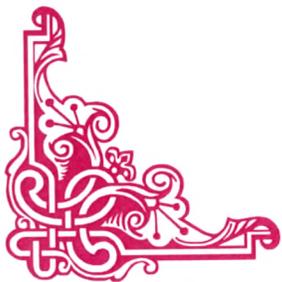


# Chapter 3

## **REVIEW OF LITERATURE**



## CHAPTER: 3: REVIEW OF RELATED LITERATURE

### INTRODUCTION:

*This Chapter mainly focuses on three things i.e., to review the latest related research articles and identify the author(s) and the year of publication, to see the methodology and parameter used in that research and finally the outcome of the research. In this chapter ample numbers of related research articles have been reviewed. This chapter contains only those literatures which are pertinent to the present study out of total reviewed articles.*

Bano & Talib (2012)<sup>1</sup>, in their study concluded that in spite of the much research conducted with respect to the police personality, it is hard to extract any consistency from this research. Despite some researchers having found the same attributes to characterize police officers, the literature easily appears quite chaotic. A number of different attributes have been mentioned and in the same vein, some researchers have failed to find evidence of a thing like police personality (Mahanta & Kathpalia, 1984; Murrell, Lester, & Arcuri, 1978). Also, much of the research conducted with respect to the police personality took place between the 60s and early 80s. More research that examines the police personality is thus needed. The question still remains unanswered. Do police officers have similar traits or different traits to other non-police population? Even, if there is anything like police personality, does it come from predispositional background or socialization process? In order to understand and define the concept of police personality traits further, there is a desperate need to examine the phenomenon more deeply and widely. *"There is no evidence for such a thing as a typical police personality showing a cluster of traits that is constant across time and space."* (Yarmey, 1990).

Leino T. *et al* (2011)<sup>2</sup>, in their study found that stress may increase alcohol consumption among those who experienced a lack of personnel, insufficient personnel and lack of training to handle violent situations, this may mean that police officers who increase their alcohol consumption at the same time feel powerless

(Romelsjo et. al., 1992) as well as more stressed (Gershon et al., 2002). Furthermore, low resources may mean haste at work, which in turn may lead to increased exposure to critical incidents. These results also reflect the various long-term negative effects that violent experiences can cause. If negative effects become long-lasting they may make a police officer feel more powerless and uncertain on another occasion in a similar violent situation. It may also show that training does not adequately address the effects of constantly working in traumatic conditions, because it does not provide adequate training support to meet traumatic conditions. Thus physiological, social and psychological aspects need more attention while training the police force.

This study conducted in Finland, examined the association of work-related violence and increase of alcohol consumption. The strengths of the study were that the sample was large and representative of police officers in Finland. They were also able to include several work-related characteristics in their study. A limitation of the study was that it was a cross-sectional study. Thus they cannot draw firm conclusions concerning the causal direction of the results. Second, all their measures were based on self-reports, thus causing concern regarding common method bias.

Selokar D. *et al* (2011)<sup>3</sup>, they had discussed in their study that most of the participants (82.4%) were working more than eight hours daily. Although they were working in periodic shifts, their working hours exceeded 12 hours daily. Long working hours appear to be an important factor leading to stress among police personnel. This is consistent with Vila's study from Washington that found that long working hours and shift work threatened police officers' health, safety, and performance. This situation is aggravated by understaffing associated with demographic shifts and new threats to homeland security.

In their study a total of 32 (31.4%) participants scored  $\leq 15$ , indicating that stress in workplace presents no problem while 68 (66.7%) participants scored between 15-30 which suggest that stress in workplace was likely to cause a problem. Two personnel had a score of 31-45 where stress was clearly a problem, and the need for remedial

action was apparent. Important stressors among the police personnel they studied were criticism by superiors, working hours always exceeding the amount of time available, lack of rewards, the feeling of being inadequately valued for abilities and commitments, not feeling satisfied after finishing their work and not having enough time for themselves. Their results supported earlier research on police officers suffering from stress due to their occupation. Some studies also reported that police personnel are under continuous and constant stress due to similar stressors that lead to psychiatric morbidity. However some studies have confirmed that organizational culture and workload are the key issues in police officer's stress. In their study, a significant association of stress levels among police personnel was found with different factors ( $p < 0.05$ ).

Hickman *et al* (2011)<sup>4</sup>, in their article described police stress that developed out of several theoretical frameworks, but the knowledge base is limited by a common reliance on self-report stress measures. The research described an innovative approach to studying police stress that attempts to overcome some of these limitations by using direct, real-time, and spatially anchored measurement of an officer's stress response (via heart rate) during shift work. A pilot study was conducted using a single officer to determine whether this methodology is feasible for future studies. The pilot study demonstrated that continuous heart rate measurement over the course of the test officer's shift was possible and that these data could be placed in space-time context for purposes of exploring potential stress "hot spots."

The first goal is to improve the measurement of police stress by focusing on the real-time measurement of physiological response (via heart rates) as well as linkage to the dispatch system. This approach will allow an assessment of stimulus (call dispatch) and response (elevated heart rate). The judicious use of observational ride-alongs would enable assessment of the extent to which the dispatch database can effectively serve as a proxy for observational ride-alongs, which are often deemed too obtrusive to employ on a large scale.

The second goal is to provide basic descriptive information about the physiological stress associated with police patrol. For example, what is the average physiological response to calls in the study area? Can we chart a typical “day in the life” of an officer using heart rates? What proportion of a shift is spent at resting heart rate? What proportion of a shift is spent in activity with elevated heart rates?

The third goal is to enable formal testing of research hypotheses, several of which are consistent with extant criminological theories such as general strain theory (e.g., Swatt et al., 2007). The following are examples of possible hypotheses: (a) higher priority calls for service will be followed by higher average stress response; (b) officers on the late shift (3rd watch) will exhibit higher average stress levels than officers on day shifts; (c) officers with greater trait anxiety will have greater stress response; (d) officers in one-officer cars will have higher average stress response than those in two-officer cars; and (e) officers with greater years of service will have lower stress response.

A final goal is to place the measurement of police stress in a space-time context. As the recording units’ simultaneously record heart rate as well as latitude and longitude, the point data can be mapped using common mapping software and aggregated to areal units as desired for tests of spatial clustering. With careful sampling, it would be possible to generate valid “hot-spot” style maps, although such maps would depict average officer heart rates (in density terms) instead of crimes.

Garbarino S. et. al’s (2011)<sup>5</sup>, study explored the relationship between the work context (routine work or special event) of special policemen force, psychological measures of job strain (demand-control) and effort-reward imbalance. To collect the data they had administered occupational stress questionnaire surveys to 292 policemen in the Italian special police unit, ‘VI Reparto Mobile’ of Genoa, during routine activities and shortly before the G8 summit meeting in L’Aquila. Individual demographic and organizational data were obtained from administrative records

and paired with questionnaire data. In demographic variables they included age, educational level, marital status, presence of children, housing, origin, years of service and rank. Occupational stress was measured using two standardized questionnaires, the demand-control-support (DCS) questionnaire and the effort-reward imbalance (ERI) questionnaire. To analyse and study the data they checked bivariate relationships between all variables with chi-squared test, t-test, Wilcoxon-signed rank test and Spearman's Rho. With the help PASW/SPSS (17.0) software Logistic, regression analysis was used to determine the association between demographic variables and changes in stress metrics.

They found that for each subscale in the DCS and ERI models, stress scores among special police force were significantly lower just before the L'Aquila G8 meeting than during routine activities. Occupational stress in this special police force was not associated with an event that incurred risk to personal safety, nor from socio-demographic factors but from other ill-defined factors such as management style, workload, perceived fairness at work and physical and psychological conditions specific to each worker. The reason found for this was that an elite group of policemen who volunteered for a special force, passed a selection test and received specific training to withstand severe and prolonged stress. Special force policemen are willing to accept intense workloads and prolonged working hours that would be unacceptable to most workers and probably to other policemen. The authors had claimed that to their knowledge this was the first published study in which a police force was studied using DCS and ERI models simultaneously. The comparison of two models for the study of work stress provided useful insights for measuring and monitoring stress in different work circumstances. This study suggested an important difference in the two stress models used. The Karasek model (DCS), developed in the 1960s, appeared to be more suitable for the physical aspects of occupational stress, while Siegrist's model (ERI), designed for the tertiary society of the 1980s, more sensitive to stress resulting work relations and organizational factors. The limitation of the study is the special characteristics of population, limit the extent to which their findings could be generalized to other geographical areas or police

forces. Even self-completed questionnaires are subject to recall and information bias, mainly if participants' knowledge of the purpose of the study influence their responses. Many studies of police forces included office staff, traffic police or detectives with different work tasks. This study focused on a homogeneous group of subjects engaged exclusively in law enforcement.

Bano Bushara (2011)<sup>6</sup>, had carried out research to identify causes of stress and also empirically investigate the socio-demographic factors affecting stress level among police personnel. Data were collected from 65 police personnel including officers at all levels in the district of Aligarh, Uttar Pradesh. Multistage random sampling method was used to select police personnel at all level. A structured questionnaire containing relevant questions related to stress and socio-demographic factors was administered to selected police personnel. The study found that the main cause of stress were political pressure, lack of time for family, non cooperation from public and negative public image and low salary. Along with these, large number of respondents referred other causes like lack of govt. support, work overload, frequent transfers, lack of departmental support, torture by senior officers and so on. The author had also studied stress as a dependent variable and the socio-demographic factors independent variables using binary logistic regression. The study also indicated that stress is significantly more prominent in those police personnel who are younger, more educated, posted in rural areas and less experienced. Research had put forward the fact that the respondents living with families, post (designation) and marital status of police personnel have no significant impact on stress level of police personnel. The author suggested that police department should regularly organise training programmes, counselling and yoga classes for stress. These findings supplement the existing body of knowledge and contributed to the understanding of the causes of stress and the role of socio-demographic factors in affecting stress level among police personnel.

Morash M. *et al* (2011)<sup>7</sup>, concluded that most of the diverse group of women they studied saw fundamental female-male differences, but they did not agree on what

those differences were and they often qualified their perception of difference, noting tendencies instead of absolutes. Women did not just reproduce old stereotypes of femininity (or masculinity) but mixed what appeared to be individually selected characteristics, only some of which conformed to old sex stereotypes for men or women, in descriptions of themselves. Moreover, participants in their study devalued some of the characteristics they identified as common to men and valued those common to women. To protect and defend their sense of self, women recognized, individually or collectively resisted negative stereotyping and the creation of a sex divide by mentors and co-workers. The vast majority of women therefore accepted that women had some qualities traditionally associated with femininity at the same time that they valued and added to those qualities. The vast majority also recognized that their police work in some cases had nothing to do with gender or sex categories. Women did not either accept traditional gender stereotypes or revise them or note their lack of relevance to policing. The selection of the approach to gender depended on the context and the moment.

Because race, ethnicity, rank, and tenure in a department may influence women's identities, they had considered these variations in the analysis and noted them in the findings. The few race and ethnic group differences that they found cannot be generalized beyond the group and the location studied; and the small sample size of each group provided reason for future research to shed additional light on their findings. They could not explain or further clarify the finding that unlike other racial and ethnic groups, African American women rarely described female-related characteristics that enhanced their job performance. Rank and years on the force did not explain this finding, and a careful review of the data did not suggest an alternative explanation. A tendency to emphasize traditional sex and gender differences could account for women's lower rank, if such tendencies lead others to view women as unable to handle higher rank assignments. Alternatively, women might not see their own capabilities to successfully accomplish higher ranking jobs or to manage such jobs with the demands of being a wife and mother in addition to being an officer. Another possibility was that once women moved up in the rank,

they become more aware of their multifaceted characteristics and capabilities. This may explain why higher ranking women more often described women's greater abilities as communicators with citizens and co-workers and their greater intelligence and compassion on the job.

Research on the gendered police organization, which might be experienced differently by varying subgroups of women, could point to changes needed so that women do not need to defend identities that include job performance-enhancing qualities, such as compassion, alternative standpoints, and communication skills.

Dick P. M. Gavin, (2011)<sup>8</sup>: The results of their study had shown that organizational commitment was significantly influenced by the way police force's employees were managed rather than by job demands, and that had ramifications for personnel and management systems. Clearly the importance of good management and a supportive organizational climate for organizational commitment was shown by the findings, and that indicated the importance of the current Police Leadership Development Board's agenda to improve workforce management skills to encourage transformational leadership styles.

They concluded their findings, strongly supporting the proposition that having the opportunity to participate in decisions, the feeling that you have the support of your superiors, good communication on job performance and the needs of the role, all have a strong impact on organizational commitment, and do so at all the levels of hierarchy. The results reveal that although there are a range of commitment levels, there are only a small proportion of officers who are highly committed. The analysis highlights the importance of re-evaluating and strengthening support for HRM systems in such a way that the signals sent by senior officers and their policies are legitimate and credible. Specifically it was suggested that management development is required to change management practices and behaviours so that they nurture organizational commitment behaviours.

Lino *et al* (2011)<sup>9</sup>: The findings of this study stated the association between violence and psychological distress and its potential pathway. Violence in the form of physically violent acts was mediated by concern about future violence. Strong independent association was found between threats by a deadly weapon and distress. The strengths of the present study were firstly that the study sample was randomized from a representative sample of police officers and from a randomized sample of the two largest security guard companies in Finland. Secondly, the cases of distress were based on a version of the most widely used instrument in the epidemiological studies, the General Health Questionnaire (GHQ) 12 scale. The third strength was that the method of first conducting the interviews and then formulating the questionnaire proved to be successful because the interviews provided important information regarding typical physically violent acts and threats or assaults with a deadly weapon that citizens in Finnish society direct towards police officers and security guards. However, the accuracy of questionnaires should be further developed and they should be studied more deeply, using in-depth interviews and case studies.

The study had some limitations. Firstly, because the study was cross-sectional, they were not able to interpret the temporal order between variables. Exposure to violence might lead to distress symptoms but likewise, the more distressed could also become exposed to violence; thus, the association between distress and violence may be bidirectional. Secondly, all their measures were based on self-reports, thus causing concern regarding common method bias. Thirdly, the security guards' response rate was quite low (52%) and thus, the results cannot be generalized for other security guards in Finland. Unfortunately, they were not able to do any attrition analysis because no information about non-respondents was available.

Physically violent acts, such as struggling to get free, wrestling or hitting and kicking, were related to distress only to the extent they were associated with personal worry about future violence, while threats or assaults with deadly weapon, such as a threat or real assault with a striking weapon, knife or firearm, had an independent

association with distress. The mediation in the study is complete because experiences of physically violent acts no longer affect distress after personal worry of future violence have been entered into the model. Thus, it seems that the personal worry about future violence is the mechanism that explains the earlier experienced physically violent acts and current distress association.

The result that threats or assaults with a deadly weapon were independently associated with distress and were not fully explained by personal worry of future violence may be explained by the fact that these encounters are much more severe and may have stronger and long-lasting stress and mental health effects.

Arial M. *et al's* (2010)<sup>10</sup>, objective of research was to identify work related stressors that are associated with psychiatric symptoms in a Swiss sample of policemen and to develop a model for identifying officers at risk for developing mental health problems. The research study design was cross sectional. A total of 354 male police officers answered a questionnaire assessing a wide spectrum of work related stressors. Psychiatric symptoms were assessed using the "TST questionnaire" (Langner in *J Health Hum Behav* 4, 269-276, 1962). Logistic regression with backward procedure was used to identify a set of variables collectively associated with high scores for psychiatric symptoms. The study showed that many operational and organizational stressors are associated with symptoms of mental health problems in police officers. Prevention should target tasks with high mental and intellectual demand, problems related to inadequate work schedule, lack of support from the supervisor or the organization, and self perception of bad quality work. These stressors are characterized by an important association with symptoms, and have a good potential for transformation. For example, measures to improve the quality of support from supervisors might include management and leadership courses. Organizational measures fostering appraisal and recognition of work well done could contribute to compensate for the self perception of doing bad quality work as expressed by some police officers. The implementation of flexible working schedules could also contribute to reduce stress due to constraining working time.

These measures appear promising in reducing symptoms of mental health problems in police officers. Complaints by police officers about stressors they face in their work should receive proper consideration by the management of public administration. Such complaints might be the expression of psychiatric caseness requiring medical assistance. Particular attention should be given to police officers complaining about many stressors identified in this study's multiple model. Prevention at an individual level should aim at identifying officers combining many of these stressors and clinical assistance should be offered to them.

Louw J. Gerrit & Viviers A. (2010)<sup>11</sup>: The results of this study are not unusual, when one looks at other studies (e.g. Milsap, 2002) - especially when considering the number of observed and latent variables involved. However, this study contributes to an understanding of the stress and coping process in the context of police force that is probably over-simplified in the Moos model. For example, this research revealed that social resources influence well-being independently, instead of collectively, with environmental stressors, as suggested in the Moos postulate. Similarly, personality influences the wellbeing independently, instead of a mediating variable, as suggested in the Moos model. When considering the practical implications unveiled in the study, some conclusions and recommendations can be made in support of the research. It can be concluded that police officers indeed experience negative effects from prolonged stressors relevant to the work environment. Such stressors consequently may inflict permanent negative health consequences. The re specified model confirms that some officers experience burnout, but, paradoxically, others continue unaffected as a result of some resilient factors not revealed in this study. Finally, it can be assumed that police officers do not operate in isolation and therefore require social support systems within organizations, as well as in a social context to reduce the effects of stress outcomes.

A few recommendations emanate from this study to improve police officers' health. Firstly, the embracing of support systems within a police context would create a healthier police corps to serve the community in a more, effective manner. Police

management should be aware of the negative health consequences of prolonged stressors and react proactively. Job redesign is one technique to reduce negative effects of burnouts. (Shirom, 2003b).

Secondly, transformational leaders should be identified to manage work teams or groups with high stress potential. Such a style embraces vigor indirectly by means of idealized influence, inspirational motivation, intellectual stimulation and individualized consideration (Avolio, 1999; Shirom, 2003a). For example, individualized consideration encourages employees into a higher level of perceived social support, while inspirational motivation is likely to enhance followers' self-efficacy and intellectual stimulation.

Thirdly, another possible option is to improve individuals' learned resourcefulness. According to Akgun (2004), learned resourcefulness is a cognitive skill that can be acquired; it increases one's perceived self-efficacy in control of emotional responses, the application of problem-solving strategies and the delay of immediate gratification. For future research, it is recommended that both path models be evaluated with different and larger samples. Even longitudinal designs should be considered in the investigation of causality.

In addition, a modification of some of the measures could be considered. For example, passive coping as a subscale can be included in the Brief COPE instrument to assess its prevalence in burnout samples. Such a limitation creates an opportunity for South African researchers to adapt the instruments, which were predominantly used internationally, to local conditions. Alternatively, the existing measures could be replaced with new ones.

The limitations experienced by the authors, that the instruments were originally developed in the English language has proven to be a limitation of the study. The English literacy under local conditions is under suspicion and may have limited the value of the study. The cross-sectional nature of the design made it difficult to prove

causal relationships. Another limitation was the exclusive employment of self-report measures, a strategy often associated with method variance. The sample size further limited the research results in such a way that results could not be generally applied to all police officers in South Africa.

Mathew *et al* (2010)<sup>12</sup>: Their study applied the job demands resources and conservation of resources models to police work, with the specific aim to examine the possible interaction between objectively measured work demands (community socio-economic status (SES)) and personal resources (role identification) on stress-related outcomes. A total of 89 officers from 10 small, suburban police departments (five from high SES areas and five from low SES areas) completed the surveys that focused on community SES demands and role identification as factors that potentially influence positive and negative psychological outcomes. Results indicated that community (SES) demands and role identification interacted to predict a variety of outcomes. Role identification as a psychological resource served to reduce the effects of high community SES demands on emotional exhaustion. Implications of these results for future police research were also discussed.

The current article attempted to expand our conceptualization of the Job Description Resources (JD-R) model, by incorporating the role of objective demands and internal personal resources. The results identified in this study led to several conclusions.

First, officers with low community SES demands tended to report less emotional exhaustion than do officers with high community SES demands. Second, the results revealed that when community SES demands are high, emotional exhaustion is significantly greater when officers identify their work role as a job, rather than as a career or calling. Third, across all participants, role identification played an important role in predicting both positive and negative psychological outcomes. Overall, the current study has suggested a line of future research involving police officers by incorporating the role of COR theory. Though many questions remain unanswered, we expect that future research will provide more in-depth explorations

of how role identification plays a role in the way officers respond to job stressors.

Though this study provides preliminary support for the importance of role identification, future research should replicate these effects using larger samples across a wide variety of regions. We explored the potential of role identification in police research, but there are still many issues that need to be addressed. First, it is possible that role identification has reciprocal causation with the outcomes measured in the current study, that is, increasing involvement or commitment may help officers to identify more with their role. Additionally, incorporating measures of personality and individual differences that tend to affect stress resiliency may help to shed some light on how role identification relates to specific outcomes. More research is needed to fully understand the ways in which role identification influences and is influenced by personality, stress, involvement, commitment, and other variables. In addition, this study focused on small, suburban police departments. The sample size was relatively small, so that some of the effects that trended toward significance did not reach significance. The response rate was also relatively low because the study was not conducted as a part of a specific initiative within the departments.

Juniper B. et al (2010)<sup>13</sup>, in their study identified nine dimensions of police well-being that extended beyond conventional stress measures currently available. For the first time, a sophisticated clinical framework used to evaluate the well-being of patients was applied to a police force that offered new practical insights on how working for the police may impair overall well-being. Uniquely, the status of civilian staff was also taken into consideration. A possible study limitation relates to how generalizable the findings are to other police force populations. At the time of the research, the participant force was undergoing significant organizational change; the uncertainty for respondents arising from this situation may have influenced unduly the make-up of the final items.

Unlike existing police stress scales, the variables were determined using both frequency and severity data drawn from a sizeable sample of 822 of which 45% held police officer positions. The data suggested that the majority of work related well being (WRWB) issues were experienced by all sections of the police that had practical implications for those tasked with shaping and delivering workplace interventions to improve health and performance across the whole force.

In terms of measurement properties, content validity was confirmed and internal reliability was satisfactory. Future research will test the reproducibility and construct validity of the instrument. How the findings link to performance measures such as sickness absence will also need to be verified. This study proffered a potentially new approach to evaluating the well-being of all those working in law enforcement. Its nine dimensions extend beyond conventional stress measures and may offer a practical alternative way of assessing the overall well-being status of an entire force, using a systematic framework that is comprehensive in its reach and closely aligned to the needs of the overall force.

Hall B. Garry et al (2010)<sup>14</sup>, concluded that despite growing research on the important impacts of job demands in the work-family interface, there is a lack of coherent theory to explain the seemingly contradictory propositions that job demands lead to both WFC! Using conservation of resource theory and specifically personal resource theory (Hobfoll, 2001; 2002), JD-R theory (Bakker & Demerouti, 2007); effort-recovery theory (Meijman & Mulder, 1998), and loss spiral theory (Hobfoll, 2001) they proposed a comprehensive process whereby job demands simultaneously lead to WFC and emotional exhaustion in police officers (see also Demerouti et al., 2004). They utilised SEM to assess causal mediated, reverse causal mediated, and simultaneous reciprocal mediated pathways between job demands, WFC, and emotional exhaustion in a longitudinal study of Australian frontline police officers. Supporting Hypotheses 1 and 2, the results of this study confirm the literature that reports WFC as a mediator between job demands and other strain related factors (e.g. Edwards & Rothbard, 2000; Grant-Vallone & Donaldson, 2001; Greenhaus et al., 2001;

Peeters, Montgomery, Bakker, & Schaufeli, 2005). The results also support the alternative reports of previous studies that found reverse mediating effects of emotional exhaustion between job demands and WFC (e.g. Thompson et al., 2005; Westman, Etzion, & Gortlier, 2007).

Other literature has also stressed the importance of reciprocal effects, and this study has shown with the use of longitudinal data the power of reciprocal mediating effects between job demands, WFC, and emotional exhaustion (e.g. Demerouti, et al., 2004; Ford et al., 2007; Frese et al., 2007). In accordance with Demerouti et al. (2004) theoretically this means that WFC and emotional exhaustion are best explained by a complementary theory indicating reciprocal directions and cross-links between seemingly contradictory pathways, explained through a loss spiral. Rather than concluding one theory proposing stressor strain directions only, implications of this study suggest future research should address the importance of reciprocal mediated relationships extending the traditional stressor strain paradigm to include a stressor strain stressor paradigm in order to examine job demand spill over effects more comprehensively.

Some limitations of their study should be noted. The data were collected using self report questionnaires, which can lead to common-method effects (e.g. Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), although longitudinal assessments are expected to offset this limitation. They also used a more comprehensive measure of WFC at Time 2. Relationships with WFC within time may have increased in size due to the domain coverage of the measures. Also, it is likely that the stability of the measure was reduced. This would have the effect of enabling stronger relationships with WFC at Time 2 in the study model, because less variance is accounted for by WFC T1. However, we do not think this had an impact on the overall conclusion as the best fitting model was the simultaneous reciprocal effects model. Although the sample was not representative by rank of sergeant and senior constable, overall we do not believe this would effect the relational conclusions drawn in this study. Practical implications are that increased job demands not only spill over to WFC, preventing

recovery and influencing emotional exhaustion, but that the strain of emotional exhaustion can also build-up at work influencing a potential loss spiral of spill over to home life contributing to WFC. Specifically, for police, more work needs to be done to prevent spill over from job demands, emotional exhaustion and WFC within the work-family interface in order to stem the high rates of marital discord and divorce (Howard et al., 2004). JD-R theory proposes that adequate resources, job related support, and job control could reduce the experience of job demands in the first instance. The addition of resources in the comprehensive model as proposed would be a fruitful line of enquiry of significant practical importance.

Chopko A. Brian, (2010)<sup>15</sup>: The purpose of this study was to investigate the relationship between posttraumatic distress and posttraumatic growth in a sample of police officers. The research question posed was: To what extent is current amount of posttraumatic distress associated with perceived posttraumatic growth among law enforcement officers? All data collection was anonymous and no identifying information was requested to protect the confidentiality of respondents. Demographic questionnaire was used to gather information related to age, gender, race, years of education, years in law enforcement, current rank, job assignment, current relationship status, and month and year of the most recent work-related traumatic event. Posttraumatic Growth Inventory (PTGI), 21-item survey designed was used to assess positive outcomes in the aftermath of traumatic stress and the respondents were asked to response on a 6-point Likert-type scale. To measure subjective distress, Impact of Events Scale-Revised (IES-R), 22-item survey designed was used following a traumatic event and respondents were asked to Respondents. They were asked to rate each item on a scale of 0 (not at all), 1 (a little bit), 2 (moderately), 3 (quite a bit), and 4 (extremely) according to the level experienced in the past seven days. Sample size of this study was 183 police officers, drawn from city police departments across a Midwestern state, out of which 170 (92.9%) were male and 13 (7.1%) female. Their age ranged from 23 to 67. Self-identified race of participants were 153 (83.6%) European Americans, 24 (13.1%) African Americans, 2 (1.1%) Asian Americans, 2 (1.1%) Native Americans and 1 (.5%) identified as other.

Years of education ranged from 12 to 20 and current relationships, 127 (69.4%) were married, 11 (6.0%) were separated, 16 (8.7%) were divorced, 19 (10.4%) were single, and 10 (5.5%) were involved in a committed relationship. Law enforcement experience ranged from 1 year to 40 years and ranks were 147 (80.3%) patrol officers, 16 (8.7%) sergeants, 7 (3.8%) lieutenants, 3 (1.6%) captains, and 10 (5.5%) detectives. Of these 163 (89.1%) were on patrol duty and there were 4 (2.2%) homicide detectives, 2 (1.1%) vice detectives, 1 (0.5) SWAT officer, and 13 (7.1%) general detectives.

Initially descriptive statistics (means and standard deviations) were obtained for all variables and Pearson correlations were obtained for the dependent and independent variables. To assess the relationship between Posttraumatic growths (PTG) and type of trauma, a standard multiple regression analysis was conducted. Total amount of posttraumatic distress (IES-R total score) and amount of posttraumatic growth (the PTGI full-scale score) was examined where significant and positive relationship was found ( $r = .267, p < .01$ ). As a result of this finding, the relation between the PTGI subscale scores and the IES-R full scale was studied. Pearson correlation matrix showed that the total posttraumatic distress rating was significantly related to all of the PTGI subscale scores. To determine how the type of traumatic event might be related to PTG, the relationship between the total distress score and all PTGI subscale scores warranted further examination and an exploratory multiple regression analysis was conducted. The author found that the beta weights in the regression model revealed only one predictor variable significantly contributed to the model that is the number of times one was involved in duty-related shooting.

The limitation of present research study were that it did not support the absence of consistent relations among PTG and posttraumatic distress, the correlational nature of the study lacks the ability to identify causal mechanisms, the use of a convenience sample and the author believed that differences might exist between the officers examined in this study and those in other areas of the country. The sample was delimited to active-duty "frontline" police officers and police supervisors because

they are more likely to have experienced work-related traumatic events than officers not working primarily in the field.

Gershon et al (2009)<sup>16</sup>, in their study estimated the effects of perceived work stress in police officers and determines the impact of coping on both perceived work stress and health. Officers from a large, urban police department (N = 1,072) completed detailed questionnaires. Exposure to critical incidents, workplace discrimination, lack of cooperation among coworkers, and job dissatisfaction correlated significantly with perceived work stress. Work stress was significantly associated with adverse outcomes, including depression and intimate partner abuse. Officers who relied on negative or avoidant coping mechanisms reported both higher levels of perceived work stress and adverse health outcomes. The results have implications for improving stress-reducing efforts among police officers. The interventions that address modifiable stressors and promote effective coping and resiliency will probably be most beneficial in minimizing police stress and associated outcomes.

Employers in general are increasingly aware of the need quality for work-life for their workforce to stay competitive and productive and to retain workers in an increasingly restricted and aging labor market. Consequently, programs on conflict resolution and workplace wellness are more prevalent, especially in some of the high-risk industries and workforces (Stokols, 1991). Similarly, it may be advisable for police departments to continue to find opportunities to improve the work environment of officers and to find new and effective mechanisms for addressing stressors in policing. Progressive police departments favor this approach and actively implement innovative strategies (e.g., providing peer counselors, encouraging officers and couples to enter confidential counseling, making structural administrative changes, adding diversity programs, changing hiring and training practices, adding critical incident management programs, etc.) to help minimize the risk of work stress among police officers. The present study's results underscore the need to re-examine police training of recruits at the police academy, to ensure they get the training necessary to meet the daily challenges and demands of police work.

As with all cross-sectional studies, this study has potential limitations related to the design that preclude the determination of causality. This investigation, however, provides the basis for more definitive studies in the future. In addition, because law enforcement personnel from only one police department were sampled, these results may not be generalizable to all police forces, especially those in non-urban settings. Nevertheless, the problems that the officers faced in this department are unlikely to be particularly different from other large, urban departments, and strategies that address police stress may be helpful to other departments similar in size and report rates. Furthermore, this study expands previous work by generating information on urban-based law enforcement personnel in two important ways. First, data were collected from officers from all ranks so that comparison of job category and rank could be made. Second, analyses were directed at determinants using relative rather than absolute measures, thereby enhancing generalizations of observed associations. Another limitation is related to potential response bias. Fortunately, the present study had a strong response rate, and the demographics of the respondents were similar to the demographic profile of the department as a whole. There may also be biases resulting from self-reports. As officers were asked to respond to sensitive questions e.g., alcohol use, spousal abuse, etc., they might not be forthcoming or accurate in their responses. This is always a concern with sensitive items on non-normative behaviors, as respondents may give socially desirable responses. The anonymous nature of the study, the strong support of the police officers union, and the efforts that authors have made to introduce the study and build trust might have mitigated this problem to some extent. In addition, checks of the internal validity of responses showed that this problem was probably minimal. Recall bias should not be a serious problem because respondents were asked to recall events that occurred within the previous 6 months.

An additional potential limitation is the effect of survival bias on the results. Officers who resigned, retired, were out on sick leave, or were deceased because of their experiences with stress, were not represented in the sample. These results may under

represent these “exposed” workers and lead to inaccurate rates and underestimations of the strength of association between stress and stress outcomes. This problem is admittedly difficult to control in a study of this nature. This type of bias, however, might actually have resulted in underestimations of the true magnitude of the association; fortunately, the general response rate was extremely high. Finally, another potential limitation of the study was the length of the questionnaire. Although most officers completed the 132-item questionnaire in less than 30 minutes, admittedly this could have resulted in less than thoughtful responses and possible acquiescence. There is always a competing interest in survey research in including all the key variables yet not overburdening the respondent.

Belur J., (2009)<sup>17</sup>, in his study concluded that the police use of deadly force in Mumbai has been widely accepted, without question, as the correct and effective response to controlling increased organized crime. However, encounters that were once prized and acknowledged as individual and organizational achievements (during the period under study, 1993–2003) are now, gradually, being questioned; are they employed as a last resort to control crime or are other motives, like corruption and self-interest/aggrandizement, dominating? Since this change of attitude towards police violence has occurred in the recent past, it is difficult to ascertain the precise reasons for the change, especially since no particular incident can be identified as having provoked it. Factors such as increasing public awareness of human rights issues as a result of greater activism on the part of Human Rights Commissions and the Courts, changing political equations, conclusion of trials in older cases of encounters that ended in conviction of a few police officers, more awareness on the part of the media and change in police leadership might have been responsible for the change.

The research suggests that, for a number of years, police encounters in Mumbai were unquestioned and the police operated in an atmosphere lacking rigorous accountability to either the rule of law or the public. The justifications put forward by police officers for the use of deadly force to control organized crime at a time when it

was rampant, might well be grounded in the perceived necessity provoked by the prevailing circumstances in the city. However, nowadays, the wider structural, organizational, socio-cultural and individual factors that facilitate the use of deadly force present real challenges for the Mumbai police and need to be addressed if there is to be effective control on encounters.

Penalba V *et al* (2010)<sup>18</sup>: The main results of their study stated that ten studies were included in the review but only five reported data was used. Three of the ten studies were related to exercise based psychological interventions. Seven were related to psychological interventions. No meta-analyses was possible due to diversity of participants, interventions and outcomes. Two studies compared a psychosocial intervention versus another intervention. Three studies compared a psychosocial intervention to a control group. Only one primary prevention trial reported data for the primary outcomes and, although this study found a significant difference in depression in favour of the intervention at endpoint, this difference was no longer evident at 18 months. No studies of primary prevention comparing different interventions and reporting primary outcomes of interest were identified. The methodological quality of the included studies was summarised. No study met our full quality criteria and one was regarded as low-quality. The remainder could not be rated because of incomplete data in the published reports and inadequate responses from the respondents.

They had concluded that there was evidence only from individual small and low quality trials with minimal data suggesting that police officers benefit from psychosocial interventions, in terms of physical symptoms and psychological symptoms such as anxiety, depression, sleep problems, cynicism, anger, PTSD, marital problems and distress. No data on adverse effects were available. Meta-analyses of the available data was not possible. Further, well-designed trials of psychosocial interventions are required. Research is needed on organization-based interventions to enhance psychological health among police officers.

Atkinson P. Michael *et al* (2009)<sup>19</sup>, provided an integrative modelling approach that links rates of PTSD to troop deployment patterns and combat exposure during deployments. The incorporation of a time delay into the model revealed that raw survey data of active service members during OIF was likely to significantly underestimate the number of PTSD cases ultimately generated. The model and analysis provided a starting point for further refinement of both the model and the parameter values as new data become available. Although it was tempting to employ the model to predict PTSD rates for various types of deployment schedules (e.g., frequent 6-month deployments versus infrequent 12-month deployments), they believed that it was premature.

Their model had focused on the impact of two interrelated factors: combat exposure and deployment schedule. The deployment cycle had impacted PTSD prevalence in their model in two ways, by allowing for combat exposure during deployment and partial recuperation in between deployments. Their analysis had not provided a reliable estimate for the recuperation rate because values at the two extremes of 0 and 1 are obtained, depending on the choice of the dose-response function and the value of the median time lag until symptom onset. Even their analysis was unable to shed any light on the nature of the dose-response relationship.

Hassell D. Kimberly *et al*'s (2009)<sup>20</sup>, study showed that they had asked three research questions. First, they asked whether different groups of officers (considering race, sex, and sexual orientation) have similar workplace experiences. The study clearly showed that different subgroups of officers had different experiences within the police department. Generally, those officers who had the greatest representation in the organization (White, male, heterosexual) had the most favorable workplace experiences; while those individuals who had the least representation (minority, female, gay/bisexual) had the least favorable workplace experiences. The study also showed that most subgroups of officers shared many of the same concerns/problems (i.e., lack of support/influence/feedback); although, the problems experienced by members are group specific.

More specifically, their analyses indicated that with regard to workplace experiences, being female and being a racial/ethnic minority brings with it substantially (but not uniformly) different experiences the job compared to male and White officers. Black females experience a greater number of workplace problems compared to all other race/sex combinations. Black males and Latino females also experience more workplace problems than White males, Latino males, and White females. The most common workplace problem experienced by officers was lack of support/ influence. The least common workplace problem was sexually offensive behavior; this pattern holds for both male and female officers. This finding is interesting as most research on workplace experiences of female officers suggests that sexual harassment and/or sexually offensive behavior on the job are widespread problems.

Second, they asked whether officers differ in terms of their reported workplace stress. Again, their data indicated that both race and sex, separately and in interaction, are important considerations in understanding these relationships. In particular, Black female officers experience the greatest amount of stress but all race/sex combinations experience greater levels of stress than White male and female officers, and Latino male officers.

Finally, they asked whether officers' characteristics and/or workplace experiences influence officer stress. Officers of varying races/ethnicities, sexes, and sexual orientations do not have greater levels of stress based solely on their ascribed characteristics. On the other hand, their findings confirmed previous research that workplace climate has an effect on workplace stress (Morash & Haarr, 1995).

In other words, although race, sex, and sexual orientation do not directly influence stress, they do so indirectly. Nearly all the dimensions of workplace climate considered here were related to workplace stress, which clearly highlight the importance of the immediate working environment in dealing with stress. Police managers can change the workplace climate through management, supervision,

training, and mentoring. Clear policy statements, proper supervision, well controlled investigations, and a just use of sanctions will assist in this regard. Through training and reinforcement, police managers must communicate to officers that negative workplace experiences are not necessarily the equivalent of hurt feelings. In the written comments provided on the questionnaire, several officers made reference to hurt feelings being part of the job.

Agolla E. J. (2009)<sup>21</sup>: The purpose of this study was to find out the general level of stress symptoms among the police officers, reaction to stressors and sources of police stress in the work place. This study was conducted at Botswana police service with the station commanders of the 10 police stations around Gaborone, the capital city of Botswana during April-to-June, 2008. The study adopted stratified random sampling techniques to carry out this survey. The samples were taken from the station commanders, sub inspectors, sergeants and general staff (constables). The study covered different units of the police departments such as Special Support Group (SSG), Criminal Investigation Department (CID) and Traffic. For the study author initially targeted a sample of 500 police officers, but the duly completed and returned questionnaires numbered 229 (response rate of 46%) out of the total respondents who participated in this study. Sample size of study was  $n = 229$ , of these male ( $N = 163$ ) and female officers ( $N = 66$ ). The questionnaire was developed from the one earlier used by McCarty et al. (2007). It was divided into 5 parts; demographic (age, rank, length of service, gender and department), external work environment consisted of 15 items measured on 5 point Likert scale ranging from 5 (highly agreed) to 1 (highly disagreed), internal work environment consisted of 20 items, coping mechanism consisted of 6 items all measured on 5 point Likert scale and symptoms consisted of 14 items, scored as (Often, Sometimes and Never). The questionnaires were left with the officers so that they could complete them at an appropriate time.

The data was analysed using Statistical Package for Social Science (SPSS) version 15.0. The total 32 variables were loaded into SPSS for the analysis using descriptive statistics and frequency tables. The finding showed that the job of policing was

highly stressful and level of police stress was high. The highest rated symptoms were: feeling lack of energy (M = 4.66; SD = 4.05); loss of personal enjoyment (M = 3.88; SD = 4.02); increase in appetite (M = 3.77; SD = 4.00); feeling depressed (M = 3.74; SD = 4.74); trouble in concentrating (M = 3.71; SD = 4.74); feeling restlessness (M = 3.65; SD = 4.75); people at home make feel anxious (M = 3.33; SD = 3.05); feeling tense, experience pain at neck or back (M = 3.26; SD = 3.07); feeling tension, anxiety, nervous and indigestion (M = 2.82; SD = 3.07). The study also reported that not only the individual officers deny their risk factors, but departments also ignore the problem. On the question regarding worries, the officers' concerns at night was rated high (M = 2.78; SD = 3.07). The officers disagreed with the statements like taking over the counter medication, experience high blood pressure, feeling lack of confidence and eat, drink alcohol and/or smoke. Though the officers indicated that they had never experienced high blood pressure, still this could not be proved easily because it required taking of blood pressure test before one came to any authoritative conclusion. The symptoms had indicated clearly that the officers were experiencing high stressful work environments which required urgent response and counter measures from the management. The collated responses of the participants indicated that lack of superior interest on subordinate job was rated 61 % of the officers, unfair treatment by superiors was rated 67%, irregular work hours was rated 68% of the respondents who agreed with the statement that irregular work hours is a stressor. With regard to problem at home 60% of the officers agreed that it is stress, 70% of the agreed that negative public opinion of the police service is stress, 83% of the officers agreed with statement that, work overload is highly stressful. Officers had also rated inadequate resources as stressful, indicated by 83% of the officers who supported this statement. Low salary was rated 80 by the respondents, who agreed with the statement that it causes stress. The officers had rated highly that getting injured while on duty as their source stress, it was rated 90% by the officers and insufficient personnel was rated 65% by the officers. Officers had rated rigid authoritarian system at 51% and excessive supervision and criticisms by their supervisor 56%. The result of reaction to stress by the officers clearly showed that officers were following the right coping strategies to reduce the negative effects of work stressors. The

coping strategies adopted by the police officers were found to be consistent with the coping mechanisms in general stress. Author in study 35 stressors were explored and the result of the findings revealed high rating, out of that 35 stressors, for 32 stressors by the participants.

The limitations of the study were that the study on stress among police officers was done in a developing country, it was a survey type and the sample size was only confined to Gaborone and its surrounding areas. The geographical coverage was limited therefore its application to other parts of the world may not be possible without conducting a similar study to validate these findings.

Nickels L. Ernest and Verma A., (2008)<sup>22</sup>: Their findings suggest several points of convergence on the structural dimensions of attitudinal thought in the samples examined here. Exploratory factor analysis can only transform data, not test hypotheses. Where the identified constructs may withstand confirmatory analysis is an open question. However, as an instrument of discovery (Baird, 1987), such techniques can provide inductive direction in developing these hypotheses – and are all the more valuable precisely when theoretical direction is lacking. Of the 23 initial factors included in this analysis, 14 could be replicated and sufficiently validated in all three nations. This suggests fertile grounds for the development of constructs neutral to national setting, which may then provide an empirical basis for crafting attitudinal scales intended for use in comparative research. Equally important is the fact that the remaining nine of these initial factors could not be replicated. This suggests research does need to take care in considering the contextual relevance of concepts they bring to bear on the interpretation of attitudinal measures, as they may not meaningfully correspond to the empirical reality of a given locality.

With respect to attitudinal valence, analysis of variance on factor scores failed to uncover significant effects for the nation in half of the constructs that were universal to the three samples. On the nine factors that were dropped from consideration in the

three-nation analyses, six were found to be congruent between at least two nations; of these, two (in the Canada/Japan comparisons) likewise demonstrated no significant national differences in attitude. Even where nation was found to significantly matter, it was not always the most important source of variation; tighter control of differences in the demographic and occupational characteristics of the samples (either statistically or in sampling protocols) might tend to undercut the effects of context further.

In examining where national differences tend to manifest in attitudinal construct and valence, a pattern seems to emerge. In terms of the four groupings of inventories outlined above, it appears that agreement tends to be found across national samples in the second and third sets – that is, in how officers regard their organizational and social environment. Where consensus breaks down, it would appear to be on the “big questions” of the appropriate means and ends of a police in society and the highly personal questions of accounting for one’s private motivations and aspirations. If these groups are thought of as hierarchical arrangement, it is perhaps in the realms of the greatest abstraction and the most immediate awareness that variability in the broader societal context gains the maximum salience.

Bridger S. R. *et al* (2008)<sup>23</sup>, had taken a sample size of 4949 NS personnel, 407 of whom could not be contacted, resulting in a total of 4542 questionnaires which were sent to the personnel. The response rate was 57% (2596 returns). Exposure to stressors was measured using a five-point Likert scale—a score of 5 indicated a negative affective response to the item and a score of 1 the opposite. A score of 3 indicated neutral. They found that the strain rate in females was significantly higher than the strain rate in males. The mood of naval personnel was positive, with commitment to service, support from leaders and peers and a degree of autonomy and control in their work. Work–family conflict and lack of resources were rated negatively, as was the balance between effort and reward. There was a high level of over commitment to task or role. The main predictors of psychological strain were over commitment to work role and under-commitment to the naval service (NS).

The strength of the study was the sample size which was large and the previous surveys with high response rates had enabled norms to be established for many of the variables. The main weakness of the study was the response rate of 57% and the particularly low response rate of younger males. Comparing the present data with that of previous surveys with much higher response rates, they appeared to be no systematic bias due to low response. A probable explanation for the declining response rate was increased operational tempo. It means the rapid rotation of personnel through different deployments was rendered as contact addresses obsolete.

The study found that naval population were overcommitted people, had difficulty disengaging from work. They found that the DCS model offered an incomplete description of stress in the NS. Stress would be managed more effectively by focusing on commitment and intrinsic effort. Those most susceptible to strain would be relatively uncommitted to the NS as an organization while having a high level of commitment to their work and low mood. The ERI model provided a better description of acute strain in naval personnel than the DCS model. Generic models of job strain had limited applicability to specialized occupations, which might require their own explanatory models if psychological strain at work is to be managed effectively. The research provided evidence for both the demand control and ERI models—components of these models contributed independently to strain. High levels of commitment to the organization were associated with lower strain and exposure to SLEs to higher strain.

Pienaar J. et al (2007)<sup>24</sup>, concluded that the South African Police Services (SAPS) had a high level of suicides. Suicide ideation was known to be an important precursor of attempted suicides. The present study set out to determine whether suicide ideation in the SAPS was related to occupational stress, coping strategies, and personality traits. The results showed that police officers at risk for developing suicide ideation had lower levels of approach coping, turning to religion, emotional stability, and

conscientiousness and higher levels of avoidance coping. Job demands were higher in the high suicide ideation group than in the low suicide ideation group (the effect size was  $-.28$ ). However, when job demands were included with personality traits and coping strategies in the logistic regression analysis, these did not predict suicide ideation. So it appears that the differences in experienced job demands of the high and low suicide ideation groups can be accounted for by personality traits and coping strategies. It is possible that the other job stress sources (lack of resources and crime-related stressors) did not vary enough in the current sample to really matter. In a cross-cultural study in which job stress sources show much variation, they would have more impact. On the other hand, it is also possible that personality and coping mediate the influence of job features on suicide ideation.

Suicide ideation was negatively related to approach coping strategies and turning to religion. Police officers who actively engage and confront the stresses they experience and find meaning for events within a religious framework thus actively combat the effects of negative work experiences and their "translation" into suicide ideation. The positive relation between suicide ideation and avoidance coping indicates that disengaging from negative work events by cognitively or behaviourally avoiding the events, coupled with the sources of stress presented in the policing context, predisposes the officer to suicide ideation. Previous research (Horesh et al., 1996) has demonstrated that suicide risk could be predicted by coping strategies. Denying problems, while becoming exhausted and constantly being confronted with organizational stress, may deplete individual resources. The results of the logistic regression analysis indicate that suicide ideation is best predicted by three coping strategies (i.e., low approach coping, high avoidance coping, and low turning to religion) and two personality dimensions (i.e., low emotional stability and low conscientiousness). These findings suggest that police officers who did not use approach coping strategies and religion and who tended to avoid stressful situations were more inclined to think about suicide, especially if their levels of conscientiousness and emotional stability were also low. Coupled with a breakdown in approach coping strategies and lack of turning to religion, as well as low emotional

stability and low conscientiousness (which indicate a breakdown in control), they tend to think about suicide. Stokols (2003) points out that confinement to degraded and impoverished environments for extended periods may foster helplessness and despair. Many police officers were affected by the degraded environment created by Apartheid in South Africa.

Furthermore, considering challenges (e.g., a high crime rate and the need to transform the SAPS from a "force" to a "service"), which the organization has to manage with limited resources, the environment in which many police officers live and work might contribute to helplessness and despair. Police officers with low ranks and poor qualifications are especially likely to be confined to an impoverished environment and lack alternative employment and advancement opportunities (Pienaar & Rothmann, 2003b). Pienaar and Rothmann (2005) found that police officers with lower ranks and qualifications (compared with those who have higher ranks and qualifications) were more inclined to suicide ideation. These officers are often burdened with the operational level of policing, where they are exposed to scenes of violence and crime.

Furthermore, the SAPS is conflict prone not only because of organizational transformation but also because of the inherent nature of the tasks of police officers in a high-crime environment. To the extent that employees lack alternative employment opportunities and must remain in a conflict-prone organization for an extended period, the impact on their well-being is likely to be severe and manifests itself in negative mood states at work as well as anxiety and depression.

The present study has certain limitations. The research design was a cross-sectional survey design, which makes it difficult to document causal relationships. The use of other designs, such as longitudinal designs, can aid in establishing causality. A further limitation was the exclusive reliance on self-reports.

McCarty P. William *et al* (2007)<sup>25</sup>: The purpose of their study was twofold. First, they intended to compare the overall levels of work-related stress and burnout reported by male and female officers. Although slight differences were found in the measures of work-related stress and burnout across gender, they failed to achieve statistical significance. This indicates that in this sample, the levels of work-related stress and burnout reported by female officers were not significantly different than those reported by male officers.

Although these findings may seem surprising, given that female officers may face a more stressful organizational environment. Prior research has indicated that the levels of stress and burnout reported by male and female officers have often times been similar (see Davis, 1984; Frye and Greenfield, 1980; Hawkins, 2001; Koenig, 1978; Kop et al., 1999; Morash and Haarr, 1995). Second, they ran separate multivariate analyses for male and female officers on both the work-related stress and burnout dependent variables. They wanted to determine if there were any gender differences in the predictors of work-related stress and burnout among law enforcement officers.

Additionally, work-related stress was the most important predictor of burnout for both male and female officers. In addition to the previously mentioned findings, we would like to focus on two additional points of discussion. First, we would like to stress the importance of the finding that the ethnicity variable was a significant predictor of burnout only among female officers. Morash and Haarr (1995) did find that black female officers had significantly higher levels of stress than black male officers. At this point, however, they were not aware of another study, other than the current research, that has found a similar pattern for burnout. Holder et al. (2000) argued that minority female officers may be subjected to "triple jeopardy" on the job. In other words, they may experience elements of racism similar to minority male officers, elements of sexism similar to white female officers, but they also experience unique problems as both female and minority officers.

This current finding that the ethnicity variable was a significant predictor of burnout only among female officers may be a manifestation of this idea of “triple jeopardy”. While prior research has certainly explored the independent effects of gender and race (e.g. Dowler, 2005), future research should perhaps be more focused on how gender and race intersect to affect stress and burnout among police officers.

The findings also have implications for possible program and policy developments seeking to prevent stress and burnout among minority female police officers. Exploring the original data set, of all the gender and ethnicity dyads possible (African American men, White men, African American women, White women), African American women have the lowest overall average rating on the camaraderie variable. Perhaps this is evidence that mentoring programs, focused on minority female officers, would be a viable way to help bolster camaraderie in the short-term in addition to help decrease burnout in the long-term.

A mentoring relationship is advantageous in that the mentor has a great deal of knowledge about the job and the working conditions associated with a profession in addition to understanding the “politics” of an organization (Gibb, 1999). In this sense, a mentoring program could help young minority female officers develop relationships within the police organization, thereby facilitating some level of camaraderie and providing the officer with someone to talk to about the rigors of the job. This finding may also be further evidence that a one program fits all approach to prevent stress and burnout among police officers may not be the best policy. Certain groups of officers may need different services and programs that are conscious of the fact that the law enforcement profession may affect males and females of different races and ethnicities in different ways.

Our second point of discussion extends upon the prior research of Herzberg (1968). Based on his findings, Herzberg (1968) concluded that job satisfaction is associated with the factors intrinsic to the characteristics of one’s job. The experience an employee has at the workplace determines his/her level of job satisfaction, not the

demographic characteristics such as age, educational attainment, etc. We view the current study as an extension of Herzberg's argument about the relationship between employees' experiences at workplace and their psychological well-beings by examining the other side of the coin – the impact of work environment on occupational stress among a particular group: police officers. The findings show that inherent work-related factors are much more important predictors of work-related stress and burnout than the demographic variables included in the analysis.

The findings were applied to both male and female officer samples. With the exception of the ethnicity variable in the female burnout model, none of the demographic variables were significant predictors of work-related stress or burnout. This finding supports Herzberg's (1968) theory concerning the importance of the work environment. More specifically, the hazardous work environment in policing, the overly-rigid rules, and strained relationships with co-workers can create high levels of job dissatisfaction among employees. It is certainly plausible that these similar conditions could also heighten feelings of work-related stress and burnout among both male and female officers. Even though male and female officers may share similar areas of experience with the work environment in terms of perceptions of danger, unfairness, and low levels of camaraderie, gender still has the potential to affect how those perceptions are ultimately dealt with as they pertain to feelings of work-related stress and burnout (see Morash and Haarr, 1995).

In closing, they had mentioned the three major limitations for this research. First, the analyses were conducted on a sample of one large police department located on the east coast. Although the enormity of the Baltimore Police Department and its similarity to other large departments make this an interesting site in which to analyze occupational stress and burnout, it is difficult to generalize the results to all departments, particularly small ones in the United States. Additional research attempting to understand the predictors of male and female officer stress in other departments would be beneficial. Second, the fact that Gershon (1999) used a convenience sampling approach must be considered a limitation. Although a high

percentage of officers completed the survey, the lack of a rigorous sampling strategy may have resulted in a group of respondents not wholly representative of female officers in Baltimore or of the entire department in general. Third, although a sizable number of male (n = 943) and female (n = 157) officers were included in the sample, it would be advantageous to have greater numbers from more diverse locations in future research concerning the relationship between gender and police officer stress and burnout.

Paton Douglas (2006)<sup>26</sup>, had used a risk management framework to conceptualize critical incident stress in a way that accommodates both positive (e.g., posttraumatic growth) and negative outcomes (e.g., learned avoidance of threat situations). It had identified resilience and vulnerability factors (at personal, team, and environmental levels) and discussed how they interacted with incident demands to affect stress risk during the response and reintegration phases of incident response. Strategies to influence resilience and vulnerability factors were discussed. The risk management model proposed here, whether the new equilibrium state that results following the experience is characterized by growth or loss, was a function of how the hazard experience interacts with vulnerability and resilience factors. When officers responded to events, they bring their personal characteristics to bear on the problems encountered. The factors that influenced stress risk would arise from personal, operational, and organizational sources.

The author concluded that the risk management paradigm afforded an opportunity for officers and police organizations to make choices about traumatic stress outcomes associated with the experience of critical incidents. The application of the risk management model would involve action at all levels to ensure that risk management was as inclusive as possible. The above discussion encompasses only a sample of factors that influenced risk, and additional work was required to develop a comprehensive inventory. This model had provided a basis for auditing existing cultures, practices, and competencies. But the degree to which it was applied would be qualified by several organizational characteristics. The study with the help of that

process identified issues that are significant predictors of risk but that could not be managed within the risk management process. The author had suggested that it could be used to guide the development of collaborative training and simulation exercises with other organizations in a similar position to themselves. Further, it could also furnish information that could be used to advise officers about the sources of risk so they were better informed of the causes of their own reactions. Because critical incidents represented catalyst for change and were viewed as an iterative process. When this could happen, the estimates of staff capability to deal with job demands would increase substantially.

Morash Merry *et al's* (2006)<sup>27</sup>, research examined the workplace problems that were hypothesized to predict stress and they also determined whether community conditions, token status, and lack of social support explained additional variance in officers' stress levels. For the study, authors had used data from research that was conducted for prior research in 1990. The 2,051 individuals were asked to take part in the survey, and 947 (46.2%) returned a survey, where males made up slightly more than 72% of the sample, whereas females represent 27% of the sample. For the purpose of analysis, Ordinary least squares (OLS) regression analysis was used. Their findings were consistent with Schaubroeck's (1999) argument that organizational psychologists should pay attention to objective workplace conditions that need to be changed in order to reduce employee stress. They had also pointed to the inattention to the construct of job control, which has a demonstrated effect on stress. In their view, explanations that do not highlight workplace conditions but that gave prominence to attributions of the cause of stressors and resulting emotions suggested strategies that would try to change police officers who were stressed rather than behaviors of their peers, their superiors, or other workplace problems that caused stress. Although job control was a different construct from what had been measured, it is quite similar in meaning to their measure of influence over how the job of policing was accomplished. The primary implication from their research was that root causes of stress might be most fruitfully addressed by attacking problems such as bias and lack of job control or influence over one's work. In

interpreting findings about community conditions and organizational features, such as whether the department serves a county or a city, it was crucial to keep in mind that because of multicollinearity in their sample of the research study, the high crime rates and municipal type of agency stand as reflections of urban (high poverty, high density, and high minority concentration areas). It was somewhat heartening that relatively intractable features of the community, like crime rates and poverty, had not appeared to have strong predictive value in explaining stress. This was not to say that reducing bias and increasing influence on the job were easy to achieve. Full implementation of community policing might be a way to allow officers greater discretion and control of their work and many departments had been able to implement this approach to policing either for some or, in a few cases, all types of officers. The move to community policing, other approaches to giving police more influence over their work, and reductions of bias among officers were not easily changed and would require considerable attention before they could be reduced to the point that stress would decrease.

In their analysis of token status as the only or one of a small proportion of a gender, race or ethnic group, only token status as a female had a significant effect on stress, and neither the correlation nor the beta coefficient suggested that this connection was particularly strong. However, even if officers use the most effective strategies for coping with workplace problems, police departments bare the burden of reducing or eliminating the workplace conditions that contribute to stress. The study also reported that a high property crime rate would be related to low levels of stress and the violent crime rate was unrelated to stress levels.

An important limitation of this research should be noted. The departments are not representative, and the samples within those departments were not random. Research to replicate the research in a wide variety of police organizations would be very useful. However, the samples are relatively large and a diversity of officers is included. Also, the departments were quite diverse from each other, including some

in large urban centers, some in smaller cities, and some in counties that included substantial rural areas.

**Berg Marie Anne *et al* (2006)<sup>28</sup>:** The aim of their study was to explore physical and mental health among Norwegian police and its association to job stress. Comparisons were made with a nationwide sample of Norwegian physicians and the general Norwegian population. Comprehensive nationwide questionnaire surveyed 3,272 Norwegian police at all hierarchical levels, including the Norwegian Police Stress Survey with two factors (serious operational tasks and work injuries), the Job Stress Survey with two factors (job pressure and lack of support), the Basic Character Inventory, the Subjective Health Complaint questionnaire, the Hospital Anxiety and Depression Scale, the Maslach Burnout Inventory, and Paykel's Suicidal Feelings in the General Population. The frequency of job pressure and lack of support was mainly associated to physical and mental health problems. Females showed higher means on anxiety symptoms than males (4.2, SD 2.9 and 3.7, SD 2.9, respectively;  $p < 0.01$ ), while males showed higher means on depressive symptoms (3.1, SD 2.9 and 2.4, SD 2.5, respectively;  $p < 0.001$ ). The police reported more subjective health complaints, depersonalization and higher scores on three of four personality traits than physicians, but lower scores on anxiety and depressive symptoms than the general population. They had concluded that the prevalence of subjective health complaints was relatively high and was mainly associated to job pressure and lack of support. Males showed more depressive symptoms than females. Compared with the general population, though, police showed lower mean scores on both anxiety and depressive symptoms. All stress factors on frequency were positively associated to the burnout dimensions depersonalization and emotional exhaustion, except work injuries. The comparisons with physicians showed that they have markedly different emotional reactions to work stress. The police reported more musculoskeletal pain and scored more highly on depersonalization and all personality dimensions except neuroticism.

The limitation of their study was the cross-sectional design, which prevents them from obtaining direct evidence of causality. Report bias may be a problem, as for example anxiety and depressive symptoms are socially undesirable topics, particularly in a masculine milieu. Comparisons with the general population may be partly misleading because of the healthy worker effect, which reflects that an individual must be relatively healthy in order to be employable in a workforce, and both morbidity and mortality rates within the workforce are usually lower than in the general population.

Pienaar J., Rothmann S., (2006)<sup>29</sup>: The objectives of their study were to develop and validate a measure that could be used by the South African Police Service (SAPS) to identify the frequency and intensity of occupational stressors and to assess the differences between the stressors for race, rank and gender groups. Three occupational stress factors were extracted, namely job demands, lack of support, and crime related stressors. Race, gender and rank were found to be related to occupational stress. The factors that were extracted show some similarity to factors previously extracted in other studies on police stress. However, the factor structure obtained in this study supports the STP model of stress (Spielberger et al., 2003) and not a 5-factor model (Gulle et al., 1998). The factors that were extracted showed internal consistency, which point to the utility of the instrument developed in the current research.

The first factor emphasized the demands placed on the individual in the fulfilment of his/her tasks as police officer, and thus the factor was labelled Job demands. The items loading on this factor refer to demands associated with police jobs. Specific stressors experienced as severe in this sample of police members, include excessive paperwork.

The second factor was a partial replication of the one earlier identified. These items had to do with events that would only take place in the performance of a job as a police officer and was accordingly labelled Crime-related stressors. Although these

seemed to be a source of acute stress, the relative infrequency with which they are experienced probably reduced their effect in the total sample. The reason for this was that stressors such as a fellow officer killed in the line of duty, or killing someone in the line of duty tended to happen infrequently, or they happened to a relatively small percentage of SAPS members. One stressor which formed part of this factor was quite severe, and that was seeing criminals go free. Probably police members perceived that they invested much effort to find criminals, but that they went free, either because of poor work by the police and/or by the legislative system.

The third factor seemingly related to the role that organisation, supervisors and colleagues had in reducing the effects of job demands; the functional support and achievement of work goals and the stimulation of personal growth, learning and development. Accordingly, this factor was labelled Lack of support. Severe stressors in this regard included insufficient staff to handle assignments, lack of recognition for good work, fellow workers not doing their jobs, and poor remuneration. Police members' jobs will be extremely stressful if they are faced by high job demands, but they lack the resources to do their jobs properly. Race impacted significantly on the experience of occupational stress in the SAPS. Although all the race groups experienced more stress because of a lack of support, the results showed that whites and Indians experienced it more intensely and frequently. Support includes salary, promotion and recognition. The availability of these resources is, to an extent, affected by the implementation of employment equity in the police. It is therefore understandable that blacks would experience less stress about a lack of support than other groups. On the other hand, Coloureds did not experience more stress about a lack of support than blacks. However, it should be kept in mind that the Coloured police officers who were included in the sample were predominantly employed in the Western Cape and Northern Cape, where they were not threatened by employment equity to the same extent those Whites and Indians in other provinces were. Rank also impacted significantly on the experience of occupational stress in the police. Constables experienced lower intensity of stress regarding job demands and a lack of support. Constables also less frequently experienced stress because of job

demands, crime-related stressors and lack of support. Constables are not exposed to the demands and lack of support to the same extent and for such a lengthy period as other police officers. However, it should be kept in mind that constables represented only about 7% of the total sample.

Therefore, these results might be influenced by sampling error. Furthermore, the fact that members with the rank of superintendent or higher, less frequently experienced crime-related stress than sergeants, inspectors and captains can be explained by the fact that they are less involved with operational work. The fact that females are less operationally involved also explains why they experienced crime-related stressors less intensely and frequently. In the total sample, stressors related to a lack of support could be regarded as severe. These include other officers' not doing their job, inadequate or poor quality equipment, inadequate salary and lack of advancement opportunities, and lack of recognition.

The SAPS was also plagued by a lack of funds to fight crime in a transforming society, which was characterized by a high level of crime. This may explain the stress caused by inadequate or poor quality equipment. A lack of equipment has been shown to give rise to feelings of uncertainty and frustration. In a situation already fraught with stress because of poor motivation, low pay and a legal system perceived as inadequate, feelings of ineffectiveness are exacerbated by poor quality equipment.

Manzoni Patrik *et al* (2006)<sup>30</sup>, study examined whether higher levels of work-related stress contribute to a more frequent use of force among a sample of Swiss frontline police officers. They assumed that perceived stress could either have a direct effect on the use of force or that its effect could be mediated by job dissatisfaction and noncommitment, as well as burnout. Furthermore, they controlled two situational factors, namely the officer's job profile, reflecting the occasions to use force, and officers' victimization experiences. The results of the empirical analyses did not support their hypotheses.

Although initial bivariate results showed significant and positive relations between stress-related constructs and use of force, multivariate analysis, including the officer's job profile (i.e., police activities likely to set off conflict), turned these relations insignificant. In other words, the influence of stress on the use of force was no longer significant when we simultaneously controlled influences of other variables, most important the job profile.

Overall, they found no significant direct effect of either job-related or organizational stress on police use of force. They also failed to find any of the stipulated indirect effects of perceived stress, that is, those mediated by job satisfaction/commitment and burnout, on use of force. Although both job-related and organizational stress could be shown to reduce job satisfaction/commitment and to increase two burnout dimensions (i.e., emotional exhaustion and reduced personal accomplishment), neither job dissatisfaction /noncommitment nor any burnout dimension resulted in more frequent use of force. In contrast, they found that the officer's job profile leads to both higher rates of use of force and increased rates of victimization.

At the same time, use of force and victimization were strongly correlated. These factors, conceived as situational controls, turned out to be the only significant predictor and covariate of police use of force. In their sample, the frequency of force used, depended primarily on the frequency at which activities holding a potential for conflictive escalation were performed.

Thus, job profile was a much more powerful predictor of use of force than stress, burnout, or job dissatisfaction and commitment. The evidence suggests strong support for a situational explanation rather than for the hypothesis that perceived stress and related consequences lead to more frequent use of force by police officers.

Morash Merry *et al* (2006)<sup>31</sup>: Their study, consistent with prior research, confirmed that workplace problems account for a substantial amount of police officer's stress regardless of social support from family and work group, community/organizational

conditions, racial and Hispanic group token status in the department, and demographic factors. Except for a small (though statistically significant) effect of racial token status for men, the workplace problems that were measured accounted for hardly any effects of gender, race, and Hispanic group token status. These findings suggest that interventions – including strategies of management, supervision, and training – to reduce workplace problems, particularly a bias among co-workers could have a substantial effect on police officer stress.

It was notable that for women and men, profanity and sexual jokes were related to stress. It was important to recognize that not just women felt uncomfortable in environments that were marked by profanity and sexual jokes but some men found what others classify as language harassment. Increasingly women and men in USA are moving away from extreme gender segregation and patterns of denigrating women. Police departments might find increased negative fallout for a variety of employee demographic groups when such practices were tolerated. The lesser amount of explained stress for women suggested the need for a search of other influences on their stress. Hochschild (1983, p. 7) recognized that some jobs require emotional labour, inducing or suppressing “feelings in order to sustain the outward countenance that produces the proper state of mind in others.” The management of one’s emotions in order to accomplish one’s work seemed to fall more heavily to women regardless of whether women or men dominate as employees in an occupation (Steinberg and Figart, 1999, p. 177). It was possible that within some police departments, the management of others’ emotions disproportionately fell to women. Women police were often heavily involved in working with sexual assault victims. It was not clear that such emotional labour would translate into higher stress, since emotional labour could be a rewarding, rather than a stressful aspect of work (Wharton, 1993; Wharton and Erickson, 1995). So, the authors said that it was useful to document the gender and minority status distributions of emotional labour in police departments, and also the effect on stress.

Another place to look for explanations of women's stress that were not included in the workplace problems that were studied was their heavier load in nurturing and monitoring children and as caretakers of the household. It was very well documented that working-women carry a heavier load than working men in these areas (Deutsch et al., 1993, US Department of Labor, 2005). Research was needed to determine whether such pressures from outside of the workplace were keys to explaining women's stress. If they were important for women or for men, interventions should include support and resources to reduce the pressures.

Male officers sensed that they lacked influence over practices and a procedure at work, which was "the way police work gets done," an important predictor of their stress. It was not clear why this was the case just for males. The study showed that had their sample size been greater, it might have demonstrated a significant difference for women. They reported higher levels of workplace problem than that of men. It was also possible that women were just stressed by other concerns, including those in and outside of the police organization. None of indicators of the intertwined community and department characteristics appeared to have strong predictive value in explaining stress for female officers. This might be because of lack of variation on these variables, since most women worked in large departments that serve urban areas. For male officers, consistent with the previous research, social support from the family decreased the level of stress. Surprisingly high property crime rates were related to low levels of stress. One possible explanation was that a community with a high property crime rate has more to steal because there is a relatively high level of resources. Thus, the generally higher resources in a community might offset any stress related to property crime rates. Inconsistent with their assumption that high violent crime rate would be related to stress (Crank and Caldero, 1991), the violent crime rate was unrelated to stress levels. It may be that even in a high crime jurisdiction, many police officers were not directly dealing with violence much of the time. Violent crime tends to be concentrated in specific areas (i.e. hot spots) within most cities. Alternatively, police might self-select their occupation because they had the capacity to cope with violence and disorder without enduring high levels of

stress. It should be noted that the measures for Hispanic and race group token status were limited. Racial groups and ethnic groups were somewhat confounded, Asian and Native American racial groupings might be seen as reflecting ethnicity as much as the Hispanic-non Hispanic distinction. There were a multitude of ethnic groups across the USA, and groups differ by location in the degree to which they were in minority, so it was very difficult to determine which people were at risk for negative reactions on the basis of their perceived or self-identified ethnic and racial group membership. Future research might reconceptualise the categories used to identify those who might be seen as tokens, and therefore treated more negatively than others in police organizations.

In addition, the authors suggested that future research might be able to untangle the community conditions from large urban departments and provide a more detailed examination of these factors as predictors of stress. The high correlations between the measures of community and organization characteristics occurred in their sample, but they would not necessarily be replicated in other samples of departments. Another limitation of the present research is that the departments are not representative, and the samples within those departments were not random. As noted earlier, the samples were relatively large and a range of officers was included. The departments were quite different from each other and included some in large urban centers, some in smaller cities, and some in counties with substantial rural areas. In a sense, the finding that workplace problems were the strongest predictors of stress was not altogether discouraging. Workplace problems were potentially amenable to interventions through supervision, training, and the development of organizational norms and standards. Unfortunately, there was very little research on what specific strategies and approaches would provide organizational changes in the degree of bias in police departments. Possible strategies, which could be implemented and evaluated, would include cautious hiring and retention approaches, identification of employee concerns, restructuring jobs, and intervening in employee relations. Additional modes of intervention were providing emotional support, expression of respect and encouragement, and advice and referrals for

employees. Their findings did not show positive results from support at work or from the family; however, perhaps their measure did not tap the type of support that was most helpful.

Given the destructive nature of stress that people experience due to their work, a research priority should be the evaluation of interventions that reduced the racial and ethnic bias that police feel from their co-workers, that reduced language harassment in the workplace and that provided the police increased control over their work. Community oriented policing might be viewed as one way which provided opportunities for police to control their work. Alternative organizational interventions for bias and harassment had not been compared and evaluated in research pertaining to the police, though for both women and men, this would be an important direction for study.

Berg Marie Anne et al's (2005)<sup>32</sup>, objectives of the study were to develop a new instrument to measure job stress in the police, to assess the most severe and frequent police stressors, to compare levels of stress according to the demographic and organizational factors, and to study stress in relation to personality traits, work locus of control and coping strategies. For the purpose of research and testing of hypothesis, a questionnaire was developed. In it 396 questions were asked on background information, physical and mental health, working conditions, job satisfaction, burnout, coping, personality and suicidal ideation. The respondents were anonymous and the sample size was 3272 police (response rate of 51%). To determine which conditions in the workplace caused stress the Job Stress Survey (JSS) was designed. The JSS consisted of 30 items that described work-related events & situations encountered; these 30 stressors were assessed on a 9-point perceived severity rating scale from 0 to 9+ and frequency during the last 6 months. Norwegian Police Stress Survey (NPSS) was developed for the present study using the 60-item Police Stress Survey as a starting point. To identify a factor structure in these items, they had conducted principal component analyses with promax rotation. To measure personality traits, personality inventory was used in this study. This instrument

contained 36 items and was based on the 'big three' personality dimensions: neuroticism, extroversion and control/compulsiveness, with an additional fourth dimension, reality weakness. Each dimension was based on nine questions and respondents were asked to respond to it on a Likert scale between 0 (low) and 9 (high). Coping was measured using the Coping Strategies Scale of the Pressure Management Indicator, consisting of six items measuring control coping, and four items measuring support coping. Work Locus of Control Scale (WLCS) measured generalized control beliefs in work settings that consisted of the two separate dimensions: internal versus external locus of control. Peer support was measured by one question where respondents were asked to responded on a 4-point scale.

The Study reported that work injuries were viewed as the most severe (6.3) and the least frequent (0.3) stressor. 'Fellow police hurt on duty' was the most severe stressor (6.8). A series of paired sampled t-tests were used, which showed that all stress indexes were significantly different from each other at the  $P < 0.001$  level. There were significant differences across gender and age with respect to both the severity and frequency of several factors. Female police had given higher scores than their male colleagues on all severity factors, but lower scores on all frequency factors; age was positively associated with the severity of job pressure, and negatively with that of work injuries. The correlations between personality, work locus of control and coping were moderate ( $r \leq 0.21$ ). Neuroticism was associated with higher ratings for severity and lower levels of frequency of these three variables. Extroversion showed the opposite results. There were negative correlations between the personality dimensions of control and neuroticism, and the stress frequency dimension.

The study demonstrated that the instrument showed that there were significant stress differences with respect to gender, age and rank. The impact of personality and coping were moderate; the reason could be the strict recruitment process of the police service. The respondents regarded work injuries and serious operational tasks as the most severe stressors in the study. Job pressure included routine occupational stress, mostly inherent systemic factors with low severity and high frequency.

Female police perceived and experienced all factors on the stress measure as more severe than their male colleagues. The results suggest that females were more worried about various work situations than their male counterparts. Urban district police experienced significantly more stress because of working in large communities. Rural district police experienced more job pressure and serious operational tasks than those in the urban. Police with high scores on neurotic personality traits appraised work situations as being significantly more stressful than police with extrovert personality traits. Police with an external locus of control perceived the lack of support more severely than those with an internal locus of control. The study suggested those who were internally motivated for a task relied more on their own abilities to fulfil it and they were not dependent on support from others. The limitations of the study were the cross-sectional design, which prevented obtaining direct evidence on causality, the limited response rate, internal and external validity and policing in Norway as different from that of many other jurisdictions.

Otis and Pelletier's (2005)<sup>33</sup>, objective of the study was to propose and test a model that integrated both individual and organizational factors in the prediction of daily perceived hassles, reported physical symptoms, and future work intentions among police officers based on the tenets of self-determination theory (SDT). For the purpose of the study, the sample size was 140 (response rate was 35%) of French-speaking police officers (117 male, 23 female) police officers. Respondents, Participants were from all the police stations in the Outaouais region of Quebec, Canada. In the study the authors proposed that self-determined work motivation would be associated positively with future intentions to remain in a job and negatively with perceived daily hassles. In their research model, two dimensions of supervisors' interpersonal styles were considered: autonomy support and competence support. The second dimension of supervisors' interpersonal style, under the study, was competence support. Out of total sample 68.9% of the participants were constables, 19.2% were sergeants, 7.4% were lieutenants and 4.5 %

were captains, their ages ranged between 21 and 56 years and they had between 0.5 and 36 years of work experience.

To measure Supervisors' interpersonal behaviours (autonomy support and competence support) they developed three items and respondents were asked to respond on a 7-point Likert-type scale ranging from 1 (never) to 7 (always). To measure motivation toward work they used the Blais Work Motivation Scale containing 20 items, with 4 items per subscale and participants were asked to rate on a 7-point scale ranging from 1 (not at all) to 7 (exactly). 30-item scale of the Daily Hassles Inventory was used to measure the perception of daily hassles and participants were asked to report the responses on a 7-point scale ranging from 1 (not at all) to 7 (enormously). To measure perception of physical symptoms the French version of Pennebaker's (1982) scale was used to assess perception of physical symptoms and respondents were asked to respond to the frequency with which they experienced each symptom during the past 3 weeks on a 5-point rating scale ranging from 1 (not at all) to 5 (very often). The participant's future work intentions were measured and assessed with the five items adapted from Pelletier, Fortier, Vallerand, and Brikre (2001), on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Research study findings suggested that Participants' mean rating of their supervisor's autonomy support was above the midpoint of the 7-point scale ( $M=4.22$ ,  $SD = 0.97$ ) and participants' mean rating of their supervisor's competence support was higher and well above the midpoint of the 7-point scale ( $M= 5.65$ ,  $SD = 1.22$ ). For self-determination index, participants' scores ranged from -8.00 to 15.50, with a mean indicating that participants were moderately self-determined ( $M = 6.96$ ,  $SD =4.65$ ). Participants' perceived daily hassles score ranged from 1.27 to 6.40, with a mean score falling below the midpoint of the 7-point scale ( $M= 3.13$ ,  $SD = 1.00$ ). Participants' mean score on physical symptoms fell below the midpoint of the 5-point scale and Participants' mean scores on future work intentions were above the midpoint of the 7-point scale ( $M= 4.81$ ,  $SD =1.38$ ). Correlation among the variables

suggested that perception of autonomy support and competence support were both associated positively with self-determined motivation ( $r = .38, p < .01$ ; and  $r = .28, p < .01$ , for autonomy support and competence support, respectively) and support of autonomy and competence also were correlated positively with each other ( $r = .43, p < .01$ ). Dimensions of interpersonal behaviours were expected to be unrelated to daily hassles and physical symptoms.

To test the hypothesized model depicted in Figure 1, a path analysis was conducted using the EQS/Windows program, Version 5.7b (Bentler & Wu, 1993). The covariance matrix was used as input data for the analyses. The maximum likelihood (ML) estimation method was chosen to generate standardized parameter estimates for each hypothesized relationship. Non-significant chi-square value indicated a good model fit, while a significant chi-square value suggested lack of satisfactory model fit and the path analysis revealed that the proposed model provided an acceptable, but not an ideal fit for the data. One parameter had a distinctively higher LM chi-square value compared to the others and revealed a direct effect of competence support on daily hassles. The authors also tested three alternative models. The model hypothesised that both perceived autonomy support and competence support from one's supervisor would be associated positively with police self-determined motivation toward work. Self-determined motivation was hypothesized to be associated positively with future work intentions and negatively with perceived daily hassles. Perception of daily hassles was proposed to be related positively to the reported physical symptoms. Results from path analysis provide general support for the proposed model and showed consistency with the authors' hypotheses, self-determined motivation toward work was found to be associated with higher future intentions to stay in the police force and fewer perceived daily hassles. They had tested three alternative models, but none were offered a better fit to the data than did the proposed model. The authors concluded that self-determined motivation could reduce police officers' physical symptoms through their perception of stress and increase their future work intentions. Further, they added that police officers' self-determined motivation could be maintained or increased if their

immediate supervisor supported their autonomy and competence. These findings indicated that the use of choice and constructive feedback as alternatives to rewards, threats, and punishment should be favoured in police organizations.

The limitations of the study were that the model was tested with mainly French Canadian male officers, so cautious generalization was advised and the response rate was just 35%, the statistical technique used for testing the model assumed that the variables are measured without error, the study was correlational cross-sectional study and any causal relationships between variables should be interpreted with caution. The present study relied on self-reported measures.

Johnson S. et al's (2005)<sup>34</sup>, aim of the study was to compare the experience of occupational stress across a large and diverse set of occupations. Three stress related variables (psychological well-being, physical health and job satisfaction) were discussed and comparisons were made between 26 different occupations on each of these measures. The relationship between physical and psychological stress and job satisfaction at an occupational level was also explored. The measurement tool used in the research was a short stress evaluation tool (ASSET) (Robertson Cooper, 2002a) which was devised as a short stress evaluation tool and could be completed quickly and easily by all employees in an organisation. ASSET, 12 factors measured by the questionnaire, had been used as a stress measurement tool in over 26 organisations on a large dataset of over 25,000 individuals covering many different occupation types. Twenty-six different occupations were selected for research purpose and each of these was ranked on their physical health, psychological well-being and job satisfaction scores. This enabled the occupations to be compared, providing information on which occupations reported the highest levels of stress and the lowest levels of job satisfaction.

Research suggested that physical health factor included questions about the physical symptoms often associated with stress and higher scores on this scale indicated worsening physical health. Psychological well-being factor included questions

relating to the clinical symptoms indicative of stress induced mental ill-health and higher scores indicated worsening psychological well-being. Job satisfaction factor included questions related to sources of stress regarding the fundamental nature of the job itself. The study showed that higher scores indicated lower job satisfaction. These three factors were correlated to see to what degree physical health, psychological well-being and job satisfaction were related to each other at an occupational level and the result showed significant correlations between all the factors. The rank order of these occupations provided information on the relative stress and job satisfaction scores between occupations. As per the research result, the least stressed and most satisfied occupations were analysts, school lunchtime supervisors and directors/MDs within the private sector. Surprisingly, directors in the public sector scored higher on all three factors than directors/MDs in the private sector. The study finally concluded that out of the 26 occupations selected for the research, six (ambulance, teachers, social services, customer services – call centres, prison officers and police) were identified as having worse than average scores on each of the three factors. These were the occupations that were reported as the most stressful regarding physical and psychological well-being, as it had the lowest levels of job satisfaction. Another interesting result that the study found was the difference within different levels of the police and police officers, where one of the top six occupations experiencing the most stress and least job satisfaction. The study proved that there was a link between physical health, psychological well-being and job satisfaction. The limitation of the study was that a full analysis of the relevant stressors for any particular occupation was not attempted.

Burke J. Ronald, & Mikkelsen Aslaug, (2004)<sup>35</sup>: This research focused on the relationship between burnout and police officers' attitudes towards the use of force and attitudes towards the use of social skills to solve problems. For the purpose of research, data were collected from 766 police officers in Norway using anonymously completed questionnaires, and measured under the headings of Personal and work situation characteristics.

A number of personal demographic and work situation characteristics were measured by single items.

Job demands: Nine job demands were measured using the Copenhagen psychosocial questionnaires (COPSOQ) developed by Kristensen and Borg (2001). Respondents indicated their agreement with each item on a five-point scale and Burnout: Three burnout components were measured by the Maslach Burnout Inventory - General Survey (MBI - GS) developed by Schaufeli et al. (1996).

Their findings are somewhat consistent with those of Kop and Euwema (2001) on several fronts. First, police officers indicating higher levels of job demands also held more positive attitudes towards the use of force in the Norwegian sample. Second, police officers indicating higher levels of cynicism also held more favourable attitudes towards the use of force in the Norwegian sample. Third, police officers reporting higher levels of personal efficacy also gave higher priority to the use of social skills to solve policing-related problems in the Norwegian sample. The research study showed no relationship of job stressors and police attitudes towards the use of force or the use of social skills. They made the assumption that greater use of social skill and less use of force were desired responses by police officers. Because of this assumption, police forces management should reinforce this message while orienting newly hired officers. Research showed that less experienced officers have more positive views on the use of force. More extensive training in the use of social skills would also be helpful in this regard. Burnout has been shown to impact individual and organizational performance. Research has also clarified that burnout is more than an individual problem; it has its roots in work and organizational experiences. Dealing with burnout using an organizational approach improves the organization. Such approaches focus on the conditions in the workplace rather than on the person. Senior police management must take responsibility for initiating organizational-level inquiries, in concert with force members at various levels, with a long-term view to building a better work environment.

It also seems a cynical attitude on the part of police officers may be associated with excessive and inappropriate use of force. Although job stressors were found to have no effect on attitudes towards either the use of force or social skills, work stressors play a critical role in the development and levels of burnout. There is a convincing suggestion and evidence that the nature of policing varies from country to country. One might expect that the relationship between burnout components and attitudes towards the use of force, and the actual use of force, would be even stronger in those countries where violence is more common.

This study has few limitations which should be noted to help with interpretation of the results. First, all data were collected using self-report questionnaires raising the possibility of response set consistencies. Second, data were collected at one point in time limiting our understanding of causality. Third, some of the measures had low internal consistency reliabilities. Fourth, it is not clear the extent to which our findings generalize police officers in other countries. Their results were somewhat consistent with the Danish study (Kop and Euwema, 2001) but approaches to policing vary across countries.

M. C. Euwema *et al* (2004)<sup>36</sup>, in the article, *The Behaviour of Police Officers in Conflict situations: How burnout and reduced dominance contribute to better outcomes?*, tried to explain that dominance played an important part in police-civilian interactions. The authors also focused on how burnout is associated with a reduction in dominance, and this might, paradoxically, lead to more effective outcomes in conflict situations. They were of the opinion that there is lack of knowledge about the effects of burnout in professional practice. The study was conducted for a better understanding of these dynamics. It is unique in that it combined self-reported burnout with observed behaviour in interactions with civilians. The study also focused on and examined the relationships between the imbalance between demands and rewards, occupational burnout and police officers' behaviour in conflict situations (in terms of dominance and effectiveness). A questionnaire was used to assess job demands, rewards and burnout among 358 Dutch police officers. Along with this, police officers'

interactions with civilians were observed over 122 days. The results of structural equation modelling analyses showed that the imbalance between job demands and rewards was predictive of burnout (emotional exhaustion and depersonalization). Burnout, in its turn, predicted a decrease in dominant behaviour in conflict situations and as a result, more effective conflict outcomes. These findings showed that reduced dominance associated with burnout had positive consequences for professional behaviour in conflict situations.

The major research finding was regarding the relationship between burnout and professional conflict behaviour. The study had once again proved that the imbalance between job demands and rewards is important for the experience of burnout. This implies that as long as employees experience a positive balance, the risks of burnout are reduced. Human resources management should aim at achieving this positive balance, rather than at reducing job demands. Burnout, the combination of emotional exhaustion and cynicism, was found to be related to less dominant behaviour by police officers in conflict with civilians. Less dominant behaviour led to more effective conflict outcomes. These results challenged the assumption that occupational stress necessarily results in impaired professional performance. The detrimental effect of burnout only becomes visible in professional behaviour, when high 'clinical' levels of burnout are achieved. Research showed that professionals are more effective when they restrict dominant behaviour in conflict with clients. This finding was the key element in the training of professionals in dealing with conflict situations, achieving de-escalation and healthy working relations between professionals and clients.

The study was limited to the context, it was very specific, reporting observations of conflict behaviour of Dutch police officers. Further research in other occupations, as well as other cultural contexts is required. Even the relations between burnout measures and actual behaviour were rather weak. The method used was the combination of surveys with field observations. Surveys offer only limited measure of stress, and are sensitive to social desirable answers. The measurement of the

imbalance between job demands and rewards was not sensitive to qualitative differences between the issues mentioned.

Scott M. Yolanda (2004)<sup>37</sup>: In this study, the author focused on the gap which was identified by considering that previous studies on police stress have focused mainly on urban officers, and the attention afforded to rural and small-town police is virtually nonexistent. To address this gap in the literature, five distinct stress scales were constructed to examine 135 rural and small-town patrol officers' experiences. The ordinary least squares (OLS) regression results suggest that perceived disruptive administrative changes significantly increased officers' stress experiences on a number of different dimensions, ranging from perceived maltreatment within the department to inherent aspects of the job. This study was based on a larger set of data in which officers were asked a variety of questions about their work; officers' stress experiences and perceptions of administrative changes and media criticism were among the topics covered. Changes to the department's top management positions were most strongly predictive of stress stemming from the organization. The study also proved that perceived media criticism was positive, and had a significant effect on two of the five stress scales, general aspects of police work, and danger or violence. The department size was also linked to organizational stress.

The research findings were supportive of previous work conducted on officers employed in large urban agencies and suburban departments in two major ways. First, the mean rankings of various situations revealed that stress stemming from the organization was among the most problematic for officers. Second, perceptions of the organizational setting, mainly administrative changes, were significantly predictive of all forms of officer stress. The author found that the changes in the department's top administration were found to have a "ripple effect" on stress. Officers perceived that changes in the department's top administrative positions will interrupt every part of their life and work like their treatment within the department, situations of danger or violence, to the impact of the job on their family. The study showed that the type of stress most pronounced under administrative changes had to do with the

organization. Media criticism was also positively linked to officer stress stemming from general aspects of the work and perceived or actual dangerous features of job. This study was cross-sectional in design, preventing the ability to effectively assess the duration that perceived disruption had on patrol officers' stress experiences. The department size was found to have a positive and significant effect only on the organizational stress scale. The findings from this study suggested that rural and small-town police officers would benefit from and likely respond to stress intervention programs such as peer support and mental health counseling (Finn&Tomz, 1997; International Association of Chiefs of Police, 2002; Janik, 1999; "On-the-Job Stress," 2000; Sewell, 2002).

Jaramillo Fernando et al's (2004)<sup>38</sup>, study adopted an interdisciplinary research orientation in an attempt to comprehensively investigate the effects of police stress internal to the organization (i.e. role ambiguity, role conflict, supervisor support, group cohesiveness, and promotion opportunities) on organizational commitment, after controlling the effects of job satisfaction. To test the research hypothesis, they distributed a total of 300 surveys, resulting in 160 completed and 150 usable surveys. Police officers were sampled across various job types, including patrol officer, detectives, sergeants, lieutenants, chiefs, and captains. Responses were obtained from six police agencies. The study had included ten female participants and their average work experience was of 14.5 years. To test hypothesizes they used a regression analysis with organizational commitment as a dependent variable. And five stressors (i.e. role conflict, role ambiguity, supervisor support, group cohesiveness, promotion opportunity) and job satisfaction were included as independent variables. The results indicated that two stressors, role conflict and role ambiguity were non-significant predictors of organizational commitment. Even, the partial correlations between role conflict and role ambiguity with organizational commitment were non-significant. The results of the research study were consistent with the findings of the 2000 local police department survey that had indicated that the majority of local police departments had adopted written policies in important issues such as maximum number of hours that police officers could work, community policing plans, use of

lethal and non-lethal weapons and force, and pursuit driving policies (Bureau of Justice, 2004). They found that role conflict and role ambiguity were not significant in explaining the variance in police officers' organizational commitment.

The study found that three stressors (i.e. supervisor support, group cohesiveness, and promotional opportunities) are important antecedents of organizational commitment. These results had important implications for senior police officers in charge of managing the police force. They also found that two of the most important stressors in explaining organizational commitment are promotion opportunities and supervisor support. These findings support the previous research which indicated that promotion opportunities and supervisor support are two important antecedents of police officers job attitudes (e.g. Brough and Frame, 2004; Toch, 2002). As indicated by Toch (2002) police officers often believe that political connections and ethnicity play an important role in promotion decisions. The authors had recommended that designing of strategies should aim at increasing the commitment of police officers to the organization because of the negative relationship between organizational commitment and intention to leave. Further research confirmed the evidence of Narayanan et al.'s (1999) claim that stressors differ across occupations by showing that role conflict and role ambiguity are not significantly related to organizational commitment. They concluded that rather than role conflict and role ambiguity, stressors such as lack of promotion opportunities, supervisor support, and group cohesiveness are better predictors of organizational commitment in law enforcement settings. The study had limitations that police officers' rank (i.e. chief, captain, officers, sergeants, troop), and police unit (i.e. K-9 Unit, Traffic Unit, DUI Unit, Marine Patrol, etc.) could define the specific job tasks required by police officers, and could moderate the stressors-strain relationship.

Collins & Gibbs (2003)<sup>39</sup>, were of the opinion that police work tends to be regarded as inherently stressful because of the personal risk of exposure to confrontation and violence and the day-to-day involvement in a variety of traumatic incidents and hence it is a need to identify key work-related stressors. Their study's main objective

was to examine the sources of stress-related symptoms within police officers and measure the prevalence of significant associated mental ill-health. For the purpose of the study, cross-sectional questionnaire survey of a population of 1206 police officers was carried out to assess levels of strain associated with a series of potential home and work related stressors. The ratios of police constables to sergeants in the population and of male to female officers were both in the region of 5:1. Participants were then split into low and high scoring groups on the basis of a General Health Questionnaire (GHQ) threshold score in order to identify those stressors most associated with mental ill-health effects. In the study, ranks were selected for the survey on the basis both of their predominance within the organization and indications from previous studies of increased liability to strain.

The survey included all officers within the force holding these ranks, spread across the geographical sectors of the county, each of which constitutes a separate managerial division of the workforce. To collect the data, a questionnaire was designed to assess all aspects of the stress-strain cycle and demographic information. The detailed data was collected on: grading of the severity of perceived occupational stress from equal numbers of organizational (relating to workload and work climate) and operational aspects of front-line duty issues. A five-point grading scale was used to link participants' verbal descriptions of perceived stress to a numerical scoring system with responses of 'not at all', 'slightly', 'fairly', 'considerably', or 'extremely' stressful being given scores of 1-5, respectively.

In the study, they found Constables less likely to take part in the survey than sergeants in the response group. Female officers had a higher response rate as compared to males. They used the Mann-Whitney non-parametric test to establish the degree of difference between the two groups in their responses to the graded answers given to enquire about stressors and moderators and for answers of an ordinal nature in the questionnaire. They found that organizational stressors were perceived as more stressful than operational issues by the population as a whole. No difference was found between the two groups in relation to parenthood, either in

number or age of children. There was no evidence of association between either rank or length of service and caseness. The authors found that all organizational stressors were significantly more stressful than non-cases and all operational stressors were also perceived as more stressful by cases than non-cases. The majority of life stressors were perceived as significantly more stressful by cases than non-cases. Job perception was significantly more negative for cases with a clear association wishing to leave policing altogether was the high scoring group. Though the societal and organizational changes were observed, levels of stress-related mental ill-health in police officers do not appear to have improved over the past 10 years. In the study it appears that proportions of officers with measurable ill-health have doubled compared to earlier times. The study found some interesting but inconclusive findings: first, it is interesting to note the absence of any simple association of increased likelihood of mental ill-health with increasing age or length of service might had been predicted simply by increased exposure. Secondly, there were indications of significant inter-divisional differences, which were not explained by non-response bias. This study confirms previous findings of organizational culture and workload as the key issues in officer stress. Given that the degree of symptomatology appears to be worsening, management action is required.

The limitation of study was the fact that the population size was large and the response rate was high, the study was performed in a relatively small county constabulary. The study had also shown inability specifically to identify non-responders in order to allow both a second mailing and a more in-depth analysis of responder bias.

Engel Robin Shepard and Worden Robert E., (2003)<sup>40</sup>: Their analysis of the time that patrol officers spend conducting problem solving activities is consistent with the findings of most previous research that officers' behaviour is only weakly related, if at all, to their occupational attitudes. Previous research examined police dispositions of disputes and traffic stops, and officers' responses to domestic violence. Research had also examined the frequency with which police made traffic stops and suspicion

stops, and officers' arrests for driving under the influence. All of these are well-established domains of police work, in which most analyses have been found weak or null attitude-behaviour relationships. One exception is the analysis by Brehm and Gates (1993), which found that officers who dislike features of their job and are satisfied with their supervisors tend to "goof off" more, while officers who like their colleagues tend to "goof off" less. Hence, it appears that variation in how officers do their jobs is not congruent with their occupational attitudes, while variation in how much officers do their jobs is related to their attitudes.

The findings of previous research notwithstanding, one might expect that the officers whose occupational attitudes are the most compatible with problem solving and community policing would be more likely to embrace the practice of problem solving, which represents a substantial departure from widely accepted police practices. Yet for the most part, these expected relationships do not hold. Officers who adopt goals of community policing and problem solving as their most important goals tend to perceive these as their supervisors' goals also, and they tend to spend more time engaged in problem-solving activities. Otherwise, however, the time that officers devote to problem solving is unrelated to their attitudes, and it is also unrelated to their training in community policing, assignment as a community policing officer, self-assessed knowledge of community policing, and perceptions of the levels of cooperation from the residents of their beats. These mostly null attitude behavior relationships could be due to situational pressures that originate in the police organization. In both the departments, survey respondents indicated that the organization had only partially succeeded in providing time, information, and rewards for problem solving (see Paoline et al., 2000:587-588), and in both departments, observed officers typically devoted a small fraction of their time to problem solving. The limited organizational support can and should be understood as situational pressures that attenuate attitude-behavior relationships. Even officers who are enthusiastic adherents to a philosophy of community policing will seldom practice it if they do not have the organizational support they need, or if they face organizational impediments. It is also possible that attitude-behavior congruence in

this domain of police work is undermined by uncertainty and ambiguity about the nature of problem solving. Even officers who are favourably disposed toward community policing and problem solving may be unsure how to proceed, and even those with training in concepts and principles may be ill-prepared to practice problem solving. It is, we believe, quite telling that the officers for whom problem solving is a high priority spend more time on problem solving to the extent that they perceive-in many instances erroneously-it is a priority for their supervisors.

This analysis also shows that the time officers spend on problem-solving activities is subject to modest, but negative, supervisory influence. In particular, officers whose supervisors are strongly oriented toward aggressive patrol spend less time on problem solving. It appears that supervisors who espouse an aggressive patrol style discourage problem solving, either overtly or implicitly. By encouraging their subordinates to make arrests and issue citations, or seize drugs, guns, or other contraband, so that less time is available for problem solving, as they work to meet a different set of supervisory expectations. Officers' and supervisors' gender affects the time that officers spent conducting problem-solving activities. Specifically, the percentage of a shift devoted to problem solving was 1.6 times greater in female officers, and 1.4 times greater in officers with a female supervisor. Although some researchers have speculated that male officers behave differently than female officers due to cultural influences, most studies have reported that female officers behave similarly to males (for review, see Riksheim and Chermak, 1993), and that female officers' attitudes do not differ significantly from males (Worden, 1993). In IPD and SPPD, female officers were significantly less likely than male officers to report that problem solving was a priority (12.1% compared to 27.8%, respectively), but female supervisors did not differ from male supervisors in their priorities for problem solving or their abilities to communicate their priorities. However, further analyses revealed that female officers were better at accurately interpreting their supervisors' priorities for problem solving: the correlation between officers' perceptions of their supervisors' priorities for problem solving and their supervisors' actual priorities for problem solving was 0.24 for female officers but -0.01 for male officers. These

findings are consistent with other analyses of POPN data that found that female supervisors had different supervisory styles compared to male supervisors (Engel, 2001). Otherwise and perhaps more remarkably, supervisory influence is negligible in those officers whose supervisors espouse community policing and problem-solving goals and engage in no more problem solving than other officers.

Wiese L., Rothmann S. And Storm K., (2003)<sup>41</sup>: The results of their study showed that stress associated with a lack of resources is relatively more severe than other stressors in the SAPS in Kwazulu-Natal. In this regard, inadequate salary, staff shortages and other officers not doing their job caused stress. Stressful job demands included having to deal with crisis situations, excessive paperwork, having to perform tasks not in the job description and having to do someone else's work. Also, seeing criminals go free was a relatively severe stressor for police members.

It was clear from the results of this study that stress because of job demands and lack of resources were strongly related. This implies that stress because of a lack of resources probably increased because of job demands. Not having resources probably made it more difficult to deal with crisis situations, paperwork and performing tasks not in the job description. A positive correlation between burnout and stress was found, as was expected from a previous research by Burke (1994). High levels of stress because of job demands and a lack of job resources were related to high levels of exhaustion. It seems that stress because of job demands and a lack of job resources require greater effort from the police officer, resulting in more exhaustion. Job demands were also correlated with cynicism. High levels of stress are also related to poor coping strategies, as found in previous research.

High job demands and a lack of job resources were associated with passive coping. It could therefore be said that not addressing a problem in full, leads to stress in the individual. With reference to coping and burnout, passive coping was related to exhaustion and cynicism. Canonical correlations showed high levels of passive coping to be associated with high levels of exhaustion and cynicism and low

levels of professional efficacy. These results confirm findings from previous research, where high levels of burnout were associated with ineffective or withdrawal coping strategies. One possibility for this could be that the stress that occurs from addressing the problem only in part, when passive coping strategies are adopted, accumulates until burnout occurs. The structural equation analysis showed that occupational stress is associated with exhaustion. Although stress because of a lack of resources did not contribute directly to exhaustion, it was clear that job demands mediated the relationship between stress because of a lack of resources and exhaustion. Thus, officers experiencing high job demands experience higher exhaustion.

Furthermore, when police officers used passive coping strategies, they showed an increase in exhaustion, but when they utilised their emotional support their level of exhaustion decreased. However, using an active coping strategy (such as concentrate their efforts on doing something about the problem) did not save them from feelings of exhaustion. Passive coping was related to cynicism. Two interpretations of this finding are possible. Firstly, a passive coping strategy might have a direct effect on cynicism. Also, the structural equation modelling showed that exhaustion moderates the effect of passive coping on cynicism. Secondly, it is possible that cynicism contributes to a passive coping strategy. No relationship was found between cynicism and occupational stress. A possible explanation could be that stress because of job demands and a lack of resources influenced cynicism through exhaustion. In the SEM model, it is clear that feelings of exhaustion led to cynicism. Therefore they argued that stress because of job demands and a lack of resources lead to higher feelings of exhaustion, which, in turn, leads to higher levels of cynicism. The use of passive coping strategies lead to lower feelings of accomplishment, while active coping strategies lead to higher feelings of professional efficacy in police officers' work. A lack of resources leads to lower feelings of professional efficacy. A limitation of the research was that the research design did not allow one to determine the direction of the relationship between the variables.

Kohan Andrea *et al's*, (2003)<sup>42</sup> study addressed three questions: (a) Do police officers view organizational aspects of their work more negatively than operational aspects, as previous research as suggested, and do positive work appraisals follow a similar pattern? (b) What is the relationship of officers' perceptions of their work experiences to burnout and pro-organizational behavior (OCB)? and (c) Are these relationships operated on (mediated or moderated) by dispositional affect and coping efforts? The data addressing the first question showed that police officers appraised operational hassles more negatively than organizational ones, thereby differentiating the officers in this study from those in previous studies where the reverse was true.

However, subgroup analyses revealed that officers' appraisals of work hassles depended on the type of work routinely performed. Patrol officers, involved in daily patrol and investigation, identified operational aspects as being more bothersome, whereas supervisors and administrators, whose duties primarily involve implementing policy, viewed organizational aspects more negatively. Uplifting organizational experiences were appraised as being more uplifting than operational ones, regardless of the type of work officers performed, suggesting a greater relative importance of organizational experiences to officers' positive evaluations of their jobs. The difference in hassle-type appraisals between patrol and supervising officers could not be attributed to other differences between the two groups (i.e., age and years of experience). However, the manner in which appraisals were assessed may have interfered with accurate reporting. The PDHS asked respondents to indicate the degree to which each hassle "applied to them in the last month as a result of doing police work." One interpretation of the instructions might have led officers to report the extent to which an item was bothersome, whereas another might have led them to report that the item did not apply to them simply because they did not regularly perform that aspect of work. Thus, the PDHS seems to confound appraisals of work with performance frequency. A simple rewording of the instructions might allow the assessment of appraisals separate from performance frequency.

The data pertaining to the question of relationships between variables supported the expectation that work hassles would be positively related to burnout. Officers who reported more work hassles described themselves as feeling more emotionally exhausted and subject to feelings of depersonalization. More importantly, in accordance with evidence of the more distressing nature of organizational elements of policing, organizational hassles had a stronger relationship with distress measures than operational ones. Interestingly, officers who reported more of both types of work uplifts, described themselves as having greater feelings of personal accomplishment, but they reported neither a diminished sense of emotional exhaustion nor depersonalization. This different pattern of associations involving hassles and uplifts with burnout dimensions supports the hypotheses of the independence of stressor-distress associations from uplift-well-being relationships. The relationship between work experiences and OCB appears to be more complex. Overall, the main and subgroup analyses showed that OCB was more often associated with organizational experiences than operational ones, which coincided with the previous findings of associations between perceptions of organizational procedures and OCB. The inverse relationship between OCB and burnout lends further credence to the contention that burnout can have a detrimental effect on organizational well-being. That is, burned-out employees may not only be more inclined to leave a job and to take more time off, but also their contributions at work may be minimal when they do show up.

The third question addressed the importance of the individual characteristics to perception-outcome relationships. Research has shown that associations between perceptions and psychological outcome are mediated by disposition or moderated by it. The lack of effects for dispositional variables in this study contradicts both positions. However, the data were consistent with Hart et al.'s (1995) findings that work hassles and uplifts made significant contributions to psychological distress and well-being, respectively, independent of dispositional influences. The data also suggested that chronic exposure to particular work environments may be associated with psychological states and behavior beyond one's tendency to be upbeat or

negatively predisposed, which coincides with the arguments for an organizational basis of burnout and the primary importance of situational factors to OCB (Organ, 1994). Future police stress analyses might clarify the importance of disposition by using alternative measures of disposition. Both coping styles buffered burnout in the face of increasing work hassles. These findings are consistent with the view that both coping styles can be beneficial depending on the context rather than the view that strategies are either adaptive or maladaptive. Also noteworthy was the finding that burnout in relation to organizational hassles, and not operational hassles, was buffered by both coping styles. An inherent drawback of policing may be that, despite coping efforts, burnout is associated with mandatory operational duties. However, this and other studies have shown stronger links between distress and organizational hassles compared to operational ones. Coping efforts may be an effective way to help officers deal with a significant portion of their work-related distress.

He Ni *et al*, (2002)<sup>43</sup>: The study aimed to explore the impact of work environment, work-family conflict, and coping mechanisms on physical and psychological stresses of police officers. For research purpose, the study utilized data that was originally used in Gershon's (1999) study titled "Police stress and domestic violence in police families in Baltimore, Maryland, 1997-1999", located in the New England area. The authors used the instrument which was developed earlier to measure police stress in Gershon's (1999) survey with minor modifications from the brief symptom inventory (BSI), which included three of the nine dimensions of stress symptoms and used a four-point scale of distress ranging from never (1) to always (4). The findings of their study indicated that female officers do have statistically significant higher levels of somatisation and depression compared to their male counterparts, respectively. These findings were generally consistent with relevant previous research findings in the area of psychology and mental health (e.g. Derogatis and Savitz, 1999). Nevertheless, we find no evidence to suggest that male and female police officers differ statistically in the clinically developed measure of anxiety. To answer their second research question, a multivariate analysis examines the sources of stress and

coping strategies used by male and female officers. It found both convergent and divergent effects of work environment, work family conflict, and coping strategies on the physical and psychological stress of police officers. In both male and female officer samples, there appears to be convergent impact of spill over and destructive coping on all three measures of stress (somatisation, anxiety, and depression). Judging from the signs and values of the standardized regression coefficients (beta), the impact of spill over and destructive coping are consistently the largest, which suggests that both are among the most important job stressors in police work. There are unmistakable signs of divergent effects of some work environment, coping, and demographic variables on stress that appear to be gender specific. For example, in the analysis using the female officer sample, neither the work environment variables nor the demographic variables are statistically significant predictors of any measures of stress. Yet, unlike the corresponding finding from male officer sample, constructive coping has been found to reduce depression among female officers.

They compared the percentage of male and female police officers that agreed to specific individual items. The results of comparison between the two groups revealed that constructive coping was found to be a statistically significant stress-reducing factor for one type of female police officer stress - depression. About half of all the female officers in the sample indicated that they have frequently or always used the following coping strategies:

- rely on your faith in God to see you through this rough time (female 61.9 percent; male - 35.3 percent);
- pray for guidance and strength (female - 59.1 percent; male - 28.5 percent);
- talk with your spouse, relative or friend about the problem (female - 52.3 percent; male - 37.1 percent); and
- make a plan of action and follow it (female - 48.0 percent; male - 44.2 percent).

Apparently, there are differences between male and female officers in using constructive coping strategies. Male police officers appear to rely far less on spiritual

guidance and on consulting spouse, other family members and friends when dealing with stress.

Kohan Andrea *et al*, (2002)<sup>44</sup>: The authors' objectives of the study was to examine job satisfaction, job stress, and thoughts of quitting in relation to positive and negative effect, life satisfaction, self-esteem, and alcohol consumption among police officers. For research purpose, 122 officers (101 men and 21 women) returned fully completed questionnaires (return rate was 31 %). The mean age of the participants was 36.1 years (SD = 8.13), the average level of education was 2.5 years of postsecondary education and the mean time on the job was 11.8 years (SD = 8.76). The findings of their study indicated that simplicity and order can be found in the complex pattern of associations between job experiences and well-being variables. The terminology and measures used in this field have been varied, and a focus on bivariate relationships can make it difficult to see the forest from the trees. The present factor analyses revealed two simple clusters or sets of common roots among variables in this complex web. The dimensions of Positive Effect and Negative Effect emerged clearly when job-related variables and well-being variables were placed in the same factor space. Previous job investigations, including those involving police officers, have focused primarily on Negative Effect. This led them to expect Negative Effect to be the more important dimension among our variables. However, Positive Effect proved to be the stronger dimension by a wide margin. Job satisfaction and intention to leave were more strongly defined by Positive Effect than by Negative Effect, as were life satisfaction and self-esteem. The primary correlates of Negative Effect were job stress and alcohol consumption. These factor analytic results do not imply that the variables associated with one dimension are unrelated to variables from the other dimension. Indeed, the bivariate correlations revealed a tangle of mild to moderate associations between most of the variables. Instead, the factor analytic results can be viewed as providing a kind of family tree for the variables, revealing their shared and non shared roots. The results may serve as a useful road map for attempts to interpret the literature on job experiences and wellbeing.

The results may also serve as a guide for selecting variables and measures for inclusion in further data collection. Without such a guide, the selection of predictor and outcome variables may be too haphazard, especially when variables with different family roots are naively selected and expected to correlate strongly. A one-dimensional view of job experiences and well-being variables may seem reasonable on the basis of the variable names, but at least two orthogonal dimensions can be found in the variable family trees. In fact, the haphazard nature of the variable and measure selection used in previous work may be responsible for the impression that associations between job experiences and well-being are sometimes weak.

The results produced by factor analytic procedures are skewed by the variables that were included in the analyses. The present, somewhat surprising finding, that job satisfaction had stronger family roots on the Positive Effect dimension requires replication using other measures. The fear is that some other measures of job satisfaction may have stronger elements of Negative Effect, in which case job satisfaction would appear less strongly aligned with Positive Effect. Their finding was nevertheless significant in that it testifies to the importance of dimensional analyses of the variables of interest. Joint factor analyses of Positive Effect, Negative Effect, and a variety of measures of job satisfaction are also required to reveal the family similarities and differences between job measures. Researchers presently hold conflicting views on whether Positive Effect or Negative Effect was more important to job satisfaction. The empirical answers to this question will probably vary, depending on the measures that are used.

The findings may also vary by sample, although there is presently no basis for expecting fundamental differences between police officer samples and other samples. Hart (1999, p. 568) claimed that police samples may be particularly good ones for research on job experiences and well-being because police work is not just a job but a way of life for many officers. This factor may result in stronger effect sizes for police samples, but there is no reason to suspect qualitative differences in the findings for this kind of sample.

The variables that clustered together on each factor in the present study are related, but they are also discriminable. They are analogous to human siblings, who are genetically related (common variance components) but who nevertheless retain their individual identities (unique variance components). Further discrimination between the variables could be achieved by placing them in broader factor spaces, such as those defined by more fine-grained breakdowns of the Positive Effect and Negative Effect dimensions (Burke et al., 1989) or by the dimensions of the five-factor model. Finally, the findings confirmed previous observations that alcohol consumption is associated with Negative Effect.

Anderson George S., et al (2002)<sup>45</sup>: The purpose of this study was to identify common stressors and the magnitude of stress reactivity in police officers during the course of general duty police work. The study involved a systematic random sample of 287 officers (96 percent), general duty police officers drawn from all 12 municipal police departments in British Columbia. The officers were surveyed (using two separate questionnaires) about the physical aspects of their job and about the most demanding critical incident of their prior 12 months of work. The results of their study demonstrated the increased physiological stress one would expect during physical activities of increased intensity, particularly the stress which occurs during the escalating use of force activities. Further, the results clearly demonstrated the psycho-social stress of police work with increased physiological reactions in situations where there is a potential threat, and during periods of anticipation. The stress reactivity during periods of increased threat was evident in the increased heart rates during different posturing activities and during periods of communication with suspects. Anticipatory stress is evident in the high above-resting heart rates at the beginning of the shift, and the high above resting heart rates of officers called in back-up roles to critical incidents. This data is consistent with that of Anshel et al. (1997) who rated facing unpredictable situations as the most stressful acute stressor.

Their study found the highest physical stress occurring during pushing and pulling and fighting sequences when the largest proportion of the musculature was active.

However, police officers responding to critical incidents also demonstrated marked psycho-social stress and stress reactivity, being most notable during the interaction with a suspect both during the critical incident, and then during each subsequent interaction with suspects for the remainder of the shift. These results are consistent with those of Anshel et al. (1997) and Peters et al. (1998) who both report high levels of acute stress in situations with high demand and low control (such as dealing with a domestic dispute or arresting a violent suspect). However, the findings of the present study also found that police officers involved in observed critical incidents did not recover. The mean above-resting heart rate of those involved in a critical incident remained elevated for the remainder of the shift for all tasks, including a significantly elevated heart rate during report writing, in the last hour of the shift. Research assistants observed a number of incidents of high stress that were not considered critical. Some of these only lasted a minute or two: ten (13 percent) of the 76 officers reached 75 percent of their heart rate reserve at some point during their shift, indicating a significant level of stress; seven of these ten officers did so during or after a critical incident, but three were spontaneous events. For example, during a traffic violation stop, an officer radioed a fellow police officer after talking to a suspect, returned to his vehicle to use the mobile data terminal, and immediately attained 88 percent of his heart rate reserve. This is an example of psycho-social stress, and may well be explained by a reassessment of the situation from a challenge or benign appraisal to threat appraisal. In another incident, an officer responded to a suspicious package thought to be a bomb. In this case the officer suffered an acute stress response each time he retold the story: an increase of 36 beats a minute above rest when informing his supervisor of the situation, after his initial appraisal of the situation and almost as high when re-telling the story at the end of the shift.

While their results showed a clear indication of the initiation of the fight or flight response, Simeons (1951) suggested that the fight-or-flight response is not compatible

with our industrialized world; it is not appropriate to run from an antagonistic suspect, or fight a superior for asking you to do something you are not fond of. While the fight-or-flight response may be essential to survival in a predatory situation, the survival value for humans has diminished in the civilized world, and may be counter-productive. When the fight-or-flight response is initiated, but not acted upon, there is a psychology-physiology mismatch - our bodies are ready for action, but the action is inappropriate. The stress products released are then left to break down the body, and may be one link between stress and disease.

The sustained heart rate of 22 beats per minute above rest throughout the shift demonstrates the chronic stress placed upon police officers. Further, many of the abrupt increases in heart rates are not associated with physical effort, which may be more harmful to one's health. While the relationship between stress and disease has been postulated for centuries, dating back to the early Greek philosophers, scientific evidence supporting the relationship has not been available until recently. The early body of literature examining stress and disease made wide sweeping statements supporting the notion that stress has a cumulative effect, somewhat independent of the stressor, with the frequency, duration and intensity of stressful events correlated to ill health. More recent evidence is more specific, and suggests that effort without distress may be related to catecholamine secretion, while increased cortisol secretion was related to negative effect, emotion. While subtle increases in cortisol may potentiate the immune response, short term surges or chronic over-production of cortisol are likely to cause immune suppression, leaving one prone to illness and disease. This mechanism may describe the relationship between police work and common health problems, as the chronic anticipatory stress at the beginning of a shift and the psycho-social stress encountered throughout a shift may impact cortisol secretion. Programs directed toward officers' perceptions of control, helping them move from a threat or harm/loss appraisal to a challenge appraisal during periods of acute stress could have a potential health effect by reducing negative effect and distress, reducing cortisol secretion.

Their results also support the practice of debriefing at the end of shifts or immediately after critical incidents. Participants involved in critical incidents do not appear to handle the stress of critical incidents well, having elevated heart rates 45-60 minutes after a critical; further, these elevated rates stay with them till the end of their shift. Significantly, this pattern of elevated heart rates was observed regardless of the activity considered, while at the same time it was not observed in those officers who did not experience a critical over the course of their shift. The heart rate response pattern found clearly highlights the need to assist police officers in developing mechanisms to cope with the stress of critical incidents. Police training programs may be well advised to include discussion of stress and stress-related illness, a self evaluation of personal attributes that may predispose an officer to stress, and discuss cognitive appraisal and coping strategies to help officers reduce acute and chronic stress. Training programs may also want to look towards the officer's social support network and offer seminars on how to best offer a supportive environment at home and recognize the signs of stress.

Unfortunately, it was beyond the scope of the present study to examine just how long after an officer leaves shift their heart rate remains elevated. More importantly, what the present research was not able to do is provide data which could shed light on what difference, if any, the slow recovery from critical incidents makes in terms of each officer's short- and long-term health. However, job-related stress found in police work may be theoretically related to ill-health in several ways, with a direct link being supported by the results of several recent investigations. While the present study demonstrated several abrupt increases in heart rate, surges in catecholamine associated with acute stress have recently been related to increased incidence of cardiovascular disease with high-demand and low control situations. The surge in catecholamine during acute stress also slows the digestive tract and may be related to cancers of the colon and digestive organs. Further, the nature of police work dictates that police are constantly being observed and evaluated by the public; and this increases the stress appraisals and cardiac reactivity which may well lead to increased incidence of coronary heart disease and hypertension. Chronic stress and

the over-production of cortisol have been linked to the reduction of lymphocytes and immune suppression and other illness. Immune system dysfunction may partially explain the high rate of hospital admissions found in the police population.

Patterson George T. (2002)<sup>46</sup>: His study examined the effects of prior military experience on exposure to organizational and field work events, and perceptions of stress among these events in police officers. Little empirical evidence examines the effects of such experience, despite the fact that police officers with military experience benefit from it within most US law enforcement agencies. It was hypothesized that police officers with more military experience would report fewer organizational work events and lower perceptions of stress in response to these events than officers with less military experience. This was based on the assumption that officers with more military experience have acquired familiarity with military work organizations through prior socialization. If so, empirical evidence is needed, given that previous studies have suggested that police officers report greater perceptions of stress in response to the organizational work events and situations experienced in law enforcement. Contrary to expectations, police officers with more military experience did not report organizational work events or lower perceptions of stress among these events.

It was also hypothesized that police officers with more military experience would report more field work events and greater perceptions of stress among these events, since the field work events experienced in law enforcement are different from combat activities experienced in the military. Again, contrary to expectations, more military experience did not predict more field work events or greater perceptions of stress.

Findings suggested that controlling education, police rank, section assignment and years of police experience, more military experience has no significant effect on exposure to organizational and field work events, or perceptions of stress. While more military experience was associated with less education, it may be that officers with more military experience had less time to pursue a college education due to

military obligations. Also, these findings question Dunlap's (1999) assertion that it is difficult for military personnel trained in combat to abandon these skills and function as police officers. Based on the present results, police officers with more military experience are not significantly different from officers with less or no military experience at least in terms of exposure to organizational or field work events and stress reactions. Thus, more military experience explains little of the variance among work events or perceptions of stress. Considering the power analyses results, which show that the sample size was sufficiently large to predict these effects, it may be that other factors influence exposure to work events experienced in law enforcement as well as perceptions of stress. Violanti (1992) suggests that prior learning, life experiences and personality type may influence coping responses following exposure to stress. Consequently these factors may mediate perceptions of exposure to law enforcement work events and stress reactions. It may also be that shift assignments affect exposure to law enforcement work events and stress reactions. Future research should examine the influence of these factors.

Overall, no significant relationships were found between police officers with more years of military experience and officers who did not have such experience. Officers with more years of military experience are not exposed to organizational or field work events at different rates nor are they more likely to report different stress reactions. Further research investigating the effects of functioning within a paramilitary law enforcement work environment is needed to support the assertion that the military model is an inappropriate management model for law enforcement agencies. As Evans and Coman (1988) suggest, organizational factors, such as better job outlines and improved lines of communication that result in police officers reporting dissatisfaction with the paramilitary organization, should also be examined.

Lieberman Akiva M., *et al* (2002)<sup>47</sup>: The aim of the study was to find out the relationship between routine work stress and psychological distress and the sample size was 733 police officers in three US cities, during 1998-1999. The Work

Environment Inventory (WEI) was developed to assess exposure to routine work stressors. Their main findings were that exposure to routine occupational stressors predicted psychological distress among urban police officers. Moreover, exposure to routine occupational stressors was a stronger predictor than cumulative exposure to critical incidents. The WEI's unique predictive contribution persisted after statistically controlling social desirability, social support, and the time since the officer's most traumatic critical incident (when relevant). Their findings were consistent with a variety of prior reports that routine occupational stressors are more stressful to police officers than exposure to danger and critical incidents. Their study replicates the general finding with a large urban sample, while extending it in two important ways. —

First, their study showed that the effect of routine occupational stress exposure is not attributable to traumatic aspects of police work. Their new measures of routine occupational stress exposure intentionally excludes critical incidents, broadly defined to include those that officers experience, witness, or are otherwise confronted with (e.g. notifying a victim's family). Moreover, they statistically control the effects of cumulative critical incident exposure. Nonetheless, over and above any effect of cumulative critical incident exposure, the WEI continued to predict psychological distress, and was more predictive of distress than cumulative critical incident exposure.

Second, their study extended prior findings concerning the importance of routine stressor exposure for police by virtue of their outcome measures (e.g. Crank and Caldero, 1991; Kroes et al., 1974; Violanti and Aron; 1993). Their finding that routine stressor exposure predicts general psychological distress generally replicates these prior findings. They also extend those findings to measures of PTSD symptoms. Officers reporting exposure to more routine work stressors also reported experiencing more stress symptoms in response to their most traumatic critical incident. This suggests that, beyond general psychological distress, exposure to routine occupational stress may be a risk factor for traumatic stress symptoms (see

also Carlier et al., 1997). It is particularly striking that this effect on traumatic stress symptoms is based on a routine stressor measure excluding traumatic events, and is larger than the effect of cumulative critical incident exposure, and persists when cumulative critical incident exposure is statistically controlled.

A secondary finding in their study was that while women and minorities reported a more discriminatory work environment, they did not otherwise report more exposure to routine occupational stressors. The finding that women and minorities reported a more discriminatory environment is consistent with earlier reports (e.g. Kroes 1982; Wexler and Logan, 1983). The absence of broader gender effects on exposure to routine occupational stressors is generally consistent with earlier reports as well (e.g. Violanti and Aron, 1995). For example, Brown and Fielding (1993) asked British constables about exposure to 54 different stressors. Many women reported exposure to sex discrimination or prejudice than did men (43 percent vs 3 percent). Few other sex differences were found, however, although some particular stressors were associated with more health symptoms for women (greater supervisory responsibilities, and not working in an insular location) and others for men (more conflict between work and home values, and more frequent arrests of violent persons). Women also reported less exposure to operational stressors involving potential for violence, but, if exposed, women reported more adverse reactions than their male counterparts. (Because we excluded critical incidents, our WEI results do not contain comparable data (Refer Pole et al, 2001; Weiss et al, 2001).

They have reported on the development of our new measure, the WEI, given its importance for our substantive findings. Generally, the measure demonstrated high internal consistency, although items were not highly inter correlated. Because the scale is more a checklist about features of the occupational context than a psychological scale, there is no a priori assumption of either high inter correlations or that an obvious structure would emerge. An exploratory, principal component analysis seemed primarily to distinguish items with a strong social component, as a second factor, from a more general factor. A three-factor solution further

decomposed the social factor, and separated unequal treatment into a third factor. But, in total, these factors only accounted for about one quarter of the measure's variance. Their purposeful exclusion of critical incidents explains why we did not find a factor of "psychological/physical threat," as did Spielberg et al. (1981), while our inclusion of discrimination items explains why we find a third factor stressing unequal treatment. Otherwise, that additional clear structure did not emerge, seems consistent with Spielberg et al.'s (1981) findings.

One additional feature of their measure was that 53 of the 68 items were worded in generic language that could apply to other occupations. The "generic" scale excluding the police-specific items was highly correlated with the police specific items, and thus with the score for the entire scale (as a result, our findings for psychological distress are essentially unchanged when police specific items are excluded from the WEI, although we have not specifically reported these reanalyses). Substantively, this high inter correlation suggests that the occupational stressors specific to police work (e.g. concerning safety and courts) are themselves associated with other occupational stressors, less specific to police work, such as the perceived public esteem of one's profession, one's relationship with supervisors and management, workplace discrimination and the adequacy of one's training and personal equipment. Because their sample is restricted to large urban police departments, our results may not generalize smaller departments, if larger and more bureaucratic departments produce more routine stress (e.g. Crank and Caldero, 1991; Gaines et al., 1991; Mastroski 1981; Mastroski et al., 1987; Spielberg et al., 1981). Recent research, however, suggests that department size accounts for little of the variance in routine stress (Brooks and Piquero, 1998).

Their findings raise several additional questions. Is the relationship between routine occupational stress exposures and psychological distress causal, so that routine work stress makes one more vulnerable to psychological distress? Or might these findings reflect underlying personality variables that affect both self-reports of routine stressors as well as self-reports of symptoms? Two such possibilities, for example, are

both suggested and ruled out by our findings. First, fairly strong social desirability effects were found on both the WEI and on symptom measures. Perhaps, then, bivariate results largely reflect individual differences in willingness to report both routine work stressors and psychological distress. However, the multivariate results show that social desirability does not account for the relationship. Similarly, social support is correlated both with the WEI and symptom measures. Perhaps individual differences in social skills affect both officers' abilities to use social support to buffer psychological distress as well as abilities to negotiate and manage routine work stressors. Here, too, the multivariate results rule out social support as a primary mediator of their findings.

Other unmeasured personality variables may possibly underlie both WEI and symptom scores. The correlational nature of the current study restricts our ability to disentangle the causal role of routine work stress. Nonetheless, the predictive utility of the WEI for stress symptoms among police officers is surprisingly strong, implying that routine work stress among police officers either plays a causal role or serves as a strong marker for psychological distress, including stress symptoms following critical incidents.

Abdollahi M. Kathrine (2002)<sup>48</sup>: The purpose of the study was to provide the reader with a comprehensive, cross-disciplinary overview of the police stress literature by framing it within the confines of the four categories. These categories were (1) intra-interpersonal (i.e., personality-related stressors), (2) occupational (i.e., job-related stressors), (3) organizational (i.e., organizationally related stressors), and (4) health consequences of police stress. The study concluded that Police stress has been a well-researched topic for several decades. Researchers have identified stressors relating to intra-interpersonal, occupational, and organizational issues. Furthermore, physical and psychological health consequences of police stress have also been explored. The vast amount of police stress research available is somewhat overwhelming. The purpose of this review was to present the information in a simple, precise, and comprehensible manner, mindful of the limitation that exists in this area.

Upon closer examination of this literature, several limitations have revealed. For example, stressors of law enforcement are not clearly defined. Although studies have continuously examined the different “types” of police stressors, most have relied on expert opinion to draw conclusions and/or contain methodological errors within their research, thereby failing to accurately define stressors. Another limitation is that although organizational stressors have been shown to have greater negative health consequences for officers, occupational hazards continue to be the focus of most police stress research. Finally, since its initiation over thirty years ago, police stress research has been conducted in the same manner. It has been exploratory, discipline specific, investigative in nature, and lacking a theoretical foundation.

Police stress research has been unpersuasive as to the existence of the unique and adverse police personality characteristics. Likewise, the notion that the nature of police work is inherently stressful and causes psychological and/or physiological damage to police officers is unsettled. Most importantly, investigations regarding organizational factors as contributory elements of police stress have remained non-progressive. As a result of insufficient clarification, research has been limited in this area.

Roberts Nicole A., *et al* (2001)<sup>49</sup>: These authors examined the impact of job stress and physical exhaustion on the physiological and subjective components of emotional responding during marital interactions between 19 male police officers and their spouses. For research purpose couples were asked to complete 30-day stress diaries and to participate in 4 weekly laboratory interaction sessions. Their results were supported previous findings, that residual job stress had potentially negative consequences on marriages. Specifically, they used an observational approach to analyze emotion (indicated by autonomic and somatic physiology and by self reported affect) during actual marital interaction, a paradigm that they had used previously to identify physiological and affective variables, predictive of marital distress and dissolution. Their study used a sample of police couples; a group whose

job stress can reach considerable heights and show considerable variability, and which was thought to be at elevated risk for a wide range of negative outcomes. In addition to evaluating the impact of job stress, they also examined how physical exhaustion impacts marital interaction and learned that the physical drain of work (i.e., physical exhaustion) is not necessarily tied to the emotional drain of work (i.e., job stress).

Furthermore, their results suggested that the effects of job stress were more costly and more widespread than those of physical exhaustion. Their findings suggested that couples need to be attuned to the days when working spouses have experienced high levels of job stress so that they can find ways to manage this stress constructively. This may include employing stress management techniques, making an effort to infuse positive emotions into marital conversations, and finding ways to talk about job stress rather than avoiding it. Employers should be made aware that job-related stress could have serious consequences, not only for employees, but also for their families. In the contemporary culture, experiencing high levels of workplace stress may be inescapable. Given this, it is important to devote resources to finding ways of dealing more effectively with job stress in the context of marriage and other intimate relationships. Raising the awareness of the emotional impact of job stress and exhaustion on interpersonal relationships was a critical step toward more successfully negotiating the competing demands of work and family.

Stephens Christine, *et al* (2000)<sup>50</sup>, studied 527 (response rate was 52%) police officers who worked in one geographical region of the New Zealand Police, using a by questionnaire. Their findings predicted, a positive relationship between traumatic experiences and psychological or physical symptoms. Communication, in particular, about the ease to talk about the traumatic experiences, were related to psychological and physical symptoms. The prediction that higher social support, measured as communications, would buffer the relationship between traumatic stressors and physical or psychological health outcomes was supported only for some types of communication perceptions of the ease of talking about traumatic experiences at

work, communication about disturbing experiences, and positive and negative communication about work with peers. Communication about non-work matters with peers was found to interact with traumatic experiences, in that their relationship with PTSD or physical symptoms was stronger if there were more of these communication; a "reverse buffering" effect (Kaufmann and Beehr, 1989).

Negative communication with a supervisor about work was also found to weaken the trauma strain relationship at both high and low levels of communication. To explore the inter-relationships between these variables and to clarify these findings, they had begun with a discussion of the two main stages of the analysis. The regression equation demonstrated that the various types of communication at work taken together, and taking the effects of traumatic experiences into account, explained a significant amount of the variance in PTSD and physical symptoms. These results support the findings of Beehr and colleagues (1990) and Fenlason and Beehr (1994) regarding the importance of measuring the contents of communication with supervisors and peers. The present study extended these findings through the inclusion of an additional content of communication variable for this context: disturbing experiences'. When the relationships among all the communication variables were taken into account, the ease of talking about trauma at work, communication with peers about disturbing events, positive communication with peers about work, non-work and negative communication with the supervisor were important aspects of communication in direct relation to PTSD symptoms. Non-work related communication with the supervisor and the ease of talking about trauma were significant variables in relation to the reported number of physical symptoms. These results were congruent with the simple correlations, with one exception. Communication with peers about disturbing experiences showed a significant contribution to the equation, although there was no simple bivariate relationship. This was due to the officers perceptions of the ease of talk about trauma. On its own, the reported level of talk about disturbing experiences was not related to PTSD symptoms.

However, when the positive impact on psychological symptoms, attributable to how easy it is to talk about these things, was accounted for, then the perceived level of such talk was shown to be negatively affecting PTSD symptoms (as was negative communication with the supervisor). The direction of the main effect of these two variables on PTSD symptoms was not the expected effect and possibly related to having something distressing to discuss or complain about.

They concluded that the findings support previous work that emphasized the importance of social support as a variable intervening between the experience of trauma and psychological and physical outcomes. There is also encouragement for consideration of the content of communication and opportunities to talk about trauma, as important aspects of social support in preventing harmful outcomes. It is important to note that the moderating effects of such support occur only with

specific types of communication and when the support comes from particular sources. In every context, it is important to continue to work towards an identification of the precise nature of the support required, and in the present context, the actual matter of the communication. As in other studies (e.g. McIntosh, 1991), communication with others have been demonstrated as not straightforwardly supportive; they have the potential to be harmful too. In exploring the differential effects of such aspects of support on the effects of work-related trauma, future work will need to take into account some of the questions that have been raised by this study. For example, what is the qualitative nature of the relationship between talking about distressing experiences and negative talk about work? Similarly, what are the aspects of talk about disturbing experiences that seem positive to police officers? Are there work place attitudes that function to negate some of the beneficial aspects of communication, and in particular of disclosure?

There are also immediate implications for work-place interventions following traumatic stress. The demonstrated importance of communication with peers and the provision of a balance between the beneficial effects of talk about distressing

experiences and the harmful effects that these communication may support the development of interventions such as peer-support programmes (Paton, 1990). Such programmes include the provision of trained individuals who are able to meet the need for communication, without breaking down work-place 'mores' of non-disclosure, that work to protect the larger group from the damaging effects of too much disclosure.

N. Kop. *et al's* (1999)<sup>51</sup>, purpose of the study was to study and examine stressors in police work, focusing specifically on the lack of reciprocity that officers experience in relation with civilians, colleagues and the police service. The authors also tried to investigate the relationship between burnout and the attitudes of officers towards violence, as well as to their own use of violence. The study was conducted on Dutch police officers of two ranks: starting officers having less than 5 years of experience and experienced (senior) officers having more than 5 years of work experience. The sample size was n = 358(response rate 76%) and the tool used for collection of data was a self-report questionnaire. Confidentiality and anonymity were guaranteed to all officers. Out of the total respondents, 83% were male and less than 20% were females. For the purpose of study biographic variables such as age, gender, rank and work experience, both positive aspects (rewards) and negative aspects (stressors) of the job were measured by means of two questions and respondents were asked to list up to three most stressful and the three most rewarding aspects. A post-hoc categorization was made using content analysis. In the study burnout was measured with the Dutch version of the Maslach Burnout Inventory (MBI), containing 20 questions regarding the three areas that typify burnout (Schaufeli, and Van Dierendonck, 1993, 1994). Lack of reciprocity in relation with civilians, colleagues and the police organization was measured with one item for each relationship, concerning the balance between investments and outcomes. Attitude towards the use of violence during the interaction with civilians and violent behaviour were evaluated following Uildriks (1996) with six items and these items were scored by respondents on a 5-point rating scale.

The authors used a categorization of stressful and rewarding aspects of work made through qualitative content analysis and to assess inter-rater reliability, two independent judges were asked to classify the answers of the police officers into 20 categories of stressors and 14 categories of rewarding aspects. The findings of the study suggested that twenty categories of stressors were identified and these were divided into three main clusters: organizational stressors; emotionally demanding situations; and non-effectiveness of policing. Organizational stressors were mentioned more often than stressors related to job content, the second category of stressor was the content of police work which included emotionally demanding situations, such as informing relatives of a sudden death, dealing with suicide, fatal accidents, criminal or sexual offences with children and the last category concerned the poor effectiveness of police actions, reflected in feelings; this category included lack of structural solutions, and treatment of symptoms rather than causes. The study also explained that the officers mostly mentioned organizational aspects as stressors, particularly, they cited poor management, in terms of incapable or uninterested supervisors, bad mutual relationships, and a lack of internal communication. The positive aspects of police work were mentioned 963 times and contact with civilians or working with people was rated as the most rewarding part of their work (61%). For the level of burnout among police officers, research showed remarkable picture, the level of emotional exhaustion was considerably lower than for the reference group and no differences were found between female and male police officers emotional exhaustion. The study suggested that police officers experienced relatively less reciprocity from the organization (mean =2.43) compared to the public. Cooperation with colleagues was seen as an important positive aspect of police work as one-third of the officers mentioned it. A new feature of this study was the balanced approach to stressors in relation to positive aspects of police work. The study showed that, the picture of police work as a highly stressful occupation, clearly needs some critical re-evaluation, given the many positive aspects mentioned in this study. For police officers, there was a clear and positive balance between stressful and rewarding aspects of their work. Other important stressors were related to organizational factors like, police officers often mentioned, poor management,

reorganization, bureaucratic interference, administration, shift work, bureaucracy, and macho or unmotivated colleagues.

With regard to the level of burnout among the sample of Dutch police officers, they concluded that the level of emotional exhaustion was relatively low and three reasons were put forward by authors: (1) police work might not be so emotionally demanding as is often assumed in public opinion, (2) there might be a selection effect and (3) the police culture. The study found that there was a relationship between lack of reciprocity at the interpersonal and organizational levels and higher levels of burnout. For burnout and violence, the study found that male officers used more violence than females respondents of the study; further they reported that police officers who were less emotionally exhausted used more violence and the emotionally exhausted officers were less active. Finally, the authors recommended that police personnel management should pay serious attention to burnout in general and depersonalization among police officers in particular, in order to prevent escalating and violent behaviour.

GEETHA R. P. et al (1998)<sup>52</sup>, in their study to find out the relationship and spill over effect on other dimensions of life with the help of subjective well being inventory (SWBI) (Sell and Nagpal, 1985). For data collection, General Health Questionnaire (GHQ) was administered among 201 policemen selected randomly from the city of Bangalore, India. The sample consisted of constables, head constables, assistant sub-inspectors and inspectors of police. They used Stratified Random Technique to get a proportionate sub sample from each group, after they obtained the list of police personnel of different ranks from the commissioner's office. The group was further stratified according to the nature of the work like traffic, crime, law and order with proportionate representation from all the three groups. They used Students t-test to understand the relationship of SWBI between the police and urban middle class men working in factories and to know the change between the police who are psychiatrically ill and are normal according to GHQ. They also performed stepwise multiple regression analysis to correlate some socio demographic and clinical factors

with a few dimensions of SWBI. Job stress, as measured by interview, did influence confidence in coping and family group support, perceived ill health and overall SWB score.

Research found that GHQ score had significant correlations with expectation-achievement congruence, confidence in coping and overall scoring. Over all SWB was influenced by GHQ score, it was job stress and type of service. They found that people who were posted in traffic, had more stress compared to the people who were posted in law and order, crime. This might be because traffic police had to stand for nearly 12 hours a day, working in sun and rain, needed to be alert throughout the working hours. Moreover, traffic police were exposed to a lot of smoke and dust emitted by vehicles and often had to deal with non cooperative public. People posted in traffic were found more of physical ill health. Further, they found that job stress was interfering with confidence in coping, family group life and perceived health.

They finally concluded that these could be a vicious circle, like job stress negatively influencing major spheres of life, which might further exacerbate the job stress. So, they suggested that there was a need for intervention either by the administrators or by mental health professionals to deal with such situation. The limitation of the study was that the results of the study could not be generalised to the police working in other states of the country. During the interviews, it was learnt that police working in Karnataka state were happier than the people working in other states as they were paid better salary, majority of them were staying with their families and the public were more cooperative and law abiding.

Brooks & Piquero (1998)<sup>53</sup>, observed that in the past several decades, police departments, researchers and policy makers had been interested in identifying what was all about police work and why people believed that this occupation produced high rates of stress among officers. Extensive research was conducted to identify and rank order police stressors. After reviewing ample literature, they found the gap between research into the stressors of police work and the variables relating to the

organisational characteristics of the police department, especially the size of the department. The purpose of research was to examine whether differences in police stressors exist with regard to department size. It was expected that organizational or administrative stressors would remain the most stressful for all officers even when the size of the department varies.

They hypothesized that it was expected that in large police agencies, officers' stress scores would be significantly higher for administrative items than the scores obtained from officers in smaller police departments. Police stress was also expected to vary with demographic and police career variables, regardless of department size. For the research purpose, they selected ten police departments in the Maryland and Virginia areas. Deliberately, different size police departments were selected. The method of survey administration was varied by department preferences and constraints. All sworn police officers, regardless of rank or assignment were asked to complete those surveys. The size of sample was 2,316 officers and the response was in the accepted range. The tool utilised for collection of data was the Spielberger et al. (1981) stress survey and officers were given a list of 64 items dealing with stress and asked to rate it on a scale of 0-100 (with 0 indicating "no stress" and 100 indicating the most stress). Further, they also asked officers to estimate the frequency of occurrence for each of these items during the past year. They created nine Scales by summing each officer's answers and Cronbach's alpha, to check scale reliability, for each scale ranged from 0.68 to 0.92, which was within an acceptable range.

The authors found that each of the scales had a significant, positive correlation with the others, indicating that officers who experienced stress on one scale also experienced it on the others. Correlations range indicated moderate to strong, but not perfect correlations between scales. Given the strength of the correlations, it was evident that these scales appeared to tap different types of stress. Research indicated that administrative stressors appeared to be the most problematic for police officers and the other most stressful areas were stress relating to the public and the criminal justice system. The stress related to the possibility of danger in policing came after

both departmental type stress and outside stress. At the bottom, they found stress which was derived from personal challenges faced by the officer. Majority of the respondents had ranked administrative stress at number one, across all three sizes of police agencies, as it indicated that this was the most stressful category for all officers. Chi-square test also confirmed the same result.

Kirkcaldy Bruce *et al* (1998)<sup>54</sup>: Some interesting findings with regard to the demographics of occupational stress among senior police officers have emerged from this study. First, being married, and particularly having children, tends to inoculate senior officers from the pressures of the job. Married officers are less likely to be classed as having Type A behaviour patterns and are more likely to use a range of different coping strategies in dealing with stress. More importantly, if they have children, they are more likely to be job satisfied and are better able to manage the interface between home and work than non-parents. Given that this was a cross-sectional study, even though the sample size was large, there are several possible explanations for these results. Alternatively, marriage and children may help to put the job of policing into some kind of perspective, providing the social support to cope with the job demands. There was some suggestive evidence supporting the latter explanation and it was striking that among the least likely sources of reported stress among senior officers was having to compete with a working spouse/partner. Also these senior officers were much less likely divorced than was the case in the general population. There was some work, e.g. by Young (1984) who proposed that police officers' wives offset the occupational stress experienced by their partners. There was little evidence available that the reverse was true for senior women officers. It was also interesting to note that there were few differences between male and female superintendents on the stress or strain variables, but there were differences in coping strategies. Women senior police officers tended to use a greater number, and the more adaptive, coping strategies than their male counterparts. The sample of senior female officers was very small and further work should be undertaken when there are more women at these ranks. It is very likely that as a greater number of women enter the more senior ranks of the police service, as in the private sector (Davidson

and Cooper, 1992), the differences will become more apparent, as women feel more able to exercise their own management style, as opposed to one imposed on them by a male-dominated senior hierarchy. As Brown and Campbell (1994) point out, senior women officers experience career blocking, lack of organisational support and, like their patrol counterparts, suffer a degree of sexism inherent in the police occupational culture. Thus, their second finding is suggestive of qualitative rather than quantitative differences with respect to men and women senior officers' coping adaptations. Third, age seemed to be a factor in the stress-strain relationship, with older senior police showing less signs of job stress, particularly with the "home-work" interface issues prevalent in police officer lifestyles. This finding is in contrast to the work carried out among the Berlin police (Kirkcaldy and Cooper, 1992a), where there was a positive relationship between age and job-related stressors such as career factors, the home-work interface and relationships at work. It could be that age becomes a problem for more junior police officers, such as the German sample, but less of a problem as the officer approaches the higher reaches of the service, as in the case of the superintendents. Alternatively, by the time an individual achieves the rank of a superintendent, the problems of the home-work interface are less severe, and the stresses of the job are put into context as retirement approaches, especially with the opportunities of reasonable early retirement terms. At the time of data collection, there was a wide-ranging enquiry into the structure, pay and conditions of the British police service (Sheehy, 1993).

Managerial competency and performance were significant aspects of police reform. It may be that officers at this rank positively welcomed retirement, given the organisational upheavals likely in the aftermath of the proposed changes. Finally, it was also interesting to note that the higher the status of the branch of the service, the less the stress indicators. For the detective branch, CID, results indicated higher job satisfaction, although higher Type A as well; whereas for "traffic" or HQ support departments, poorer mental health and job dissatisfaction were found. This is consistent with other similar research in the private sector (Cooper and Payne, 1991). The practical applications of the research can be found in helping to target remedial

interventions. Women officers may benefit from mentoring or more explicit organisational support which informally their male colleagues are more likely to enjoy. Senior managers in the police, especially men, could benefit from task-orientated coping strategies such as delegation, planning ahead and better timetabling of work.

It was evident that best mental and physical health and organisational adaptation was reported by officers having a mixture of previous job assignments, rather than being employed in one major area of policing. The movement between general uniform duties and specialist functions such as investigation or traffic is relatively static. Her Majesty's Inspectorate of Constabulary (HMIC) proposed a tenure policy, the aim of which was to increase such movements (HMIC, 1993). This policy may have an additional effect of stress reduction. In the absence of such a policy, a more fluid approach to cross-service experience might usefully be considered. Their study has highlighted the role of demographics in the stress-strain relationships, variables which are often forgotten or minimised in this field (Cooper and Payne, 1988). It appears qualitative as well as quantitative aspects of stress exposure and coping adaptations can be modified by job and demographic characteristics. Taking parenthood, age, type of job experiences into account can heighten understanding of the stress process, and how stress affects individuals differentially.

Stephens Christine and Miller Ian (1998)<sup>55</sup>: Their study was exploratory and had two broad objectives: first to determine the prevalence of PTSD symptoms in New Zealand police officers and second, to examine the relationship between traumatic events and PTSD incidence in the New Zealand Police. One thousand police officers who worked in one geographical region of the New Zealand Police were distributed questionnaire through the internal mail of the organization and returned anonymously to the researcher by prepaid post. The total return rate was 52 percent (sample size of study 527 officers). The study found that the mean score and variance on the measure of PTSD symptoms in the present study matched those found for a group of civilians who had experienced a natural disaster in New Zealand (M =

78.24; SD = 16.12; Eustace, 1994). Comparisons of the percentages of those classified as PTSD cases with other surveyed groups, revealed similar results; the New Zealand sample showed the same percentage of cases at two different cut-off points as did civilians who had experienced violence and crimes in the USA (Norris, 1992). However, a New Zealand community sample of war veterans (Long et al., 1992), whose PTSD symptoms were assessed using the Military Mississippi, showed a greater percentage of cases. These figures suggest that police officers are at a similar risk of developing PTSD symptoms as other members of the community who have experienced at least one traumatic stressor, although military combat is probably a more severe stressor. The finding that officers with no educational qualifications had higher PTSD scores is consistent with previous findings (e.g. Norris, 1992; Vincent et al., 1991). Members of the CIB and the traffic safety branch showed higher mean PTSD scores and CIB members also reported higher trauma scores as predicted. In particular, members of the CIB were more likely to have been assaulted or attended horrific homicides. Although, those in traffic safety reported lower numbers of trauma, a higher percentage reported military combat which is a possible explanation of their higher levels of PTSD.

The prevalence of PTSD symptoms in these working police officers is similar to that in other civilian populations who have experienced a traumatic event. As in these populations, most individuals recover from trauma and do not develop disorder. However, for the percentage who do have difficulties, an increase in the number of work related traumatic experiences is associated with higher PTSD symptoms and the particular traumatic experiences that are related to PTSD are more likely to be part of police work. A closer examination of the nature of traumatic experiences in police work is warranted, as part of the approach to the prevention of adverse psychological outcomes in working police officers. The findings provide additional support for the notion of cumulative effects on symptomatology of increasing number of traumatic experiences and have important implications for organizations in which employees are likely to suffer periodic or chronic exposure to traumatic events.

Beehr Terry A. *et al* (1995)<sup>56</sup> studied 177 police officers and their spouses from, the Eastern U.S. and a suburban county department, two metropolitan areas and completed separate questionnaires regarding stress and coping. The research focused on a unique subset of married officers and their spouses only. In order to assure security of the officers' identities, all questionnaires were anonymous. The authors used multiple regressions analysis and separate principle components analyses with oblique rotations computed for police and their spouses on the coping items in order to determine the structure of coping activities used. The study found that four coping activities in which at least some police and their spouses report engaging when they experience stress were problem-focused coping, emotion-focused coping, rugged individualism, and religiosity. While two obviously fit the familiar problem- and emotion-focused dichotomy, the other two seem less clear. Religiosity, because of its potential calming effect, might be a more likely emotion- than problem-focused, although the correlations only suggested this for spouses and not police. Rugged individualism did not seem to be categorized as easily conceptually, and the correlations only add to this confusion. It was equally strongly correlated with problem- and emotion-focused coping among police, and not related to either of them among spouses. Latack and Havlovic's (1992) review and integration of potential occupational stress coping measures provided further insight into the nature of these four coping activities. They interpreted previous literature as suggesting four primary categories, determined by two dichotomies. The first was the emotion-focused versus problem-focused dichotomy. In addition to it, each of these can be divided into cognitive versus behavioural coping activities. In this scheme, the police officers using religiosity and emotion-focused coping activities might be using cognitive approaches to coping, while they were using behavioural coping when they engaged in problem focused coping or acted as rugged individuals. Thus, the officers were reporting some varieties of coping on these dimensions. In addition, the positive correlation among many of the coping indices implies that police and their spouses may use more than one of these techniques. The preference for problem-focused strategies that sometimes seems advocated in the

literature was not entirely supported by the data. While one's problem-focused coping activities tended to be negatively related to one's own strains (indicating potentially successful coping), emotion focused activities showed this relationship even more consistently. One recent study (Parkes, 1990) of student teachers had found a similar result, but the history of written work on coping has advocated problem-focused over emotion-focused coping. This emphasizes the point that future research should not confuse coping effectiveness with coping techniques in written measures (Latack and Havlovic, 1992). Religiosity seemed to have no effect, one way or the other, on the police officers' strains, although it might be useful for spouses. Thus, while turning to religion was clearly a coping technique reported by some officers, it appears unlikely to be either particularly helpful or harmful in coping with police stress. Folkman, Lazarus, Gruen and DeLongis (1986) had reported no relationship between religiosity and strains in a life stress study, but they measured religiosity as a stable personality dimension rather than as a response to specific stressful situations, as in the present study. The present results are nevertheless consistent with the previous study. For rugged individualism, a potential coping activity fitting the stereotypical image of a police officer, there was no evidence that this could be helpful in coping with police stress.

The regressions actually show how it relates positively to the strains, suggesting this is a harmful rather than a helpful coping style. Because police officers do report using this technique, however, further research on it is warranted. In fact, if it were a harmful coping mechanism, it is just as important to learn more about it as if it were an effective coping technique. Future research might be aimed at discovering its source. For example, if its source is in stable personal inclinations of police officers, this suggests that selection could be improved. If its source is post-hiring socialization, then training might be advocated. The spouses' coping activities do not appear to have the same effects on their strains as the officers' coping techniques have on their own strains. For them, the data are consistent with the idea that all of the coping activities except rugged individualism potentially have an effect on at least one strain. In spite of this, the structure of coping activities of spouses was very

similar to that of the police officers. The same four coping activities were identifiable for each. There was some tendency towards the birds-of-a-feather or selection process regarding couples' coping. That is, likes may attract, and people tend to marry those who have similar coping preferences. This was true for two of the four coping styles: religiosity and problem focused.

A second coping measurement issue regarding the use of stimuli for respondents, to consider while reporting their coping activities is whether the stimulus should be provided directly by the researcher or directly by the respondent. The respondent provides the stimulus if he or she is asked to think of a recent stressful situation and to report his or her potential coping behaviors in response to it. This should have the advantage of obtaining information about actual situations. It also has disadvantages, however, (1) of letting respondents, with their own biases and attributions, decide what stress is, (2) of potentially choosing an unrepresentative set of stressor situations (e.g. ones the respondents thought they coped with successfully or ones that are socially acceptable in some way), and (3) of potentially not being a middle-range approach (if this is desirable), because the range of situations chosen as stimuli is uncontrolled and unknown. The alternative used in the present study was to control the stimulus situation by using a set of vignettes. Although this provides the advantages of control, it loses the potential advantage of examining actual events. The superiority of one of these approaches vis-a-vis the other can be debated, but comparative research is called for in order to know which, if either, might lead to more interpretable and valuable information about coping with job stress. One interesting issue would be to discover the nature of the actual situations chosen when respondents provide their own stimulus situations and how these compare to the stressor situations from which a stress researcher would choose because they have been identified by previous research.

Hurrell Jr. Joseph J's., (1995)<sup>57</sup>, article clearly provided a great impetus for a renewed research interest in occupational stress coping strategies in possibly high stress occupations such as policing. The study also tried to provide the new ground by

systematically considering the effects of both employee and spouse coping and by broadening the focus of interest in occupational stress coping including largely overlooked stress coping strategies. The results of the study indicated that both the police officer respondents and their spouses reported that they utilized problem-focused coping behaviors more frequently than the other three types of coping behaviors studied (emotion-focused, religious, and rugged individualism). However, emotion-focused coping behaviors and not problem-focused behaviors were found to be more consistently associated with strain reduction. This is clearly not an uncommon finding. Some studies (e.g. Howard, Rechnitzer and Cunningham, 1975) suggest that problem-focused coping could actually increase strain. Such seemingly unexpected findings have led many to conclude that the effectiveness of problem-focused versus emotion-focused coping for reducing the effect stressors on strain is a function of controllability of the stressor, coping of any type being ineffective in situation beyond the any individual's control.

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