiological correlates of depression.

Police officers and civilians had significantly higher scores than specials on
the domains of Anxiety (AN) and Self-Esteem (SE). Therefore, police and support
staff, in comparison with specials, were significantly more likely to experience the
psychological and physiological correlates of anxiety, and to be self critical and
dissatisfied with their perceived abilities, skills or achievements. Finally, police
officers had significantly higher scores than civilians for the SA scale, and therefore
were significantly more likely to experience difficulties in interpersonal, social or
work functioning as a result of alcohol or drug use.

Using independent t-tests, male respondents (mean = 49.82, SD = 9.26)
scored significantly higher (t = 2.08, d.f. = 189, p< 0.05) than females (mean =
47.09, SD = 7.25), for Family Problems (FP), indicating that males were more likely
to experience difficulties in their relationships with family members.

Independent t-tests were used to compare EAPI scores between male and
female police officers, and the results are shown in Table 2.

Table 2. EAPI: Independent t-tests by sex for police officers (N= 151).

<table>
<thead>
<tr>
<th>EAPI Domain</th>
<th>MALES (N= 109)</th>
<th>FEMALES (N= 42)</th>
<th>t-value</th>
<th>d.f.</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mean (SD)</td>
<td>mean (SD)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpersonal Conflict</td>
<td>57.14 (11.31)</td>
<td>54.43 (8.67)</td>
<td>1.57</td>
<td>96.74</td>
<td>0.16</td>
</tr>
<tr>
<td>External Stressors</td>
<td>51.69 (9.70)</td>
<td>51.11 (9.10)</td>
<td>0.33</td>
<td>149</td>
<td>0.74</td>
</tr>
<tr>
<td>Substance Abuse</td>
<td>15.17 (4.95)</td>
<td>14.69 (3.35)</td>
<td>-0.69</td>
<td>149</td>
<td>0.56</td>
</tr>
<tr>
<td>Anxiety</td>
<td>46.35 (8.07)</td>
<td>51.00 (9.21)</td>
<td>-3.05</td>
<td>149</td>
<td>0.003**</td>
</tr>
<tr>
<td>Self Esteem</td>
<td>53.78 (6.14)</td>
<td>55.71 (10.87)</td>
<td>-1.08</td>
<td>59.99</td>
<td>0.23</td>
</tr>
<tr>
<td>Depression</td>
<td>53.01 (10.37)</td>
<td>53.79 (10.96)</td>
<td>-0.41</td>
<td>149</td>
<td>0.69</td>
</tr>
<tr>
<td>Family Problems</td>
<td>52.00 (8.27)</td>
<td>47.55 (7.74)</td>
<td>1.58</td>
<td>149</td>
<td>0.12</td>
</tr>
<tr>
<td>Problem Minimisation</td>
<td>46.65 (10.47)</td>
<td>41.90 (9.82)</td>
<td>2.54</td>
<td>149</td>
<td>0.01*</td>
</tr>
<tr>
<td>Work Adjustment</td>
<td>56.43 (10.14)</td>
<td>55.52 (8.44)</td>
<td>0.51</td>
<td>149</td>
<td>0.61</td>
</tr>
<tr>
<td>Marital Problems</td>
<td>53.94 (5.73)</td>
<td>51.79 (6.35)</td>
<td>2.01</td>
<td>149</td>
<td>0.04*</td>
</tr>
</tbody>
</table>

Female officers, compared to male officers, had significantly higher Anxiety (AN)
scores, but significantly lower scores for Marital Problems (MP) and Problem
Minimisation (PM). Therefore, in comparison to their male colleagues, female
officers were significantly more likely to experience the psychological and
physiological correlates of anxiety, and were less likely to have significant relationship problems with their spouse or partner, or to discount the seriousness and extent of their problems.

Research Question 2: Are there significant differences between police, civilians and specials Telic Dominance Scale (TDS) scores? Are there significant differences between male and female police scores?

One-way ANOVAs were used to compare group differences between the overall TDS and subscales scores. Scheffe's test was used for post hoc analysis, where appropriate. Table 3 shows the means, standard deviations and results for each group. Using independent t-tests, there was no significant difference found \((t = -1.16, \text{d.f.} = 187, p > 0.05)\) in the overall sample between the scores of males \((\text{mean} = 14.94, \text{SD} = 4.68)\) and females \((\text{mean} = 15.97, \text{SD} = 3.96)\).

<table>
<thead>
<tr>
<th>TDS</th>
<th>POLICE (N=161) mean (SD)</th>
<th>CIVILIANS (N=26) mean (SD)</th>
<th>SPECIALS (N=13) mean (SD)</th>
<th>F ratio</th>
<th>d.f.</th>
<th>p</th>
<th>Scheffe’s test*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning Orientation</td>
<td>5.01 (2.30)</td>
<td>5.07 (2.21)</td>
<td>5.15 (1.21)</td>
<td>0.03</td>
<td>2,186</td>
<td>0.97</td>
<td></td>
</tr>
<tr>
<td>Arousal Avoidance</td>
<td>5.47 (2.25)</td>
<td>5.73 (1.88)</td>
<td>6.58 (1.30)</td>
<td>1.63</td>
<td>0.20</td>
<td>0.003**</td>
<td></td>
</tr>
<tr>
<td>Serious-mindedness</td>
<td>4.73 (1.82)</td>
<td>3.64 (1.36)</td>
<td>5.62 (1.82)</td>
<td>5.73</td>
<td>0.04*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total TDS score</td>
<td>15.20 (4.60)</td>
<td>13.46 (4.62)</td>
<td>17.35 (3.20)</td>
<td>3.28</td>
<td>0.04*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*\(p<0.05\), **\(p<0.01\)

There was no significant difference between groups for Planning Orientation (PO) or Arousal Avoidance (AA) subscales. However, police officers and specials had significantly higher scores than civilians on the Serious-mindedness (SM) subscale. Therefore, compared with support staff, they were more likely to be orientated towards goals perceived as being essential or important, rather than goals perceived as being trivial, arbitrary or inessential. Specials had significantly higher overall TDS scores than civilians, indicating that compared with support staff, they were more likely to be telic dominant.
Independent t-tests were used to compare TOS scores between male and female police officers (Table 4). Female officers had significantly higher scores than male officers on the subscales of PO and AA. Therefore, female officers were more likely to plan ahead, to be goal orientated and to avoid situations likely to increase their levels of arousal than their male colleagues.

Table 4. Independent t-tests on TOS scores by sex for police officers.

<table>
<thead>
<tr>
<th>TDS</th>
<th>MALES (N = 109)</th>
<th>FEMALES (N = 42)</th>
<th>t-value</th>
<th>d.f</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mean (SD)</td>
<td>mean (SD)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning Orientation</td>
<td>4.78 (2.45)</td>
<td>5.58 (1.75)</td>
<td>-2.24</td>
<td>103.67</td>
<td>0.03*</td>
</tr>
<tr>
<td>Arousal Avoidance</td>
<td>5.22 (2.12)</td>
<td>6.11 (2.29)</td>
<td>-2.18</td>
<td>149</td>
<td>0.03*</td>
</tr>
<tr>
<td>Serious-mindedness</td>
<td>4.76 (1.94)</td>
<td>4.56 (1.47)</td>
<td>0.78</td>
<td>97.58</td>
<td>0.49</td>
</tr>
<tr>
<td>Total TOS score</td>
<td>14.79 (4.80)</td>
<td>16.25 (3.92)</td>
<td>-1.75</td>
<td>149</td>
<td>0.82</td>
</tr>
</tbody>
</table>
* p< 0.05

Research Question 3: Are there significant differences between police, civilian staff and specials on their use of humour?

a) Coping Humour Scale (CHS).

The overall mean score was 20.97 (SD = 3.48), and ranged from 12 to 28. Using independent t-tests, there was no significant difference found (t= 1.00, d.f. = 189, p> 0.05) between male (mean = 21.15, SD = 3.48) and female scores (mean = 20.62, SD = 3.48), nor was there a significance difference found (t = 1.57, d.f. = 149, p> 0.05) between male (mean = 20.91, SD = 3.50) and female (mean = 19.93, SD = 3.28) police officers.

A one way ANOVA was conducted to compare differences between police (mean = 20.64, SD = 3.67), civilians (mean = 20.64, SD = 3.46) and specials (mean = 22.31, SD = 2.60). The results are shown in Table 5.

Table 5. CHS: One way ANOVA between police, civilians and specials.

<table>
<thead>
<tr>
<th>Source</th>
<th>d.f.</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F ratio</th>
<th>F prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>2</td>
<td>80.00</td>
<td>40.00</td>
<td>3.38</td>
<td>0.036</td>
</tr>
<tr>
<td>Within groups</td>
<td>188</td>
<td>2223.81</td>
<td>11.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>190</td>
<td>2303.81</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Although the F probability initially indicated a significant result, using Scheffe's post hoc test for analysis, no significant difference at the 0.05 significance level was found between groups, indicating that the three groups did not differ significantly in using humour as a coping mechanism.

**b) Multi-dimensional Sense of Humour Scale (MSHS).**

The overall mean score was 63.84 (SD = 10.24), and scores ranged from 33 to 89. A one-way ANOVA was conducted between police officers (mean = 63.55, SD = 10.24), civilians (mean = 64.96, SD = 6.66) and specials (mean = 64.85, SD = 7.32). Table 6 presents the results. No significance difference was found between groups.

<table>
<thead>
<tr>
<th>Source</th>
<th>d.f</th>
<th>Sum of Squares</th>
<th>df Mean Squares</th>
<th>F ratio</th>
<th>F prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>2</td>
<td>59.94</td>
<td>29.97</td>
<td>0.28</td>
<td>0.75</td>
</tr>
<tr>
<td>Within groups</td>
<td>188</td>
<td>19862.03</td>
<td>105.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>190</td>
<td>19921.97</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Gender differences on MSHS scores were examined using independent t-tests. In the overall sample, males (mean = 65.13, SD = 10.19) scored significantly higher (t= 2.44, d.f. = 189, p< 0.05) than females (mean = 61.37, SD = 9.95). For police officers, males (mean = 65.20, SD = 10.52) also had significantly higher scores (t= 3.06, d.f. = 149, p< 0.001) than female officers (mean = 59.26, SD = 11.08).

**Research Question 4. What are the police dimensions of humour?**

Police MSHS scores were subjected to a principals components factor analysis and rotated using the varimax procedure. Table 7 contains the varimax factor matrix, with items loading at 0.50 or higher. A first factor that contained nine items relating to humour generation and social uses of humour emerged. The second factor clustered five items relating to uses of coping humour. Factor three contains four items that deal with using humour for social control and as social lubricant. Factor four has three items on attitudes towards humorous people and factor five contains two items on appreciation of humour. In this iteration, item 10 "I can ease a tense situation by
saying something funny”, did not load. Two items loaded twice: item 4 "I can say things in such a way as to make people laugh”, on factors one and three; item 16 "I dislike comics", loaded on factors four and five. In total, the five factors identified accounted for 62.7% of the scale variance.

Table 7. MSHS Items: Varimax rotated factor matrix for police (N = 191).

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
<th>Factor 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I can often crack people up with the things I say</td>
<td>.69</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Other people tell me I say funny things</td>
<td>.53</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I'm regarded as something of a wit by my friends</td>
<td>.81</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I can say things in such a way as to make people laugh</td>
<td>.60</td>
<td>.54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Sometimes I think up jokes or funny stories</td>
<td></td>
<td></td>
<td>.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. My clever sayings amuse others</td>
<td>.75</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. I'm confident I can make other people laugh</td>
<td>.64</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. People look to me say amusing things</td>
<td>.78</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. I use humour to entertain my friends</td>
<td>.60</td>
<td></td>
<td>.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. I can ease a tense situation by saying something funny</td>
<td>.79</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. I can actually have some control over a group by my uses of humour</td>
<td>.79</td>
<td></td>
<td></td>
<td>.78</td>
<td></td>
</tr>
<tr>
<td>12. People who tell jokes are a pain in the neck</td>
<td>.56</td>
<td>.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Calling someone a “comedian” is a real insult</td>
<td>.61</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. I like a good joke</td>
<td>.77</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. I'm uncomfortable when everyone is cracking jokes</td>
<td>.79</td>
<td></td>
<td></td>
<td>.56</td>
<td>.50</td>
</tr>
<tr>
<td>16. I dislike comics</td>
<td>.50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. I appreciate those who generate humour</td>
<td>.77</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Uses of humour help to put me at ease</td>
<td>.68</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. I can use wit to help adapt to many situations</td>
<td>.77</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Trying to master situations through uses of humour is really stupid</td>
<td>.77</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. Humour helps me to cope</td>
<td>.75</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. Humour is a lousy coping mechanism</td>
<td>.79</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Uses of wit or humour helps me master difficult situations</td>
<td>.56</td>
<td>.69</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. Coping by using humour is an elegant way of adapting</td>
<td>.65</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MSHS Police Gender Differences.

As male police officers had scored significantly higher than female officers on the MSHS, indicating a sex difference in humour, Table 8 presents a 24 item analysis for police officers completing the MSHS. For scoring purposes, items 12, 13, 15, 16, 20 and 22 are reversed scored. In this comparison, there were significant male/female differences, with males scoring significantly higher than females, on twelve of the scale’s 24 items:
1. "I can often crack people up with the things I say" (t = 2.74, d.f. = 149, p < 0.01).
2. "Other people tell me I say funny things" (t = 1.98, d.f. = 149, p < 0.05).
3. "I'm regarded as something of a wit by my friends" (t = 2.91, d.f. = 149, p < 0.01).
4. "I can say things in such a way as to make people laugh" (t = 2.44, d.f. = 149, p < 0.05).
5. "Sometimes I think up jokes or funny stories" (t = 4.77, d.f. = 149, p < 0.001).
6. "My clever sayings amuse others" (t = 2.00, d.f. = 149, p < 0.05).
7. "I'm confident I can make other people laugh" (t = 2.42, d.f. = 149, p < 0.01).
8. "I use humour to entertain my friends" (t = 2.34, d.f. = 149, p < 0.05).
9. "I can ease a tense situation by saying something funny" (t = 1.98, d.f. = 149, p < 0.01).
10. "I can actually have some control over a group by my uses of humour" (t = 2.74, d.f. = 149, p < 0.01).
12. "I like a good joke" (t = 2.55, d.f. = 149, p < 0.01).
13. I dislike comics" (t = 1.98, d.f. = 149, p < 0.05).
Table 8. MSHS: Item analysis of mean police scores by sex.

<table>
<thead>
<tr>
<th>Item</th>
<th>Males (N=109)</th>
<th>Females (N=42)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I can often crack people up with the things I say</td>
<td>2.30** (0.97)</td>
<td>1.81 (0.99)</td>
</tr>
<tr>
<td>2. Other people tell me I say funny things</td>
<td>2.37* (0.90)</td>
<td>2.05 (0.85)</td>
</tr>
<tr>
<td>3. I'm regarded as something of a wit by my friends</td>
<td>2.02** (0.87)</td>
<td>1.57 (0.77)</td>
</tr>
<tr>
<td>4. I can say things in such a way as to make people laugh</td>
<td>2.78* (0.60)</td>
<td>2.50 (0.70)</td>
</tr>
<tr>
<td>5. Sometimes I think up jokes or funny stories</td>
<td>2.45*** (0.99)</td>
<td>1.60 (0.99)</td>
</tr>
<tr>
<td>6. My clever sayings amuse others</td>
<td>2.23* (0.74)</td>
<td>1.98 (0.68)</td>
</tr>
<tr>
<td>7. I'm confident I can make other people laugh</td>
<td>2.74** (0.91)</td>
<td>2.36 (0.80)</td>
</tr>
<tr>
<td>8. People look to me say amusing things</td>
<td>1.95 (0.88)</td>
<td>1.69 (0.60)</td>
</tr>
<tr>
<td>9. I use humour to entertain my friends</td>
<td>2.72* (0.80)</td>
<td>2.38 (0.76)</td>
</tr>
<tr>
<td>10. I can ease a tense situation by saying something funny</td>
<td>2.82** (0.78)</td>
<td>2.45 (0.83)</td>
</tr>
<tr>
<td>11. I can actually have some control over a group by my uses of humour</td>
<td>2.38** (0.88)</td>
<td>1.93 (0.95)</td>
</tr>
<tr>
<td>12. People who tell jokes are a pain in the neck</td>
<td>3.24 (0.70)</td>
<td>3.05 (0.83)</td>
</tr>
<tr>
<td>13. Calling someone a &quot;comedian&quot; is a real insult</td>
<td>2.98 (0.78)</td>
<td>2.85 (1.01)</td>
</tr>
<tr>
<td>14. I like a good joke</td>
<td>3.49** (0.62)</td>
<td>3.17 (0.85)</td>
</tr>
<tr>
<td>15. I'm uncomfortable when everyone is cracking jokes</td>
<td>2.81 (1.11)</td>
<td>3.05 (0.91)</td>
</tr>
<tr>
<td>16. I dislike comics</td>
<td>3.16* (0.86)</td>
<td>2.55 (1.40)</td>
</tr>
<tr>
<td>17. I appreciate those who generate humour</td>
<td>3.22 (0.61)</td>
<td>3.10 (0.73)</td>
</tr>
<tr>
<td>18. Uses of humour help to put me at ease</td>
<td>2.72 (0.73)</td>
<td>2.67 (0.68)</td>
</tr>
<tr>
<td>19. I can use wit to help adapt to many situations</td>
<td>2.82 (0.72)</td>
<td>2.64 (0.69)</td>
</tr>
<tr>
<td>20. Trying to master situations through uses of humour is really stupid</td>
<td>2.95 (0.91)</td>
<td>2.81 (0.77)</td>
</tr>
<tr>
<td>21. Humour helps me to cope</td>
<td>2.87 (0.78)</td>
<td>2.71 (0.92)</td>
</tr>
<tr>
<td>22. Humour is a lousy coping mechanism</td>
<td>3.09 (0.83)</td>
<td>3.21 (0.84)</td>
</tr>
<tr>
<td>23. Uses of wit or humour helps me master difficult situations</td>
<td>2.83 (0.88)</td>
<td>2.57 (0.74)</td>
</tr>
<tr>
<td>24. Coping by using humour is an elegant way of adapting</td>
<td>2.30 (0.80)</td>
<td>2.47 (1.04)</td>
</tr>
</tbody>
</table>

* p < 0.05, **p < 0.01, ***p < 0.001

As shown in Table 8, the first seven items account for the majority of male/female differences. They deal with creation of humour, and uses of humour. The next five items relate to social uses of humour. Items 9 and 10 have a social lubricant motive and item 11 a social control motive. Items 14 and 15 deal with appreciation of humour and humorous people. Therefore, the greatest male/female differences clearly lie in the concept of humour creativity and generation.

Research Question 5. Are specific factors involved in mediating police scores on humour, telic/paratelic dominance and EAPI domains?

As this was an exploratory study, a simultaneous multiple regression model was chosen, on the basis that each independent variable is given equal weight in the regression equation (Tabachick & Fidell, 1989). SPSS, by default, enters variables into the equation at significance level p< 0.05, and selects them out at significance.
level \( p < 0.01 \). These levels were retained for this study. Analysis of the residuals was undertaken for each regression and identified outliers were excluded from the analysis.

The following six factors were chosen as dependent variables, for separate multiple regressions analyses: CHS; MSHS; TDS; and from the EAPI, Anxiety, Depression and Substance Abuse domains. Prior to conducting the analyses, the key variables were entered into a correlation matrix and checked for any significant relationships. Anxiety was found to correlate significantly with Depression, and therefore was not used as a dependant variable, except where stated otherwise. Two demographic variables were recoded for the purpose of multiple regression analyses: marital status and educational qualifications. Marriage was recoded into a dichotomous variable, with single, separated, divorced and widowed status categorised as one value, and cohabiting or married as the second. Educational achievement was recoded into an interval variable, ranging from "none" to "postgraduate qualification". The adjusted R square is cited, rather than R square, as it is an estimate of R square in the population, accounting for sample size and the number of independent variables, and provides a more accurate account of variance in the dependant variable.

**a). Predicting police Coping Humour Scale scores.**

The independent variables were: demographic variables (age, sex, length of service, marital status, education, number of children, position/rank), EAPI t-scores, TDS and MSHS mean scores. Mean CHS scores were the dependant variable. The significant results are shown in Table 9.
Table 9. Results of simultaneous multiple regression to identify factors predicting police CHS scores (N = 151).

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Multiple R</th>
<th>R square</th>
<th>Adjusted R square</th>
<th>Standard error</th>
<th>Beta</th>
<th>t-value</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSHS</td>
<td>0.70</td>
<td>0.49</td>
<td>0.42</td>
<td>2.61</td>
<td>0.46</td>
<td>5.76</td>
<td>0.0001***</td>
</tr>
<tr>
<td>Problem</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.23</td>
<td>2.33</td>
<td>0.004***</td>
</tr>
<tr>
<td>Minimisation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.23</td>
<td>-2.34</td>
<td>0.018*</td>
</tr>
<tr>
<td>Interpersonal Conflict</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital Problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.19</td>
<td>2.34</td>
<td>0.021*</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.19</td>
<td>-2.54</td>
<td>0.012*</td>
</tr>
</tbody>
</table>

*p < 0.05, **p < 0.01, ***p < 0.001

The proportion of variance in CHS scores which is accounted for by the significant independent variables is 42 per cent. Analysis of the residuals indicated that there were no outliers to be excluded. Examination of the histogram showed an essentially normal distribution. The "p-p" plot (observed standardised residuals plotted against the expected normal distribution) showed a linear relationship overall. The scatterplot of predicted scores against residuals did not show any trends.

The largest beta value is provided by MSHS scores, indicating that this has the largest influence on the dependant variable, coping humour. Therefore, higher scores on the MSHS are positively associated with higher CHS scores. Single marital status, a lower magnitude of conflict with co-workers, difficulties with a spouse or partner, and in estimating the seriousness or extent of problems, were associated with higher CHS scores.

b). Predicting police MSHS scores.

The independent variables consisted of the same demographic variables as before, EAPI t-scores, TDS and CHS mean scores. Mean MSHS scores were the dependant variable. The significant results are shown in Table 10.
Table 10. Results of simultaneous multiple regression to identify factors predicting police MSHS scores (N = 151).

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Multiple R</th>
<th>R square</th>
<th>Adjusted R square</th>
<th>Standard error</th>
<th>Beta</th>
<th>t-value</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHS</td>
<td>0.70</td>
<td>0.49</td>
<td>0.41</td>
<td>8.31</td>
<td>0.47</td>
<td>5.08</td>
<td>0.0001***</td>
</tr>
<tr>
<td>Education</td>
<td>0.20</td>
<td>0.68</td>
<td>0.68</td>
<td>0.08**</td>
<td>0.20</td>
<td>2.68</td>
<td>0.008**</td>
</tr>
<tr>
<td>Marital Problems</td>
<td>0.18</td>
<td>0.60</td>
<td>0.60</td>
<td>0.038*</td>
<td>0.18</td>
<td>2.09</td>
<td>0.038*</td>
</tr>
<tr>
<td>Marital status</td>
<td>0.18</td>
<td>0.60</td>
<td>0.60</td>
<td>0.037*</td>
<td>0.18</td>
<td>2.12</td>
<td>0.037*</td>
</tr>
</tbody>
</table>

*p < 0.05, **p < 0.01, ***p < 0.001

The proportion of variance in MSHS scores which is accounted for by the significant independent variables is 41 per cent. Analysis of the residuals indicated that there were no outliers to be excluded. Examination of the histogram showed an essentially normal distribution. The "p-p" plot (observed standardised residuals plotted against the expected normal distribution) showed a linear relationship overall. The scatterplot of predicted scores against residuals did not show any trends.

The largest beta value is provided by CHS scores, indicating that this has the largest influence on the dependant variable, dimensions of humour. Therefore, higher scores on the MSHS are positively associated with higher CHS scores. Greater educational qualifications, being married or cohabiting, and having relationship problems with a spouse or partner were associated with higher CHS scores.

c). Predicting TDS scores.

The independent variables comprised the same demographic variables as before, except for number of children living with participants, which was hypothesised not to be a factor in telic/paratelic dominance. EAPI t-scores, MSHS and CHS mean scores were also included as independent variables. Overall mean TDS scores were the dependant variable. The significant results are shown in Table 11.
Table 11. Results of simultaneous multiple regression to identify factors predicting police TOS scores (N =151).

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Multiple R</th>
<th>R square</th>
<th>Adjusted R square</th>
<th>Standard error</th>
<th>Beta</th>
<th>t-value</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSHS</td>
<td>0.56</td>
<td>0.31</td>
<td>0.21</td>
<td>4.02</td>
<td>-0.35</td>
<td>-3.42</td>
<td>0.0001***</td>
</tr>
<tr>
<td>Anxiety</td>
<td>0.39</td>
<td>3.23</td>
<td>0.002**</td>
<td>-0.28</td>
<td>-2.94</td>
<td>0.004**</td>
<td></td>
</tr>
<tr>
<td>Substance Abuse</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The proportion of variance in TDS scores which is accounted for by the significant independent variables is 21 per cent. Analysis of the residuals indicated that there were no outliers to be excluded. Examination of the histogram showed an essentially normal distribution. The "p-p" plot (observed standardised residuals plotted against the expected normal distribution) showed a linear relationship overall. The scatterplot of predicted scores against residuals did not show any trends.

The largest beta value is provided by EAPI Anxiety, indicating that this has the largest influence on the dependant variable, telic dominance. Therefore, higher scores on the TDS are positively associated with higher anxiety scores. Lower scores on the MSHS and lower substance abuse scores were associated with higher telic dominance scores.

d). Predicting police EAPI: Depression scores.

The independent variables were the same demographic variables as before, except for number of children living with participants, which was hypothesised not to be a factor in depression. All the EAPI t-scores were included as independent variables. MSHS, TDS and CHS mean scores were also included as independent variables. EAPI depression t-scores were the dependant variable. The significant results are shown in table 12.
Table 12. Results of simultaneous multiple regression to identify factors predicting police EAPI: Depression scores (N = 148).

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Multiple R</th>
<th>R square</th>
<th>Adjusted R square</th>
<th>Standard error</th>
<th>Beta</th>
<th>t-value</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self Esteem</td>
<td>0.76</td>
<td>0.61</td>
<td>0.55</td>
<td>6.46</td>
<td>0.30</td>
<td>4.11</td>
<td>0.0001***</td>
</tr>
<tr>
<td>External Stressors</td>
<td>0.28</td>
<td>0.28</td>
<td>0.28</td>
<td>6.46</td>
<td>0.28</td>
<td>4.03</td>
<td>0.0001***</td>
</tr>
<tr>
<td>Work Adjustment</td>
<td>0.28</td>
<td>3.22</td>
<td>0.02</td>
<td>6.46</td>
<td>0.28</td>
<td>3.22</td>
<td>0.002**</td>
</tr>
</tbody>
</table>

The proportion of variance in EAPI Depression scores accounted for by the significant independent variables is 55 per cent. Analysis of the residuals indicated that there were three outliers, which were excluded, and the analysis re-run.

Examination of the histogram showed an essentially normal distribution. The "p-p" plot (observed standardised residuals plotted against the expected normal distribution) showed a linear relationship overall. The scatterplot of predicted scores against residuals did not show any trends.

The largest beta value is provided by EAPI self esteem scores, indicating that this has the largest influence on the dependant variable, depression. Therefore, lower self esteem is associated with higher depression scores. Stressors external to the work environment and lower work satisfaction were associated with higher depression scores.

e). Predicting police EAPI: Anxiety scores.

The independent variables were the same demographic variables as before, but excluded the number of children living with participants, which was not hypothesised to be a factor in anxiety. All the EAPI t-scores were included as independent variables. MSHS, TDS and CHS mean scores were also included as independent variables. EAPI Anxiety t-scores were the dependant variable. The significant results are shown in Table 13.
Table 13. Results of simultaneous multiple regression to identify factors predicting police EAPI Anxiety scores.

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Multiple R</th>
<th>R square</th>
<th>Adjusted R square</th>
<th>Standard error</th>
<th>Beta</th>
<th>t-value</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self Esteem</td>
<td>0.80</td>
<td>0.64</td>
<td>0.58</td>
<td>5.10</td>
<td>0.49</td>
<td>6.95</td>
<td>0.000***</td>
</tr>
<tr>
<td>Age</td>
<td>0.37</td>
<td>3.09</td>
<td>-2.74</td>
<td>0.007**</td>
<td>0.31</td>
<td>4.75</td>
<td>0.000***</td>
</tr>
<tr>
<td>Length of service</td>
<td>-0.36</td>
<td>3.23</td>
<td>3.06</td>
<td>0.0001***</td>
<td>0.19</td>
<td>3.06</td>
<td>0.001***</td>
</tr>
<tr>
<td>Substance Abuse</td>
<td>0.20</td>
<td>2.34</td>
<td>2.01</td>
<td>0.038*</td>
<td>0.18</td>
<td>2.01</td>
<td>0.038*</td>
</tr>
<tr>
<td>Telic Dominance</td>
<td>0.18</td>
<td>2.34</td>
<td>2.01</td>
<td>0.038*</td>
<td>0.13</td>
<td>2.01</td>
<td>0.038*</td>
</tr>
<tr>
<td>Sex</td>
<td>0.18</td>
<td>2.34</td>
<td>2.01</td>
<td>0.038*</td>
<td>0.13</td>
<td>2.01</td>
<td>0.038*</td>
</tr>
<tr>
<td>MSHS</td>
<td>0.18</td>
<td>2.34</td>
<td>2.01</td>
<td>0.038*</td>
<td>0.13</td>
<td>2.01</td>
<td>0.038*</td>
</tr>
<tr>
<td>Education</td>
<td>0.18</td>
<td>2.34</td>
<td>2.01</td>
<td>0.038*</td>
<td>0.13</td>
<td>2.01</td>
<td>0.038*</td>
</tr>
</tbody>
</table>

The proportion of variance in EAPI Anxiety scores which is accounted for by the significant independent variables is 58 per cent. Analysis of the residuals indicated that there are no outliers to be excluded. However, these results must be interpreted with caution as the histogram did not show an essentially normal distribution.

The largest beta value is provided by SE scores, indicating that this has the largest influence on the dependent variable, Depression. Therefore, lower self-esteem is associated with higher depression scores. Older age, greater educational achievement, higher MSHS scores, greater substance abuse, telic dominance and being female and less years of police service were significantly associated with higher increased anxiety scores.

f. Predicting police EAPI: Substance Abuse scores.

The independent variables comprised of the same demographic variables as before, except for number of children living with participants, which was hypothesised not to be a factor in substance abuse. All the EAPI t-scores were included as independent variables, with the exception of Anxiety. MSHS, TDS and CHS mean scores were also included as independent variables. EAPI Substance Abuse scores t-scores were the dependent variable. Table 14 shows the significant results.
Table 14. Results of simultaneous multiple regression to identify factors predicting police EAPI: Substance Abuse scores (N = 143).

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Multiple R</th>
<th>R square</th>
<th>Adjusted R square</th>
<th>Standard error</th>
<th>Beta</th>
<th>t-value</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal Conflict</td>
<td>0.66</td>
<td>0.43</td>
<td>0.34</td>
<td>1.88</td>
<td>0.37</td>
<td>3.45</td>
<td>0.0001***</td>
</tr>
<tr>
<td>Marital Problems</td>
<td>0.36</td>
<td>0.34</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-0.35</td>
<td>-2.30</td>
<td>0.023*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Position/rank</td>
<td>0.32</td>
<td>2.82</td>
<td>0.005**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>0.21</td>
<td>2.02</td>
<td>0.045*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telic Dominance</td>
<td>-0.19</td>
<td>-2.41</td>
<td>0.017*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < 0.05, **p < 0.01, ***p < 0.001

The proportion of variance in EAPI Substance Abuse scores accounted for by the significant independent variables is 34 per cent. Analysis of the residuals indicated that there were seven outliers, which were excluded, and the analysis re-run. Examination of the histogram did not show a essentially normal distribution, and therefore these results should be treated with caution.

The largest beta values are provided by interpersonal conflict, marital problems, and age, indicating that these have the largest influence on the dependant variable, substance abuse. This suggests that younger age, and problems in relationships with a spouse, partner, co-workers or supervisors are associated with increased substance abuse. Interestingly, there was a significant association between increased substance abuse and higher police rank. Depression and telic dominance were also positively associated with increased substance abuse.
DISCUSSION.

Research Questions.

1. Differences between police officers, civilian staff and specials on EAPI domains.

The EAPI t-scores for all three groups fell within normal limits, i.e. below 60, with the exception of police Substance Abuse (SA) scores. Police officers had significantly higher scores on the domains of Interpersonal Conflict (IP), External Stressors (ES), Depression (DP), and SA than support staff or specials. Higher SA scores were contrary to previous research which reported lower police alcohol consumption than in the general population (Brown et al., 1992; Alexander et al, 1991). These results suggest that police officers are significantly more likely to experience difficulties in their relationships at work, to be depressed, and as a consequence of drug or alcohol use, to have difficulties in interpersonal, social or work functioning.

Furthermore, both police officers and civilians had significantly higher scores on the domains of Anxiety (AN) and Self Esteem (SE), indicating that in comparison to specials, they were more likely to experience lower self-worth and greater anxiety.

These results may occur because of the unique nature of police work and culture and/or police officers' personality variables, rather than organisational issues, common to many professions. Specials usually volunteer for police duties four hours a week (Leon, 1996) and are usually not exposed to the organisational or occupational stressors to the same degree or extent as regular officers.

Consequently, these results may indicate a paratelic dominance in regular police officers and support staff working within a telic dominant profession, which may be particularly exacerbated for police officers, due to the nature of their work. For example, both police and civilian staff were significantly more likely to experience anxiety and lower self-esteem than specials, which might result from working within the police organisation, rather than policing duties. Both groups may be more
paratelic dominant, with anxiety resulting from either insufficient arousal or arousal being restrained by the telic police environment. Alternatively, it could be argued that if this was the case, then, in comparison with specials, this would be reflected in similar scores for both groups on the other EAPI domains, such as SA and DP, which was not found.

Similarly, it might be hypothesised that higher SA scores are attributable to gender differences, as the majority of police respondents were male and civilian staff predominately female, with police officers being the larger group. However, no significant differences were found between male and female officers on their scores for SA, ES, DP, Family Problems (FP) or Work Adjustment (WA). This indicates that police men and women have a similarly high substance usage, and may have similar psychological difficulties as a result of their police duties, compared to civilian staff and specials. Police officers were more likely to use alcohol or drugs than civilians or specials, which suggests that other factors, such as a paratelic need for increased arousal, and/or as coping strategy for experiences of policing events may be implicated, rather than organisational variables, as support staff within the same organisation did not report equivalent SA scores.

As stated above, there was no significant differences between male and female officers on their SA scores, the mean scores for both sexes being about 15 (the cut off point being 16), suggesting further investigation for substance abuse problems. Compared with their male colleagues, female officers had significantly higher scores for AN, but significantly lower scores on the domains of Marital Problems (MP) and Problem Minimisation (PM). Therefore, female officers were more likely to be anxious than males, albeit with significantly less relationship problems with their spouses or partners, and were also less likely to minimise or dismiss the extent or degree of difficulty with their problems. This result supports previous research that found British female officers experienced more work-related
psychological distress than their male colleagues (Brown & Grover, Brown, 1998a; 1998b).

Anxiety in females may occur because they are more likely to realistically appraise the extent of their difficulties and are less likely to attribute the causes of their problems to others, which might cause increased work-related anxiety. Female officers may also be subject to greater work-related anxiety due to the need to be accepted within a predominately masculine culture, to gain peer acceptance and to prove that they have professional credibility (Fielding, 1988).

Anton and Reed (1994) suggest that high PM scores can indicate under-reporting of problems, and tend to be accompanied by low scores on other scales, excepting WA and IC, indicating that the respondent may not unwilling to acknowledge the extent of severity of his or her problems. It has been hypothesised that officers' coping strategies serve to discount or deny the extent of their problems and experiences (Bonifacio, 1985; Young, 1995a; 1995b). However, in this study, for police officers overall, IC, WA, and SE were the highest EAPI t-scores reported, the lowest being AN and PM. Male officers displayed a similar pattern of results: their highest mean scores were for IC and WA; their lowest for PM and AN. Police officers, therefore, appear to realistically appraise the extent and severity of their difficulties, and problems. Further validation studies may clarify these data.

In summary, police officers appear to be subject to more psychological difficulties than specials or support staff, which cannot be conclusively explained as resulting from common organisational stressors. However, police EAPI scores fell predominately within the normal range, indicating that police psychological functioning, other than for substance use, was generally not indicative of significant difficulties. These results, however, should be treated cautiously. Psychometric reliability and validity for the EAPI is based upon US norms, and currently no UK norms exist to compare this study's results, nor are there other comparable British
studies, investigating police, civilians and specials participants and evaluating similar associations between psychological difficulties and personality factors. In particular, the SA scale does not distinguish between the use of alcohol or drugs. For police officers, illegal drug use would have far more legal and occupational implications than alcohol consumption. Furthermore, compared with police respondents, the sample of specials and civilians was noticeably smaller. A larger, homogeneous sample of these two groups may clarify the robustness of this study's results.

2. Differences between police officers, civilians and specials on the TDS.

For the whole sample, there was no significant difference between male and female overall TDS scores, supporting other studies that reported no significant gender differences (Baker, 1988; Cook & Gerkovich, 1993; Martin et al., 1988; Murgatroyd et al., 1978). In comparing the three groups, specials were significantly more likely to be telic dominant than civilians. Police and specials had significantly higher scores than support staff on the subscale of Serious-mindedness (SM), that is, a preference to be engaged in activities whose primary purpose is to achieve a goal beyond those activities. Apter (1989) argues that although the three subscale scores are different aspects of the same psychological processes, they remain phenomenologically distinct, with SM being the defining scale for telic dominance. Interestingly, although this was supported by higher telic dominance scores for specials, it was not for police officers.

This difference may be attributable to different motivational factors between regular and special police officers. Higher SM scores for specials may result from the voluntary nature of their role, indicating a greater commitment to being philanthropic and civic minded in one's free time. For regular officers, their TDS scores possibly illustrate the ambivalent nature of police work and the role of police reversals, that is, between telic policing activities and the necessity to undertake
paratelic behaviour in order to achieve goals beyond those activities (for example, pursuing a stolen car at high speed to arrest the driver) and the paratelic dominant need for high arousal (officers enjoying the chase).

These results must also be viewed with caution, and the same caveats apply regarding the generalisability of these participants' scores to a wider population, due to the small number of specials as respondents. Previous studies have consistently reported overall mean TDS scores as being 17-18, with a standard deviation of about 4-6 (Baker, 1988; Cook & Gerkovich, 1993; Howard, 1988; Murgatroyd et al., 1978). In this present study, specials had a mean score of 17.36 (SD = 3.20), consistent with previous research. Police officers, however, had a somewhat lower mean score of 15.20 (SD = 4.60), suggesting a paratelic dominance. Although no statistical significant difference was found between overall TDS scores for specials and police, this could be due to the stringency of the statistical tests used. Again, replication studies, using larger samples, could explore the robustness of these data.

The suggested paratelic dominance in police officers may also be associated with the low TDS scores reported by civilian staff (mean = 13.46, SD = 4.62). As Fontana and Valente (1993; 1997) have argued, individuals may be attracted to work in occupations which fulfil their need for low or high arousal, depending on their telic or paratelic dominance. Support staff may enjoy being associated or involved with the high arousal the police service provides, but unlike police officers, they are not restrained by the telic goals of police duties (i.e. to save life and property, to prevent and detect crime, prevent public disorder, etc.), nor are they restricted by the legal and disciplinary accountability required of police officers. Therefore, paratelic dominance in police officers may be constrained or modified by the telic context of the police service, and this may account for their elevated scores compared with support staff. Additional support for police paratelic dominance is
provided by their significantly high SA scores. Howard (1988), in a study of telic-paratelic dominance in undergraduates, reported that in dealing with stressors, predominately paratelic individuals engaged in mainly emotionally-focused coping strategies, such as alcohol consumption, and emotional distancing.

Although there was no significant differences in overall TDS scores between male and female officers, male-female differences were found on the Planning Orientation (PO) and Arousal Avoidance (AA) subscales, with females scoring significantly higher than males, indicating that females were more likely to plan ahead, be future goal orientated and to avoid situations likely to increase their levels of arousal. As cited above, this contradicts previous research, which has found no gender differences on subscale scores (Baker, 1988).

These results may seem contradictory, given the earlier suggestion that police officers may be paratelic dominant and seek high arousal levels. It may be, as noted earlier, that female officers are orientated to establish peer and professional credibility in a masculine occupation, by being more effective and goal orientated in their work than male colleagues (Fielding, 1988). Although high arousal levels would be unpleasant for those with high AA scores, rather than police duties being anxiety provoking, for female officers, their AA score may refer to them avoiding or defusing other high-arousal situations, such as interpersonal conflict. EAPI scores for marital difficulties indicated that female officers, in contrast to male officers, had significantly less difficulties in their relationship with a spouse or partner. Alternatively, for female officers, it may be that other aspects of policing more than compensate for high arousal situations.

The present study's results may have been confounded by the limitations of the TDS as a measure. Although the TDS was developed in the UK, the normative data were heavily concentrated on university student populations, both undergraduate and adult students (Murgatroyd et al, 1978), and the validity of the
TDS normative data for adults in the general population, with varying socio-economic and educational backgrounds, may be questionable and may not extrapolate to other cultures, such as the US (Cook & Gerkovich, 1993). Furthermore, to date, no studies have been published in the UK or elsewhere, reporting TDS scores for police officers. Consequently, there are no comparable results, and it is uncertain how representative the police TDS scores are in the present study.

Doubts have also been expressed about the psychometric development of the TDS, especially its internal reliability, as measured by Cronbach's alpha, which has proved to be inconsistent. Several authors have questioned the precision with which the TDS measures dominance in the telic-paratelic dimension (Cook & Gerkovich, 1993; Hyland, Sherry & Thacker, 1988). Hyland et al. (1988), argue that due to the presentation of the TDS instructions and items, it is open to misinterpretation and that participants respond in terms of liking, rather than dominance.

3. Differences between police, civilians and specials on their use of humour as measured by the CHS and MSHS.

a) CHS

The mean CHS score for the whole sample was 20.97 (SD = 3.48), consistent with previously cited sample means, typically ranging from 18-21, with standard deviations of about 3-4 (Kuiper & Martin, 1993). No significant differences were found for CHS scores between police, civilians and specials, nor were any male-female differences found within the overall sample or between police. These results indicate a possible contradiction with a study by Martin et al. (1993), which reported that individuals with higher levels of coping humour perceived themselves to have more control over their lives, feel less anxious, less overwhelmed and less stressed than those with lower CHS scores. Individuals with higher CHS scores also reported
greater use of coping strategies of confronting and emotional distancing. It might be anticipated that similar CHS scores in all groups would produce similar EAPI subscales scores, which was not found in the present study. There was, however, some evidence of CHS police scores being partially associated with greater problem minimisation. This is detailed further in the discussion regarding research question five.

b) MSHS
The overall mean MSHS score was consistent with previously cited sample means (Thorson et al, 1997). No significant difference was found between groups. Although most studies have generally reported no gender differences in the overall MSHS score (Thorson & Powell, 1997), in this study, male-female differences were found, with males scoring significantly higher than females, both in the overall sample and between police officers. For this sample, the MSHS scores may reflect police socialisation processes. Police gender differences are discussed below.

The mean MSHS scores for police officers (mean = 63.55, SD = 10.24) appears consistent with other previous studies sampling the general population (Thorson & Powell 1993a; Thorson et al., 1997). Kerkannen (1998), in the only other police humour study to date using the MSHS, sampled 45 senior Finnish police officers. He found (personal communication, 15 May 1999) a mean score of 64.5 (SD = 9.7), comparable to this present study's results.

Factor analysis studies have typically reported a four factor solution, with the first 11 items of the MSHS consistently forming a first factor, dealing with the concepts of humour creativity and social uses of humour, the second factor clustering items dealing with coping humour, the third, attitudes towards humorous people and the fourth, attitudes towards humour (Thorson & Powell, 1993a, 1993b; Thorson et al., 1997).
For this police sample, using a varimax rotated factor analysis, police dimensions of humour loaded on to five factors: i) humour generation and uses of humour; ii) coping humour; iii) humour as social control and social lubricant; iv) attitudes towards humorous people; and v) appreciation of humour. Police officers appeared to construe humour differently in their use of humour as social control and as a social lubricant, and uses of humour was loaded differently. Similar dimensions were reported by Kerkannen (1998) in his sample of Finnish officers. Therefore, whilst previous studies have cited fairly uniform constructs for the MSHS (Thorson & Powell, 1993), for police officers, there appears to be some divergence from other samples.

One hypothesis might be that humour, rather than developing in a linear fashion, becomes more diverse, depending on life experiences. Humour may, like other abilities, be theoretically developmental. Police officers are more likely to be confronted with circumstances that require social control and various coping strategies, and by necessity, have developed skills for social control and coping, humour being among them. Similarly, the necessity for humour generation may be greater for police than for other populations, as a means of distancing themselves from the nature of their police experiences, as well as being the acceptable expression of feelings. In reversal theory terms, humour facilitates increased arousal and the paratelic state, which may allow police officers to reverse to their preferred state of paratelic dominance within a telic role.

Although most uses of the MSHS have found overall scores to be generally gender neutral, Thorson et al. (1997) in a detailed analysis of MSHS items found that male respondents typically scored higher on the scale's first factor, humour creativity, while females scored higher on the second factor, coping humour.

In the present study, an item analysis between male and female police found some support for gender differences. Males had higher scores for items relating to
creating and generating humour, and social uses of humour, indicating that the greatest male-female differences were found in humour generation. There were no significant differences between male and females officers on their use of coping humour. This suggests that male and female police do not differ significantly in their use of coping humour, which was also found for police CHS scores.

Although no differences were found between police, civilians and specials on their overall MSHS scores, indicating that police humour may not differ substantially between occupations, it may be that the MSHS excludes other aspects of humour more relevant for police officers, such as "gallows" humour (Young, 1995a). The MSHS omits items relating to humour as a disposition for teasing and laughing at others, nor does it include a dimension for less valued humour, such as scatological humour, sarcasm, mocking, ridicule, satire or irony (Ruch, 1996). A humour measure which included these components and evaluated the circumstances in which they were utilised would perhaps clarify whether police humour differs significantly from other occupational groups. Finally, norms for a UK population are absent, and it may be that the British dimensions and usage of humour differs considerably from North American dispositions.

5. Factors predicting police scores on humour, telic-paratelic dominance and EAPI domains.

a) CHS scores.

Higher scores on the CHS were positively associated with higher MSHS scores, single martial status, greater educational qualifications, greater use of problem minimisation, greater martial problems with a spouse or partner, but less interpersonal conflict with work colleagues. Therefore, how police use coping humour appears related to their perception of themselves on other humour elements, such as humour generation. Furthermore, police appear to use coping humour to deal with, and distance themselves from, difficulties in their intimate and
work relationships. A similar result was reported by Martin et al. (1993), which found that individuals with higher CHS scores reported greater use of coping strategies of confronting and emotional distancing. Alternatively, the use of coping humour may initiate and maintain intimate relationship problems, for example, by not addressing or minimising pertinent issues. Lower scores on the IC domain suggests that coping humour also appears to be valued within the police culture, providing an acceptable way to safely discharge or defuse tensions between officers, and enhance group camaraderie (Morreall, 1991; Pogrebin & Poole, 1988). Greater educational attainment, and therefore greater awareness of life issues may contribute to CHS scores.

a) MSHS
MSHS scores were partially related to higher CHS scores, greater educational qualifications, being married/cohabiting and having difficulties with a spouse or partner. Creating humour and social uses of humour appear to be utilised by police officers in a similar way to the use of coping humour, that is, to create emotional distance and to deal with difficulties in intimate relationships. Alternatively, as in the case of CHS scores, relationship problems may arise as a consequence of one partner using consistently using humour to avoid relevant relationship issues, rather than directly addressing them.

c) TDS
Higher TDS scores were partially associated with lower MSHS scores, higher anxiety scores and lower alcohol or drug usage. This result is consistent with reversal theory, which postulates that high levels of arousal are experienced as unpleasant for telic dominant individuals, resulting in feelings of anxiety or depression (Apter, 1993, Murgatroyd, 1987). Increasing arousal by substance use, or by generating and experiencing humour is consistent with being in the paratelic mode and therefore, by definition, aversive to those in the telic state. This result
offers some evidence for paratelic dominance in police officers, as police participants were found to have significantly high substance use scores, together with MSHS scores falling within the typical mean range, indicating the need for arousal.

d) EAPI Depression

Lower self-esteem, external stressors outside the work environment and higher dissatisfaction with features of the work environment (such as pay, career advancement opportunities and autonomy in one's job), were partial predictors of higher levels of depression in police officers. It could be hypothesised that having a consistent and positive sense of self, with minimal external stressors and being satisfied with one's job, would mitigate against the demands of police duties and/or the police culture, alleviate depression and allow appropriate reversals to the paratelic state to occur more readily.

e) EAPI Anxiety

Lower self esteem, older age, less years of service, increased substance abuse, higher telic dominance scores, being female, higher MSHS scores and greater educational qualifications were all associated with predicting higher anxiety scores. These data suggest that having a lower sense of self-esteem may increase feelings sensitivity to the demands of policing duties and/or the police culture. Whilst older age and less police service initially appear contradictory predictors, they may both be related to issues regarding experience. Greater age and exponential exposure to life and policing events may increase feelings of vulnerability about the future. Police work is generally reactive rather than proactive and officers have little control over the scheduling of their activities or the nature of events. Policing tasks experienced by less experienced officers may result in anxiety as these may be in excess of their coping abilities, for which they are individually and externally accountable. Stradling, Crowe and Tuohy (1993) found that probationers (officers
with less than two years service) did gain mastery of their generalised anxiety as training proceeded, with fluctuations in their self-worth and vulnerability accompanying the process of professional socialisation.

As noted earlier, higher anxiety scores in female police officers may be a consequence of experiencing more pressures to perform well in a male dominated environment. Alternatively, they may have a greater awareness of occupational or organisational issues than men. Increased substance use may serve to counteract the telic nature of police culture and duties. Greater educational qualifications may serve to highlight awareness of issues, and so induce feelings of anxiety, and additionally be associated with the telic need to achieve goals and qualifications.

In relation to police telic dominant scores being associated with anxiety, from the reversal theory perspective, anxiety results from individuals generally being unable to reverse from a telic state to a paratelic state, so that elevated levels arousal, such as in policing duties, are experienced as anxiety rather than excitement (Apter, 1990). This may be compounded by using functionally inappropriate strategies which fail to reduce arousal levels, such as alcohol consumption.

f) EAPI Substance Abuse.

Problem in relationships with a spouse, partner or work colleagues, depression, younger age, lower TDS scores and higher rank were associated with predicting higher substance abuse scores. Lower TDS scores suggest that depression may result from paratelic tension-stress, that is, insufficient arousal, experienced as boredom, which might be compensated for by substance use. Relationship difficulties with a partner, work colleagues or supervisors may make individuals feel unsupported and depressed, in which alcohol or drugs may be used to induce a paratelic state, which is not forthcoming in their interactions with others. For example, conflict with a spouse, partner or work colleagues may result in humour
being excluded as a means of social support and arousal, for which alcohol may be used as a substitute.

Higher police rank and the associated supervisory or management duties may also be related to the need for greater paratelic arousal from police operational duties, which are generally dealt with by constables. Again, alcohol may be used by officers to compensate for being in an enforced telic state. Alternatively, substance use may be a consequence of the role demands of higher police ranks.

Limitations of the Present Study and Suggestions for Improvements.

In addition to the earlier critique of the measures and small sample sizes used in this study, there were other limitations. Although some significant results were found, the cross-sectional design used makes it unclear whether the effects are attributable to occupational and organisational demands or individual characteristics, that may impact on psychological health and work performance.

Longitudinal research may help distinguish the effects and interactions of these variables. For example, monitoring changes in new police recruits before and after formal training might clarify the role of police acculturation processes and experiences upon officers' appraisals and responses to potential stressors, and illustrate the development and usage of police humour.

There was a low return rate for both specials and civilian police employees, compared with regular police officers. This could be indicative of a response bias from participants within those two groups, and may be attributable to several factors. For example, specials and support staff may have distinctly different personality characteristics compared with regular police officers, which may have influenced their motivation to participate. Similarly, they may have considered that the aims of this study held little occupational relevance for them, for example, by not perceiving their work as being inherently stressful, or that participation held less potential organisational implications for change, compared with regular police
officers. The research effect of the low return rate was the reduction of statistical power, that is, a reduced probability of detecting a true statistical relationship and the rejection of a false null hypothesis. Future research might anticipate possible low response rates by aiming to recruit participants from a larger sample size.

For police officers, there was no inclusion of a measure to delineate between types of stressful police duties and organisational stressors. Therefore, the psychological difficulties reported may be confounded with experiences of stressful policing events. As stated earlier, a more accurate and valid measurement of the different categories of less valued humour elements used by police officers may help to establish the external and internal contingencies which generate humour and their adaptive or negative consequences.

Feedback to service, participants and authors of measures.

As discussed in the Method section, a written report was forwarded to all relevant individuals (appendix 13). Preliminary results of this study were presented at a reversal theory conference (Grover & Callanan, 1999). Initial feedback from delegates suggested the utility of further research into contingencies instigating the use of police humour and its consequences.

Clinical Implications.

The data presented in this study indicate significant differences between police officers, support staff and specials in their psychological functioning and motivations. In particular, this study has implications for the design and implementation of stress reduction programs for police employees. For example, the data provide alternative conceptualisations of arousal states and approaches to humour. For these respondents, humour may be an involuntary response to stressors and clinical emphasis on its appropriate or inappropriate use maybe a relevant intervention technique. These results may also be relevant for other
occupational groups whose contact with the general public is perceived as being stressful, such as Accident and Emergency nursing staff.

Reversal theory appears to offer a phenomenological approach which may have utility in understanding and intervening with the metamotivational structure underlying cognitions, emotions and behaviours (Apter, 1990). Reversal theory essentially uses a process model to create a taxonomy of clients' presenting problems. In essence, five types of presenting categories are recognised: i) reversal inhibition", whereby an individual is unable to reverse between the two related states (i.e. telic/paratelic), even when appropriate to do so; ii) "inappropriate reversal", whereby an individual reverses from one state to another, despite the inappropriateness of such reversals; iii) "functionally inappropriate behaviour", referring to strategies that have an opposite effect to that intended; iv) "temporally inappropriate behaviour", occurring when the achievement of satisfaction in one state is less likely in the future; and v) "socially inappropriate behaviour", when a person's behaviour is compatible with the state they are experiencing, but the behaviour is harmful to them or not socially sanctioned (Murgatroyd, 1987). These categories may be presented separately or in combination (Apter, 1990).

Reversal theory is relatively neutral to specific intervention techniques. Instead it provides a "framework for eclectic psychotherapy" (Murgatroyd & Apter, 1986), which allows for considered decisions about the different techniques to use from various therapeutic models (Apter, 1990). Clinically, the aim of reversal theory is to enable an individual to develop different, more adaptive ways of experiencing his or her motivational processes. Therapists also need to reflect upon and understand their own reversal processes and be able to reverse appropriately between metamotivational modes. For example, if a therapist is able to reverse between telic-paratelic states with some regularity and can enjoy the experiences of both states, then he or she is more likely to facilitate a client's reversal than a
therapist "locked" in the telic state. Furthermore, some techniques, such as paradoxical intention, require clinicians to work within the paratelic mode, as utilising humour is necessary for effective intervention with this method (Murgatroyd, 1987).

Humour, therefore, may be useful in highlighting the nature of the presenting problem and identifying specific features of the behaviour causing the presenting difficulty, rather than being considered as having a negative, damaging therapeutic impact (Kubie, 1971). Although in some instances humour may be an inappropriate therapeutic tactic, for example, for individuals unable to reverse to the telic state, excessive use of humour may increase, not decrease, the paratelic experience, the reversal theory framework may help identify those conditions in which humour is beneficial (Murgatroyd, 1987).

Anxiety, for example, occurs because individuals are generally unable to reverse from the telic to the paratelic state, with elevated arousal levels experienced as anxiety, rather than excitement. Humour is a useful and dynamic tactic for achieving reversal to the paratelic mode, for example, by creating a paratelic climate within therapy with some judicious use of self-directed jokes by the therapist. For individuals in the paratelic mode, the use of "gallows" humour aims to encourage clients to recognise the absurdity of their own position within a paratelic frame and to respond to that recognition by becoming more telic in their response (Murgatroyd, 1987). Therefore, the use of humour may increase awareness of difficulties and coping strategies in both therapists and clients (Apter, 1989).

For police officers, formulations and interventions to enable more appropriate reversals to a particular mode, and/or adaptive strategies when in particular states, may prove beneficial for mental health. The use and understanding of police humour in its occupational context may be particularly pertinent for both therapists and police clients. Officers learn to respond professionally, not personably, to situations and to control their emotions.
Psychology, in contrast, emphasises emotional self-expression. For clinicians and members of the police service, the understanding, control and application of humour may facilitate greater awareness of its adaptive capabilities and its appropriate use, as well as providing an acceptable method of emotional expression for police officers. Gender differences in the use of different elements of humour also needs to be considered within therapeutic or occupational interventions.

The use of humour within a reversal theory framework could also be successfully employed in other relevant capacities, such as health promotion campaigns. For example, although overall no significant problems in police psychological functioning were found, the relatively high police substance use scores suggested potential substance abuse problems. This is usually indicative of individuals in the paratelic mode endeavouring to maintain or achieve high arousal by using the temporally inappropriate strategy of consuming alcohol, regardless of the unwanted long-term consequences. Humour could be used in health promotion material to illustrate the tensions and contradictions between immediate and future needs, such as by highlighting and exaggerating this tension.

Summary.
This study indicated that police officers were more likely than support staff and specials to have higher alcohol or drug consumption, and to also be more likely to have psychological problems, particularly male officers. However, other than for substance abuse, police officers' scores fell within normative ranges, a measured by an employee screening measure. Police and support staff had significantly lower telic dominance scores than specials, indicating the possibility that full time members of the police service may be attracted to that occupation because of their need for paratelic arousal. Dimensions of police humour were also reported, and it has been suggested that the adoption of a reversal theory framework for presenting problems in police staff, and utilising the appropriate use of humour within
therapeutic settings may be appropriate for police and support staff. However, as this study used a correlational cross sectional design, the possible reasons for differences between these groups remain speculative. Additional methodological problems were also reported. Further longitudinal research may identify the relevant occupational, organisational and socialisation factors that contribute to police appraisals, experiences and behaviours, particularly in relation to the use of humour and psychological distress.
References.


APPENDICES

Appendix 1. Letter of authorisation from Chief Constable to undertake the study.
Appendix 2. Demographic section of questionnaire battery
Appendix 3. Coping Humour Scale.
Appendix 4. Written authorisation to use Coping Humour Scale
Appendix 5. Multi-dimensional Sense of Humour Scale
Appendix 6. Written authorisation to use Multi-dimensional Sense of Humour Scale
Appendix 7. Telic Dominance Scale
Appendix 8. Amended EAPI
Appendix 9. Questionnaires: Qualitative comments section
Appendix 10. Questionnaires: Letter to participants
Appendix 11. Ethics Committee Approval
Appendix 12. Professional Insurance
Appendix 13. Feedback to participants
Appendix 1

Letter of Authorisation from Chief Constable to undertake the study
Dear Mrs J J GROVER

"Crompton Fold"
The Street
Pleshey
Chelmsford
Essex
CM3 1HE

16th October 1998

Reference your request to undertake research within Division, I am pleased to attach confirmation from... giving approval for the research to go ahead.

Could you please now make an appointment with my Secretary, in order to make an appointment for us to discuss detailed method to be used for the research and an agreed timetable.

I look forward to seeing you.

Yours sincerely

Superintendent
MEMORANDUM

To: Superintendent

Ext: 

Date: 13th October 98

My Ref: 

cc: 

From: 

Academic Research Proposal

J Grover

I am content for this research undertaking to go ahead as requested by Grover. Please remind her of the requirements for research contained in Section 6 of the General Policy Guidelines, paragraph 34.3, in particular the necessity to obtain specific approval prior to any publication of her research findings.

Please also extend my best wishes to her for the completion of her studies.

Chief Constable
SECTION 6 GENERAL ADMINISTRATION AND SERVICE CONDITIONS

34.3 INTERNAL RESEARCH BY OUTSIDE AGENCIES

Policy

Requests from outside agencies or individuals to research police facilities for any publication or programme should be forwarded to HQ PSO who will, in appropriate cases, arrange for approval by a Chief Officer.

Researcher Guidelines

Once permission to carry out the research has been obtained the following guidelines should be applied:

1. That all persons involved in conducting the research will be subject to the provisions of the Official Secrets Acts 1911 to 1989, and will be required to sign a declaration acknowledging that the provisions of those Acts have been brought to their attention.
2. That members of Police staff who assist with the research shall remain anonymous at all times.
3. None of the research findings or other associated matters (other than academic research which is to be submitted as part of a course or degree) shall be published without the authority of Police.
4. Copies of completed research documents must be made available to the Chief Constable for his information and retention.

34.4 EXTERNAL GRANTS AND AWARDS

Introduction

There are a number of external award schemes available to resource and reward innovations in the Police Service. Members of staff are encouraged to take advantage of such opportunities to undertake projects and research.

Award Categories

1. Police Science and Technology Department of the Home Office

To qualify for this award the research must be of a scientific or technological nature. Proposals must be made via a Project Initiation Form (obtainable from HQ PSO). The research is carried out by the Home Office who assign resources.

For inclusion in the following financial year's programme Proposal Initiation Forms must be submitted on or before 16 July each year.

2. Police Research Award Scheme - Home Office Police Research Group

This is an annual competition for an award of research funds in respect of Management, Social Science or Crime Prevention initiatives and innovations.

Applications are required to be submitted by December annually.

In the past the Ernst and Young Police Foundation Award was given to a project completed under this scheme.

3. Ernst and Young Police Foundation Awards

This is an annual award given to initiatives and innovations in Police Management for schemes which have been implemented in the previous twelve months.

The deadline for submission of proposals for consideration of an award is May annually.
Appendix 2

Demographic section of questionnaire battery
Section One

Please answer the following questions which ask about your background or work, by circling the number, shown in bold type, or by writing the appropriate answer that best describes your situation.

1. Your age: ________________________________ years __ months

2. Your sex: Male 0 Female 1

3. Your current marital status:
   - Single 0
   - Widowed 1
   - Separated 3
   - Co-habiting 4
   - Divorced 2
   - Married 5

4. How many children currently live with you?
   - None 0
   - One 1
   - Two 2
   - Three 3
   - Four or more 4

5. What is the highest level of education you have achieved?
   - None 0
   - CSE/GCSE 1
   - "A" level or HND 2
   - Degree 3
   - Postgraduate 4
   - Other qualification 5

6. What is your occupation within Essex Police?
   - Police officer 1
   - Civilian staff 2
   - Special Police 3

7. How long have you been a Regular/Special police officer or been employed by Essex Police? ________________________________ years __ months

8. What is your position/rank?
   - Civilian-manual 1
   - Civilian-administrative 2
   - Civilian-supervisor/manager 3
   - Constable 4
   - Sergeant 5
   - Inspector or above 6

9. What is your current main role/duties?
   - Administration/manager 1
   - Uniform patrol 2
   - SOA 3
   - Detached beat/NBO 4
   - CID 5
   - SOCO 6
   - Other ________________________________ 7

10. If you are a Special Police Officer, what is your main civilian job title or occupation? ________________________________
Appendix 3

Coping Humour Scale
The Coping Humour Scale

Instructions:

This questionnaire is concerned with the way you express and experience humour. Obviously, there is wide variation among individuals and therefore no right or wrong answers to these questions. Below you will find a list of seven statements. In the space at the beginning of each sentence, please indicate the degree to which you agree or disagree with that statement by writing a 1 (strongly disagree), 2 (mildly disagree), 3 (mildly agree), or 4 (strongly agree).

1. I often lose my sense of humour when I'm having problems.
2. I have often found that my problems have been greatly reduced when I tried to find something funny in them.
3. I usually look for something comical to say when I am in tense situations.
4. I must admit my life would probably be easier if I had more of a sense of humour.
5. I have often felt that if I am in a situation where I have to either cry or laugh, it's better to laugh.
6. I can usually find something to laugh or joke about even in trying situations.
7. It has been my experience that humour is often a very effective way of coping with problems.
Appendix 4

Written Authorisation to use Coping Humour Scale
November 18, 1998

Jennifer Grover
Clinical Psychology Training Scheme
Salomon's, Broomhill Road
Southborough,
Tunbridge Wells
Kent, England
TN3 0TG

Dear Ms. Grover,

This is to confirm that I give you permission to make use of the Coping Humour Scale in your research. I would appreciate it very much if you would send me a summary of your findings with the scale after your research is completed.

Best wishes on your research!

Yours sincerely,

Rod A. Martin, Ph.D.
Associate Professor and Director of Clinical Training
Appendix 5

Multi-dimensional Sense of Humour Scale
The MSHS is a 24-item scale that tests for four different dimensions of sense of humor: humor generation or creativity, uses of humor as a coping mechanism, appreciation of humor, and attitudes toward humor and humorous persons. It has 18 positively-phrased items and six negatively-phrased items to reduce response-set bias. It is scored on a five-point Likert scale: strongly disagree = 0, disagree = 1, neutral = 2, agree = 3, and strongly agree = 4 for the positives; the negatives are reversed in scoring. Blanks are scored as neutrals. Thus the lowest possible score is zero and the highest is 96.

Thorson and Powell have gathered responses on the MSHS from a sample in Nebraska of 426 persons aged 18 to 90 years of age (mean age = 37.9 yrs., S.D. = 21.7 yrs.). Their scores on the MSHS ranged from 31 to 96 with a sample mean of 71.8 (S.D. = 12.9) and a median of 72.0. There were no significant differences by age or sex in this sample:

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males (N = 136)</td>
<td>72.5</td>
<td>13.3</td>
</tr>
<tr>
<td>Females (N = 290)</td>
<td>71.5</td>
<td>12.8</td>
</tr>
</tbody>
</table>

A description of how the scale was developed and its factor structure can be found in:


And, correlates of EPPS personality traits and the MSHS can be found in:


Permission is granted for use of the MSHS for research purposes (with proper citation). The authors would appreciate it if others would be so kind as to send them a copy of their results or share reprints of any studies using the scale; send them to:

Dr. James A. Thorson
Department of Gerontology
University of Nebraska at Omaha
Omaha, NE 68182 USA
email: jthorson@unomaha.edu
Scoring the MSHS:

Score responses on the eighteen positively-phrased items from zero to four, going left to right:

<table>
<thead>
<tr>
<th>Response</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>strongly disagree</td>
<td>0</td>
</tr>
<tr>
<td>disagree</td>
<td>1</td>
</tr>
<tr>
<td>neutral</td>
<td>2</td>
</tr>
<tr>
<td>agree</td>
<td>3</td>
</tr>
<tr>
<td>strongly agree</td>
<td>4</td>
</tr>
</tbody>
</table>

Score any items left blank as 2 (neutral)

Score the six negatively-phrased items (#4, 8, 11, 13, 17 and 20) in reverse order of the positives:

<table>
<thead>
<tr>
<th>Response</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>strongly disagree</td>
<td>4</td>
</tr>
<tr>
<td>disagree</td>
<td>3</td>
</tr>
<tr>
<td>neutral</td>
<td>2</td>
</tr>
<tr>
<td>agree</td>
<td>1</td>
</tr>
<tr>
<td>strongly agree</td>
<td>0</td>
</tr>
</tbody>
</table>

Then, simply add up the item scores for the individual's total score.

Example:

<table>
<thead>
<tr>
<th>Item</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>(R)</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>13</td>
<td>(R)</td>
<td>0</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

The positives are scored 0 through 4 as they appear; the item left blank is scored as a 2, and the negatives (R = reversed) are scored 4 through 0, as indicated. Add 'em up and you've got it. Remember to reverse the six negative items in scoring!!
Scoring the MSHS:

Score responses on the eighteen positively-phrased items from zero to four, going left to right:

- strongly disagree = 0
- disagree = 1
- neutral = 2
- agree = 3
- strongly agree = 4

Score any items left blank as 2 (neutral)

Score the six negatively-phrased items (#4, 8, 11, 13, 17 and 20) in reverse order of the positives:

- strongly disagree = 4
- disagree = 3
- neutral = 2
- agree = 1
- strongly agree = 0

Then, simply add up the item scores for the individual's total score.

Example:

<table>
<thead>
<tr>
<th>Item</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>11.</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>12.</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>13.</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>14.</td>
<td>-</td>
<td>✓</td>
</tr>
</tbody>
</table>

The positives are scored 0 through 4 as they appear; the item left blank is scored as a 2, and the negatives (R = reversed) are scored 4 through 0, as indicated. Add 'em up and you've got it. Remember to reverse the six negative items in scoring(!)
We are conducting a study of attitudes and would appreciate your help. This is an anonymous survey; please don’t put your name on the questionnaire. If answering these items threatens you in any way, please just turn in a blank questionnaire. Please go through these items quickly, marking the response that is appropriate for you going from left to right: "strongly disagree," "disagree," "neutral," "agree," or "strongly agree."

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Sometimes I think up jokes or funny stories.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Uses of wit or humor help me master difficult situations.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>I’m confident that I can make other people laugh.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>I dislike comics.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Other people tell me that I say funny things.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>I can use wit to help adapt to many situations.</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>I can ease a tense situation by saying something funny.</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>People who tell jokes are a pain in the neck.</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>I can often crack people up with the things I say.</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>I like a good joke.</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Calling somebody a &quot;comedian&quot; is a real insult.</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>I can say things in such a way as to make people laugh.</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Humor is a lousy coping mechanism.</td>
<td></td>
</tr>
<tr>
<td>14. I appreciate those who generate humor.</td>
<td>Strongly Disagree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>15. People look to me to say amusing things.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Humor helps me cope.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. I'm uncomfortable when everyone is cracking jokes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. I'm regarded as something of a wit by my friends.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. Coping by using humor is an elegant way of adapting.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Trying to master situations through uses of humor is really dumb.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. I can actually have some control over a group by my uses of humor.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. Uses of humor help to put me at ease.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. I use humor to entertain my friends.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. My clever sayings amuse others.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thanks for answering these weird questions. Now, please indicate below your age and sex:

___ years
___ male
___ female
Appendix 6

Written Authorisation to use Multi-dimensional Sense of Humour Scale
November 16, 1998

Ms. Jennifer Grover
Clinical Psychology Training Scheme
Salomon's Centre
Broomhill Road
Southborough, Kent TN3 0TG
United Kingdom

Dear Ms. Grover:

This is to give you permission to use our Multidimensional Sense of Humor Scale (MSHS) and to publish the scale and its items in any publications based upon your research.

There is no charge for this, but we of course would appreciate it if you could share your results with us.

A copy of the MSHS and scoring instructions is enclosed, along with a number of article reprints on the development and uses of the scale. Best wishes for the success of your research project.

Sincerely,

James A. Thorson
Professor & Chairman

cc: Dr. Powell
Appendix 7

Telic Dominance Scale
Section Four: Telic Dominance Scale (TDS; Murgatroyd, Rushton, Apter & Roy, 1978)

If you had an open choice, which of the following alternatives would you usually prefer, or which most nearly applies to you? Please circle the one answer that best describes you.

1. Compile a short dictionary for financial reward
2. Going to evening class to improve your qualifications
3. Leisure activities which are exciting
4. Improving a sporting skill by playing it in a game
5. Spending one's life in many different places
6. Work that earns promotion
7. Planning your leisure
8. Going to formal evening meetings
9. Having your tasks set for you
10. Investing money in a long term insurance/pension scheme
11. Staying in one job
12. Seldom doing things "for kicks"
13. Going to a party
14. Leisure activities
15. Taking holidays in many different places
16. Going away on holiday for two weeks
17. Taking life seriously
18. Frequently eating strange foods
19. Recounting an incident accurately
20. Spending £500 having an enjoyable weekend
21. Having continuity in the place where you live
22. Going to an art gallery to enjoy the exhibits
23. Watching a game
24. Eating special things because you enjoy them
25. Fixing long term ambitions
26. Always trying to finish your work before you enjoy yourself
27. Not needing to explain your behaviour
28. Climbing a mountain to save someone
29. Happy to waste time
30. Taking risks

Write a short story for fun
Going to evening class for fun
Leisure activities which have a purpose
Improving it by systematic practice
Spending most of one's life in the same place
Work you enjoy doing
Doing things on the spur of the moment
Watching TV for entertainment
Choosing your own activities
Buying an expensive car
Having many changes of job
Often doing things "for kicks"
Going to a meeting
Work activities
Taking holidays always in the same place
Given two weeks of free time, finishing a needed improvement at home
Treating life light-heartedly
Always eating familiar foods
Exaggerating for effect
Spending £500 on repaying a loan
Having frequent moves of house
To learn about the exhibits
Refereeing a game
Eating special things because they are good for your health
Living life as it comes
Frequently going out for enjoyment before all your work is finished
Having purposes for your behaviour
Climbing a mountain for pleasure
Always having to be pleasant
Going through life safely
31. Watching a crucial match between ordinary sides
   Watching an exhibition game with star performers

32. Playing a game
   Organising a game

33. Glancing at pictures in a book
   Reading a biography

34. Winning a game easily
   Playing a game with scores very close

35. Steady routine in life
   Continual surprises or unexpected events

36. Working in the garden
   Picking wild fruit

37. Reading for information
   Reading for fun

38. Arguing for fun
   Arguing with others seriously to change their opinions

39. Winning a game
   Playing a game for fun

40. Travelling a great deal in one's job
   Working in one office or place

41. Planning ahead
   Taking each day as it comes

42. Planning a holiday
   Being on holiday

   Not sure
<table>
<thead>
<tr>
<th></th>
<th>False/not at all</th>
<th>Slightly true</th>
<th>Mainly true</th>
<th>Very true</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>2.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>3.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>4.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>5.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>6.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>7.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>8.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>9.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>10.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>11.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>12.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>13.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>14.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>15.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>16.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>17.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>18.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>19.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>20.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>21.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>22.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>23.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>24.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>25.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>26.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>27.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>28.</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td></td>
<td>False/not at all true</td>
<td>Slightly true</td>
<td>Mainly true</td>
<td>Very true</td>
</tr>
<tr>
<td>---</td>
<td>-----------------------</td>
<td>---------------</td>
<td>-------------</td>
<td>-----------</td>
</tr>
<tr>
<td>29.</td>
<td>I often rely on alcohol or drugs to reduce stress</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>30.</td>
<td>I find it easy to talk to my partner</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>31.</td>
<td>Others say I lack self confidence</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>32.</td>
<td>Expectations for performance at work are too high</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>33.</td>
<td>Others have recently told me that I look sad</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>34.</td>
<td>I have been sick for some time now</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>35.</td>
<td>We deal fairly with each other in my family</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>36.</td>
<td>I often feel tense</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>37.</td>
<td>I am not interested in what others think about my problems</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>38.</td>
<td>Some people at work cause problems for me</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>39.</td>
<td>I spend too much money on drugs or alcohol</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>40.</td>
<td>My partner doesn’t really know me</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>41.</td>
<td>I have a poor opinion of myself</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>42.</td>
<td>I do not get the recognition that I deserve at work</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>43.</td>
<td>I feel sad or blue most of the time</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>44.</td>
<td>I have difficulty making ends meet</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>45.</td>
<td>Bad things are happening in my family right now</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>46.</td>
<td>I feel jittery much of the time</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>47.</td>
<td>Others need help more than I do</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>48.</td>
<td>I have trouble getting along with my colleagues</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>49.</td>
<td>Others have told me that I have a drug or alcohol problem</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>50.</td>
<td>My partner puts me down</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>51.</td>
<td>I’m afraid to show my negative side</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>52.</td>
<td>I enjoy my job</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>53.</td>
<td>I have to make myself eat</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>54.</td>
<td>I have recently thought of taking legal advice</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>55.</td>
<td>Members of my family are trying to run my life</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>56.</td>
<td>I’m afraid much of the time</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>57.</td>
<td>I could solve my own problems if people would leave me alone</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>58.</td>
<td>I get angry at people in the job more easily than others do</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>False/not at all true</td>
<td>Slightly true</td>
<td>Mainly true</td>
<td>Very true</td>
</tr>
<tr>
<td>---</td>
<td>----------------------</td>
<td>--------------</td>
<td>------------</td>
<td>-----------</td>
</tr>
<tr>
<td>59.</td>
<td>I have physical problems caused by drug or alcohol use</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>60.</td>
<td>I feel understood by my partner</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>61.</td>
<td>Most people like me</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>62.</td>
<td>I am often bored with my job</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>63.</td>
<td>Nothing seems fun anymore</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>64.</td>
<td>I can't meet my credit payments (car, credit cards, etc.)</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>65.</td>
<td>My family is having major problems right now</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>66.</td>
<td>I worry myself sick</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>67.</td>
<td>Things usually take care of themselves</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>68.</td>
<td>If it weren't for certain people, I would enjoy work</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>69.</td>
<td>I am ashamed of things I have done while drinking or using drugs</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>70.</td>
<td>I get a lot of support from my partner</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>71.</td>
<td>I am overly sensitive to criticism</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>72.</td>
<td>Other people's work is unfairly assigned to me</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>73.</td>
<td>I feel hopeless about my life</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>74.</td>
<td>I worry that I'll never get out of debt</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>75.</td>
<td>My family has changed a lot recently</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>76.</td>
<td>I worry more than most people</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>77.</td>
<td>Most people with problems just need to grow up</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>78.</td>
<td>I am accepted by colleagues on the job</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>79.</td>
<td>I have health problems because of my use of alcohol or drugs</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>80.</td>
<td>I have too many arguments with my partner</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>81.</td>
<td>I feel successful for my stage in life</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>82.</td>
<td>Too much of my time at work goes on unimportant tasks</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>83.</td>
<td>Lately, I would rather die than go on living</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>84.</td>
<td>Things are going well financially</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>85.</td>
<td>I have a lot of problems at home</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>86.</td>
<td>I often feel edgy for no good reason</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>87.</td>
<td>My problems are my own business</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>88.</td>
<td>I have been told that I am too critical of people at work</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>89.</td>
<td>I have been hassled at work because of my drinking or use of drugs</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>90.</td>
<td>My partner expects too much from me</td>
<td>F</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>False/not at all true</td>
<td>Slightly true</td>
<td>Mainly true</td>
<td>Very true</td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------</td>
<td>-------------</td>
<td>-----------</td>
<td></td>
</tr>
<tr>
<td>91. I don't feel attractive</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>92. I have little or no say in decisions affecting my work</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>93. Sad thoughts keep me wake at night</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>94. I am having legal or disciplinary trouble</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>95. I am often angry at a family member</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>96. I can't stop worrying</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>97. I don't need help to solve my problems</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>98. I enjoy the people I work with</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>99. Drug or alcohol use has hurt my job performance</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>100. I don't like how my relationship with my partner has worked out</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>101. I feel that I am a failure</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>102. I dislike what I do for a living</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>103. I usually wake up looking forward to the day</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>104. I am worried about my health</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>105. I am ashamed of some of the things my family does</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>106. I have trouble falling asleep because of worry</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>107. I don't see the need to make changes in my life</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>108. I argue a lot with people at work</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>109. I miss work because of my drinking or drug use</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>110. My partner often hurts my feelings</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>111. I express my opinion even when others don't agree</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>112. My work setting creates much stress</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>113. Death would seem like a relief to me</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>114. I need help in reducing stress caused by lack of money</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>115. There are a lot of bad feelings in my family</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>116. I worry too much about bad things that might happen</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>117. It is a waste of time to think about problems</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>118. Colleagues have complained that I do not co-operate with them</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>119. I have been in disciplinary/legal trouble because of my use of alcohol or drugs</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
<tr>
<td>120. When I am with my partner, I feel lonely</td>
<td>F</td>
<td>S</td>
<td>M</td>
<td>V</td>
</tr>
</tbody>
</table>
Appendix 9

Questionnaires: Qualitative comments section
Do you have any comments or suggestions to make about support or services offered to police officers or support staff under stress? Please use the space below, or use it for any other comments you wish to make.

Thank you very much for completing this questionnaire. Please return it in the pre-stamped and labelled envelope provided, via the external post.

Once again, please be assured that your replies will remain anonymous and confidential and only used for the purpose of the research.

Again, thank you very much for your help.
Appendix 10

Questionnaires: Letters to Participants
Dear Colleague,

These questionnaires form part of a research study concerning the personal attributes of police officers and support staff, common problems they may experience, and their use of humour in everyday life, which may affect how individuals deal with the demands of their work. Everyone within the division is receiving a copy. Completing the questionnaires is entirely voluntary.

Your answers are confidential, anonymous and only used for the purposes of this study. Your answers will not be divulged to Police and the results will be analysed in such a way that individuals cannot be identified.

Please work through the questionnaires fairly quickly as it is your first reaction that is wanted. It should take about 20 minutes.

Complete the questionnaires as soon as possible. Then please return them in the pre-stamped addressed envelope provided.

If you would like to discuss the study with me, either before or after participating, please feel free to contact me at the address above.

Thank you very much for your help.

Jennifer Grover

(If you feel you want to discuss further issues of a personal nature, please remember that you can contact Occupational Health at HQ, or your own GP.)

When the results are analysed, they will be circulated within the division. However, should you like to receive your own copy, please fill in the slip below and send it me at the address shown.

---------------------------------------------------------------------------------------------------------------------

Please send me a summary of the results, when they are completed in August 1999

Name:
Address:

Send this slip to:
Jennifer Grover, Clinical Psychology,
Salomon's, Broomhill Road,
Southborough, T. WELLS, Kent TN3 0TG
Appendix 11

Ethics Committee Approval
Dear Jeni,

Re: Full Ethics Approval
The Role of Reversal Theory in Mediating Occupational Stress in British Police Officers, Special Constables and Civilian Police Support Staff

Thank you for your letter dated 10th December 1998. The Panel note that you have given very good and careful consideration of all the points raised in their letter dated 7th December 1998 and provided actions as specified in your letter are followed, the Panel is pleased to grant Full Ethical Approval for your research project.

We look forward to seeing the results and hope you enjoy the research.

Yours sincerely,

[Signature]

Professor Tony Lavender
Chair
Ethics Panel

C.C. Caroline Hogg
Nigel Armstrong
Appendix 12

Professional Insurance
Ms J Grover  
Crompton Fold  
The Street  
Pleshey  
Chelmsford  
Essex  
CM3 1HF  

The British Psychological Society  
Certificate of Professional Liability Insurance  

SCHEDULE 1 PROFESSIONAL LIABILITY  
Legal Liability cover for claims made against you for damages in connection with your business or profession as a psychologist.  
The master policy number 20LBYU516111 is issued by Independent Insurance Company Ltd and has been lodged with the Society, copies are available from Smithson Mason (MPS Unit).  
Limit of indemnity applying to any one event £500,000  

SCHEDULE 2 LEGAL HELPLINE FACILITY  
The Helpline service, provided by FirstAssist Group Ltd is available 24 hours a day, 365 days a year. Telephone 01455 254221 (for UK except Scotland) - 0345 697125 (Scotland). Be prepared to quote your BPS membership number and Scheme No. MPA 34014.  
The legal helpline and the Professional liability insurance are provided by different organisations. The helpline provides general legal advice on any topic and may be unable to give specific advice on a professional liability claim. It is therefore important that you notify Smithson Mason immediately of any incident which you think may result in a claim under the professional liability cover.  

Professional Liability insurance includes cover normally provided by: Public Liability, Professional Indemnity, Product Liability and Libel & Slander Insurances.  

THE FOLLOWING PREMIUM INCLUDES INSURANCE PREMIUM TAX AT 4.00%  
PREMIUM £58.40  
The Insurers will provide an indemnity in the terms, exceptions and conditions of the Master Policy in respect of any event occurring during the Period of Insurance. The declaration made by the member is the basis of and forms part of the contract.  
DATE: 05-Oct-1998  
Arranged by Smithson Mason Limited to whom all queries should be addressed.  
RECEIVED WITH THAN
Appendix 13

Feedback to Participants
I would like to thank all the police officers, special constables and civilian support staff who participated in this study, and without whom this research would not have been possible. In particular, I am grateful to Denis Sheppard, for his invaluable assistance and support in gaining permission to undertake this study and in accessing participants.

I am also indebted to my supervisor, Dr Margie Callanan, for her continuous support and patience throughout, and to Dr Sue Holtum for her time and advice regarding statistical analysis.
SUMMARY OF RESEARCH

BACKGROUND.

Currently, stress is viewed as being a transactional process between an individual and the environment, referring to any event in which environmental demands, internal demands (or both), taxes or exceeds an individual's resources to cope.

This transactional model has been extensively applied to occupational stress and has generally emphasised everyday chronic stressors (e.g. workload, time constraints, relationships with co-workers), common to many occupations. Occupational stress has become widely accepted as being a harmful experience, resulting in the development and maintenance of individual ill health and organisational problems.

The cost to the nation and organisations of stress-related illnesses, which can contribute to absenteeism, early retirement on health grounds and premature death, are considerable and increasing. Links have also been made between stress and mental breakdown, poor health behaviours, job dissatisfaction, accidents and family problems. The personal consequences of occupational stress have been associated with coronary heart disease, rheumatic arthritis, ulcers, allergies, headaches, depression, anxiety and alcohol abuse.

It has been predicted that the physical and psychological health risks of occupational stress will increase in the next millennium, due to the various social, political and economic factors influencing the work environment. For example, cutbacks in government funding for human-service agencies have resulted in fewer staff managing an identical or greater work load, and in many professions, real wages have declined and job benefits have been curtailed, whilst changes in government policies determine what services employees can or cannot provide. Consequently, the next millennium presents all the necessary factors for occupational stress: an increasing work load, higher job expectations, a decreased work force and resources, in a climate of rapid change, and little autonomy by workers.

The effects of occupational stress been widely investigated in recent years, especially its causes and the possible factors that might reduce the negative effects for individuals when they are exposed to potential stressors. These have included studies of life events most likely to produce stress, organisational factors (such as work demands, managerial style, and conflict with colleagues), and a wide variety of personality traits believed to moderate the effects of stress.

Generally, this research has assumed that because of fairly enduring differences (for example, how stressful events are coped with), individuals vary to the degree that they are adversely affected by negative experiences. Factors that have been studied have included sensation seeking, extroversion, neuroticism and introversion, and sense of humour.

Humour has consistently been regarded as a positive coping mechanism for adverse life events and situational difficulties and has been shown to significantly buffer the negative effects of stress (for example, depression, anxiety, loneliness, low self-esteem and anger), and to increase the enjoyment of more positive life experiences. At work, humour has three benefits: (i) it promotes physical and mental health; (ii) by responding to potentially stressful situations with humour, unlike negative emotions such as anger, it maintains a sense of control, diffusing situations, as individuals can disengage themselves temporarily from the situation, and thereby gaining some perspective; and (iii) it fosters mental flexibility and acts as a social lubricant, allowing people to work more effectively together.
Police officers are one of the groups that have received considerable research attention into the causes and effects of occupational stress. There have also been pragmatic considerations as well as welfare concerns about police employees. This concern has been driven by the need for public services to be economically rational, by increasing demands on police resources in general, and also by the problematic impact upon the police service regarding absenteeism, early retirements and their effects on personnel shortages.

In the research literature, there appears to be several assumptions about the nature of police stress, namely: police work is inherently stressful; police work is more stressful than other occupations; police officers suffer from the negative effects of stress to a significant degree; officers need special interventions to reduce the causes and consequences of stress; and police work will become stressful in the future. However, the majority of studies have produced contradictory results, although the broad conclusion of much police stress research is that organisational and management stressors, common to most occupational groups, are the more likely sources of stressful psychological reactions than routine operational duties.

Much of the originating research literature on occupational stress in policing is derived from studies of US police officers. The relevance of applying US results to the UK police service is questionable. Differences in cultural settings, age, and sex composition, physical fitness, specific police roles, the size and organisation of police departments, as well as the policy on firearms may render many comparisons meaningless.

Research has also been problematic due to the lack of an appropriate and equivalent occupational group with which to compare statistical results. It has been argued that the police generally have a greater diversity of tasks than, for example, other emergency services, such as fire-fighters or ambulance crews, and arguably are perceived more negatively by the general population. In particular, there has been very little research, if any, comparing the effects of occupational stressors between regular police officers, civilian support staff and special constables. It could be argued that the latter groups would be the most appropriate with whom to compare the statistical results found with full time police officers.

The degree of inherent stress in police work and the extent of psychological distress in police officers would have implications for clinical or occupational interventions. For example, if it was established that policing was a potentially stressful occupation, it does not necessarily imply that officers will suffer psychological distress. There is a dominant police philosophy that maintains officers should be emotionally robust to deal with incidents and situations that would be stressful to civilians. If the level of police stress is no greater than other occupations, then it could be argued police officers could utilise the various stress management techniques developed by other occupations. Conversely, if officers experience more distress because of factors unique to police work, then it may highlight the need to develop interventions specifically for the police to alleviate distress.

**Research Questions**

Some of the research questions of this present study included:

1. Are there significant differences between police officers, civilian support staff and specials on different areas of psychological problems (such as depression, anxiety, substance abuse, family problems)? Are there significant differences between the scores of male and female police officers?
2. Are there significant differences between police, civilians and specials on
different personality factors? Are there significant differences between male and
female police scores?

3. Are there significant differences between police, civilian staff and specials on
their use of humour?

**METHOD.**

**Participants.**
Permission was granted by the Chief Constable of an English provincial police
service and the Commander of a police division within that police area, to conduct
the study with all police officers, civilian support staff and specials stationed within
that division A total of 373 participants (244 males and 129 females) were sent the
questionnaire battery, comprising of 248 police officers (196 males and 53 females),
79 civilian staff (17 males and 62 females) and 46 special police (31 males and 15
females).

In total, 191 questionnaires (51 per cent response rate) were returned,
completed by 125 males and 66 females. The average age of the sample was 34.93
years, ranging from 20 to 59 years. The average length of time respondents had
been employed by the police service was 10.18 years, ranging from less than one
year to 32 years.

The majority (48.6 per cent) of the respondents were married, whilst over a
quarter were single (27.2 per cent). Less than 3 per cent were co-habiting, and
about 15 per cent were either divorced or separated. Widowed respondents
consisted of 8.9 per cent. Over half of the participants had no children living with
them, whilst one-third had one or two children living with them. Respondents with
three or more children comprised 10.4 per cent of the sample.

Demographic statistics for each occupational group are provided below.

**Police Officers.**
A total of 151 police officers (109 males and 42 females) returned questionnaires,
with an overall police response rate of 40.48 per cent. The average police age was
34.42 years, and ranged from 20 to 53 years. The mean length of police service
was 11.09 years, ranging from less than one year to 32 years. Male police officers
were found to have significantly longer police service (12.63 years), than their
female colleagues (7.11 years).

About 80 per cent of police officers were Constables, with 3 per cent being
Sergeants and 11.3 per cent holding the rank of Inspector or above.

**Civilian Staff.**
A total of 27 civilian support staff (7 males and 20 females) returned the
questionnaires, with a response rate of 7.23 per cent. The average age of civilian
staff was 38.60 years, and ranged between 20 and 59 years. The average length of
time support staff had been employed by the police service was 7.23 years, and
ranged from less than one year to 23 years. The majority (74.1%) of civilian staff
were engaged in administrative work with 14.8% engaged in supervisory duties and
11.3% employed in manual work.

**Special Police.**
Completed questionnaires were returned by 13 special police officers, nine males
and four females, with an overall response rate of 3.48 per cent. The average age
of these respondents was 33.26 years, and ranged from 23 to 49 years. Male
specials were found to be statistically significantly older (35.79 years) than their female colleagues (27.55 years). The average length of their police service was 5.73 years, and ranged from one year to 22 years. In relation to their civilian occupations, three specials were employed in business, four specials worked in a technical or computing role, two were employed in administration/clerical work, one special was a police employee, one was manual worker, and the remaining two respondents declined to specify their occupation.

RESULTS.

Research Question 1. Are there are significant differences between police officers, civilian support staff and specials on the different areas of psychological distress? Are there significant differences between male and female police scores?

The scores for all three groups, fell within the normal range, i.e. below 60, with scores above 60 indicating potential problems in that area. For Substance Abuse, scores at or above 16 indicate problems with drug or alcohol abuse.

Police officers had significantly higher scores than specials on the domains of Interpersonal Conflict, External Stressors and Depression. These results suggest that, in comparison with specials, regular police officers are significantly more likely to experience conflict with, or express hostility towards, co-workers or supervisors, to experience difficulties in stressful events external to work (such as health, financial or legal areas), and to experience the psychological and physiological effects of depression.

Police officers and civilians had statistically significantly higher scores than specials on the domains of Anxiety and Self-Esteem. Therefore, police and support staff, in comparison with specials, were significantly more likely to experience the psychological and physiological correlates of anxiety, and to be self critical and dissatisfied with their perceived abilities, skills or achievements.

Police officers had statistically significantly higher scores than civilians or specials for the Substance Abuse scale. The average score for police officers was 15.1, for support staff 12.8 and for specials, their average score was 12.4. Therefore, police officers were significantly more likely to experience difficulties in interpersonal, social or work functioning as a result of alcohol or drug use.

Across all three groups, male respondents (average score = 49.82) scored statistically significantly higher than females (average score = 47.09) for Family Problems, indicating that males were more likely to experience difficulties in their relationships with family members.

Police Officers

For police officers, lower self esteem was associated with higher depression scores. Stressors external to the work environment and lower work satisfaction were also associated with higher depression scores.

Older age, greater educational achievement, greater use of humour, greater substance abuse, being seriousminded and achievement orientated, and being female and less years of police service were significantly associated with increased anxiety scores.

In relation to substance use by police officers, it was found that younger age, and problems in relationships with a spouse, partner, co-workers or supervisors are associated with increased substance abuse. Interestingly, there was a significant
association between increased substance abuse and higher police rank. Depression and being achievement orientated and serious minded were also linked with increased substance abuse.

Female officers, compared to male officers, had statistically significantly higher Anxiety scores, but significantly lower scores for Marital Problems and Problem Minimisation Therefore, in comparison to their male colleagues, female officers were significantly more likely to experience the psychological and physiological correlates of anxiety, and were less likely to have significant relationship problems with their spouse or partner, or to discount the seriousness and extent of their problems.

Research Question 2: Are there significant differences between police, civilians and specials on their scores for personality factors? Are there significant differences between scores for male and female police officers?

Using statistical tests, there was no significant difference found in the overall sample between the scores of males and females.

For police officers and specials, in comparison with support staff, they were found to be more likely to be orientated towards goals perceived as being essential or important, rather than goals perceived as being trivial, arbitrary or inessential.

Specials, compared with support staff, were also found to be likely to prefer to be involved in purposeful, serious minded and goal orientated behaviour or activities, in order to fulfil desires for significant achievements, rather than doing an activity or behaviour for the immediate excitement or pleasure it offers.

For female police officers, they were more likely to plan ahead, to be goal orientated and to avoid situations likely to increase their levels of emotional excitement or arousal than their male colleagues.

Research Question 3: Are there significant differences between police, civilian staff and specials on their use of humour?

There was no significant statistically difference found between male and female scores across all three groups. Furthermore, when comparing the results of all three groups, they did not differ significantly in using humour as a coping mechanism. However, in comparing the scores between male and female officers, differences were found. Male officers were more likely to create and generate humour in everyday situations, compared with female officers.

Higher scores (i.e. higher use of different aspects of humour) on the humour questionnaires were associated with being single, a lower level of conflict with co-workers, more difficulties with a spouse or partner, and greater difficulties accurately estimating the seriousness or extent of problems.

Specifically, using humour to cope with situations or problems was significantly linked with having greater educational qualifications, being married or cohabiting, and having relationship problems with a spouse or partner.