

## Personality types, coping, and stress in the Norwegian police service

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Received 15 September 2005; received in revised form 27 February 2006; accepted 7 April 2006

Available online 9 June 2006

### Abstract

Much research has been undertaken to determine what characterizes the ‘police personality’, but so far the results have been ambiguous. We conducted a comprehensive nationwide questionnaire survey of 3272 Norwegian police personnel at all ranks, using a short form of the Basic Character Inventory, Job Stress Survey, and Coping Strategies Scale. We combined the three personality traits of Neuroticism, Extraversion, and Conscientiousness into eight personality types: the spectator, insecure, sceptic, brooder, hedonist, impulsive, entrepreneur, and complicated. The results showed that entrepreneur and hedonist personality types, characterized by a combination of high values on Extraversion and low values on Neuroticism, reported lower values on perceived stress compared to others, whereas the insecure and brooder types, which combine low Extraversion with high values on Neuroticism, reported higher levels on perceived stress. Further, the entrepreneur and complicated types reported higher values on active coping strategies, whereas those combining low Extraversion and low Conscientiousness reported either less control coping (the insecure type), or support coping (the spectator type) compared to others. The findings indicate that a

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typology approach may be fruitful in exploring how police personnel with different combinations of personality traits experience and cope with stress.

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*Keywords:* Police; Personality; Stress; Coping; Norway

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## 1. Introduction

There is extensive literature on job stress in policing (Berg, Hem, Lau, & Ekeberg, 2005; Brown & Campbell, 1990; Brown, Cooper, & Kirkcaldy, 1996; Gudjonsson & Adlam, 1983, 1985; Kop, Euwema, & Schaufeli, 1999; Storch & Panzarella, 1996). However, only a small proportion of the body of research on occupational stress has investigated coping in relation to that stress. Also, little research appears to have concentrated on the effects of officers' personality characteristics on the way they deal with stress (Mearns & Mauch, 1998). It is hard to find sustainable findings from the studies on personality and police stress. The sample size is often small, and the use of different personality scales makes comparisons problematic (Brown & Campbell, 1990).

Since policing, at times, undoubtedly requires performance of stressful tasks, it is important to identify the characteristics of police officers that seem to handle their job-stressors well. Some studies have shown that enduring personality characteristics, such as Neuroticism and Extraversion, to a large extent determine police officers' pattern of daily work experiences (Wearing & Hart, 1996), use of coping strategies (Wearing & Hart, 1996), and levels of psychological well being (Hart, Wearing, & Headey, 1995). Such findings are in line with studies on other populations. In a review on stress and personality, Vollrath (2001) shows that persons high in Neuroticism experience more stressful events, whereas persons high in Extraversion experience both more stressful and more pleasurable events. Moreover, Neuroticism predisposes people to experience negative emotions and distress, regardless of level of stress, whereas Extraversion predisposes them to experience more positive affects. Regarding coping, it has been shown that persons high in Neuroticism engage in passive and maladaptive ways of coping, whereas persons high in Extraversion engage in active coping strategies and seek social support (Vollrath, Torgersen, & Alnæs, 1995). Recently, several studies have found that a further basic factor of personality, Conscientiousness, is strongly related to coping. Individuals high in Conscientiousness engage in planning and active problem solving, and refrain from passive maladaptive coping (Vollrath et al., 1995). In comparison, the relation of coping to the two remaining factors of the five-factor model, Openness to experience and Agreeableness, is less strong. Thus, it appears that the three personality factors that constitute the basic structure of personality in Eysenck's system are most important in determining how individuals experience and adjust to the stressful events in their lives.

To predict individual adaptation, however, knowledge about the effects of each single personality factor will not suffice. For instance, Neuroticism and Extraversion have entirely opposite effects on perceived stress. Little is known of how these effects interact in individuals with high scores in both personality factors, nor the additional effects that high or low Conscientiousness may create. A possible means of addressing this knowledge gap is to study a typology that builds on combinations of high and low Neuroticism (N), Extraversion (E), and Conscientiousness (C). Such a typology was presented by Torgersen (1995), and showed its advantage in understanding

the relationship between personality, stress and coping (Vollrath & Torgersen, 2000). The eight personality types have proved to be useful in addressing the question of how individuals with different combinations of personality traits experience and manage stress (Vollrath & Torgersen, 2000), and in predicting risky health behaviors (Vollrath & Torgersen, 2002).

To our knowledge, no other studies have investigated the associations of these or similar personality types with stress and coping in a police population. Therefore, we wanted to address this idea in the present study. Our goal was to compare the eight types in regard to the experience of stress and to coping strategies. Based on previous findings, we expected to find personality types with combinations of high values on Extraversion and low values on Neuroticism to have low values on experienced stress. Further, we expected to find personality types with low values on Extraversion and high values on Neuroticism to have higher values on experienced stress compared to others. We were particularly interested in personality types made up of personality characteristics that have opposite effects on perceived stress, that is, persons low on both Neuroticism and Extraversion, or high on both Neuroticism and Extraversion.

In addition, because previous studies have shown that persons high in Neuroticism engage in passive and maladaptive ways of coping, whereas persons high in Extraversion engage in active coping strategies and seek social support, we wished to test whether coping strategies would be different among the personality types in the typology.

## 2. Method

Participants in this study included officers, middle managers and managers in the Norwegian police service. Hence, the term ‘police’ is used to describe respondents in the sample. Policing in Norway comprises three categories: Investigation, Uniformed policing, and Administration. They were all members of the largest policing labor union in Norway, The Norwegian Police Union. Approximately 95% of Norwegian police service personnel are voluntary members.

The police service in Norway comprises two types of police districts: rural districts and urban districts. The two districts have the same education and training, but in the rural districts police work in smaller communities, often including large country areas. The number of police is typically small. Urban districts serve larger communities and cities. The term ‘inhabitants’ in the study is used to describe the people who reside or work in the districts. The sample is described in detail elsewhere (Berg, Hem, Lau, Loeb, & Ekeberg, 2003).

The project was approved by the Norwegian Data Inspectorate and the Regional Committee for Research Ethics.

### 2.1. *Distribution of the questionnaire*

In December 2000, a comprehensive questionnaire was distributed by mail through The Norwegian Police Union to presumably all 6398 police educated members. The questionnaire included questions on background information, physical and mental health, working conditions, job satisfaction, burnout, coping, personality, and suicidal ideation. Respondents were anonymous, and the instrument was distributed once. Several written reminders were distributed through trade union representatives, and the internal data system of the police service. The final response rate

Table 1  
Description of the police sample

	Frequency	Percent	Percent total police population in Norway	Significance $\chi^2$
<i>Gender</i>				
Women	501	15.7	17.9	4.6*
Men	2692	84.3	82.1	
<i>Age (years)</i>				
Total sample (102 did not answer)	3170			
20–29	509	16.1		
30–39	1175	37.1		
40–49	1047	33.0		
50–59	430	13.6		
<i>Marital status</i>				
Single	342	10.6		
Married/cohabit	2715	84.3		
Separated/divorced	164	5.1		
<i>Rank</i>				
Upper management	96	2.9	9.6	144.3***
Middle management	1034	31.7	32.3	NS
Non-management	2128	65.3	58.1	49.3***
<i>Service</i>				
Rural police districts	870	26.6	23.0	24.3***
Urban police districts	2399	73.4	77.0	
<i>Main task</i>				
Investigation	1379	43.4		
Uniformed policing	1286	40.5		
Administration	513	16.1		
<i>Inhabitants</i>				
>50,000	1626	51.2		
20,000–50,000	648	20.4		
5000–20,000	728	22.9		
<5000	175	5.5		

\*  $p < .05$ .

\*\*\*  $p < .001$ .

was 51%, which represents a total of 3272 persons. The demographic information from the sample is presented in Table 1.

The sample is representative of the police union, but not the total police population. The present sample is younger (38.9 vs. 40.2 years;  $t = 8.3$ ,  $p < .001$ ), women and upper management are under-represented, and non-management and rural police are over-represented.

## 2.2. Personality typology

The basis for the typology was a short form of the Basic Character Inventory (BCI), a questionnaire constructed by Lazare, Klerman, and Armor (1966) and modified by Torgersen (1980a). The

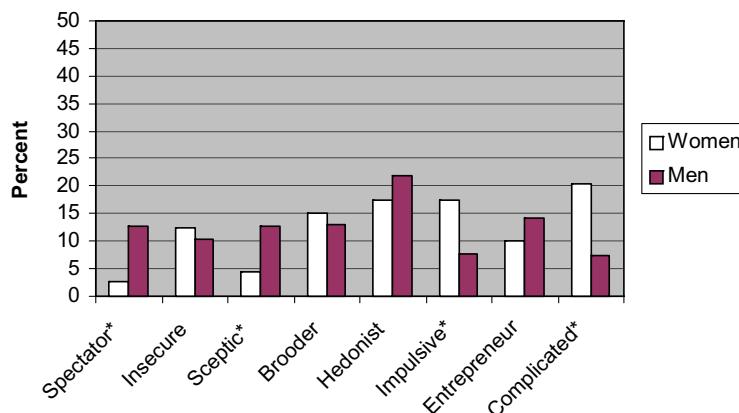
BCI assesses Neuroticism (for example, ‘I’m very touchy about criticism’), Extraversion (for example, ‘Many people consider me a lively person’), and Conscientiousness (for example, ‘Everything I do must be precise and accurate’) (Torgersen, 1980a, 1980b; Torgersen & Alnæs, 1989). Each dimension is based on nine questions with a dichotomous response allowing each dimension a range of scores between 0 (low) and 9 (high). These factors were confirmed in our sample by using a principal component factor analysis with a varimax extraction with three user specified factors. Cronbach’s alphas were .75 for Neuroticism, .72 for Extraversion, and .66 for Conscientiousness.

The dimension scores were split at the median, and the participants were assigned to one of the eight personality types by combining high and low scores on each factor. Thus, the typology comprises eight types that each represent a unique combination of Extraversion (E), Neuroticism (N), and Conscientiousness (C): the *spectator* type (E–, N–, C–) has low responsiveness to other people or to situational cues, is emotionally flat, not very interested in social norms, and low in ambition in his or her work. The *insecure* type (E–, N+, C–) is self-conscious, dependent on other people’s opinions, overly sensitive to his or her own mental and physical experiences, and experience frequent negative emotions. The *sceptic* type (E–, N–, C+) is relatively closed in relations to others, self-secure, emotionally stable, and effective in managing his or her life, but sometimes somewhat rigid. The *brooder* type (E–, N+, C+) is shy and withdrawn, ambivalent, insecure, and scrupulous, brooding over every decision and tending to give up easily when meeting difficulties. The *hedonist* (E+, N–, C–) type is a socially skilled, pleasure-oriented, emotionally and physically robust, but also undependable person. The *impulsive* type (E+, N+, C–) is pleasure-oriented, attention seeking, and in need of social confirmation, has little control over his or her emotional reactions, and appears chaotic and changing. The *entrepreneur* type (E+, N–, C+) is a socially secure, independently thinking, domineering, cool-headed, goal-oriented and effective person. The *complicated* type (E+, N+, C+) is emotionally intense with occasional emotional outbursts and subsequent guilt-feelings, sensitive, dependent on others, conscientious and orderly. As intended, the resulting groups in our sample were of approximately equal size, with the exception of the group of hedonists: the spectator ( $n = 369$ ), insecure ( $n = 350$ ), sceptic ( $n = 366$ ), brooder ( $n = 430$ ), hedonist ( $n = 695$ ), impulsive ( $n = 306$ ), entrepreneur ( $n = 435$ ), and complicated ( $n = 308$ ) types. As shown in Fig. 1, we found relatively more men compared to women having personality types characterized with low scores of Neuroticism and Extraversion (spectator type (OR: 5.09) and sceptic type (OR: 3.13)), and more women compared to men with personality types with high scores of Neuroticism and Extraversion (impulsive type (OR: 2.55) and complicated type (OR: 3.14)).

### 2.3. The Job Stress Survey

The Job Stress Survey (JSS) (Spielberger & Vagg, 1999) is designed to determine which conditions in the workplace cause stress. The JSS describes work-related events and situations (‘stressors’) encountered in a wide variety of occupations. The stressors are assessed on severity and frequency during the last six months using a nine-point perceived-severity rating scale from 0 to 9+.

Twenty JSS items constitute the two main factors; job pressure, which includes ten items mainly related to organizational work, and lack of support, which includes ten items related to working environment and leadership. All the items, including mean scores in the present sample, have been



\*=  $p < .001$

Fig. 1. Personality types according to gender.

presented in a previous paper (Berg et al., 2005). Examples of job pressure items are ‘working overtime’, ‘excessive paperwork’, and examples of lack of support items are ‘difficult working with superior’, and ‘lack of recognition for good work’. Cronbach’s alphas for the severity and frequency of job pressure were .83 and .85, respectively, and Cronbach’s alphas for the severity and frequency of lack of support were .83 and .85, respectively.

#### 2.4. Coping

Coping was measured using the Coping Strategies Scale of the Pressure Management Indicator (Williams & Cooper, 1998) recently translated and adapted for use in Norway (Håseth & Malde, 2001). The Pressure Management Indicator is a revised and shortened version of the Occupational Stress Indicator (OSI) (Williams & Cooper, 1996). The Coping Strategies Scale consists of active coping strategies including 6 items measuring *control coping* (for example, ‘Try to handle the situation without being emotionally engaged’) and 4 items measuring *support coping* (for example, ‘Talk with appreciative friends’). High scores denote frequent use of coping strategies. These factors were confirmed in our sample by using a principal component factor analysis with a varimax extraction with two user specified factors. Cronbach’s alphas were .75 for Control coping and .60 for Support coping.

#### 2.5. Statistical analyses

A series of partial correlations (controlled for gender and age) was conducted to find the correlations between the Coping strategies and each of the personality traits. In order to find differences between the personality types on the JSS and coping measures, the General Linear Model Univariate procedure in SPSS (Statistical Package for the Social Sciences) were used with the personality types as the independent factor and gender and age as covariates. We controlled for gender and age because these variables were associated with different JSS subscales in a previous

study on the same material (Berg et al., 2005). Differences among the personality types were checked by comparing each type to the average of the other seven types (a priori contrast). This is a stricter procedure than Bonferroni post-hoc test, where 28 tests per variable would have been carried out. Because of the high number of tests, the significance level for these contrasts was set to  $p \leq .01$ . Partial Eta Squared ( $\eta^2$ ) was used as an estimate of effect sizes of the typology.

### 3. Results

As shown in Table 2, the three personality dimensions correlated somewhat with each other. The highest correlation was between Neuroticism and Extraversion ( $-.24$ ). Most correlations between the personality dimensions and the Job Stress Survey indexes were small. Neuroticism correlated primarily with the severity indexes, while Extraversion correlated with the frequency indexes, and negatively with job pressure severity. In addition, Conscientiousness correlated with job pressure severity. The correlations between the personality dimensions and coping were found to be weak. Neuroticism correlated negatively with control coping, while Extraversion correlated positively with both control and support coping. Not surprisingly, Conscientiousness correlated with control coping.

#### 3.1. Job stress frequency

Regarding the job stress frequency indexes, the sceptic type had a lower mean score on lack of support (1.8, standard error (SE) = .09), the brooder type had a lower mean score on job pressure (3.9, SE = .11), while the impulsive type had a higher mean score on lack of support (2.3, SE = .10). However, when these analyses were controlled for severity of the respective severity indexes, the lower mean score of the sceptic type vanished.

Table 2

Mean, standard deviation and partial correlations (controlled for gender and age) between the coping strategies and each of the dimensions of the basic character inventory in the police sample

	<i>M</i>	<i>SD</i>	Neuroticism	Extraversion	Conscientious
Neuroticism	2.53	2.11	—		
Extraversion	5.25	2.39	$-0.24^{***}$	—	
Conscientiousness	4.31	2.14	$0.14^{***}$	$-0.13^{***}$	—
Job pressure severity	4.74	1.08	$0.21^{**}$	$-0.10^{***}$	$0.08^{***}$
Job pressure frequency	4.14	2.23	$-0.01$	$0.06^{**}$	$-0.02$
Lack of support severity	5.27	1.19	$0.15^{***}$	$0.01$	$0.01$
Lack of support frequency	2.01	1.68	$0.07^{**}$	$0.10^{***}$	$0.02$
Control coping	21.42	4.37	$-0.10^{***}$	$0.08^{***}$	$0.17^{***}$
Support coping	13.95	3.25	$0.00$	$0.15^{***}$	$0.03$

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

Table 3

Estimated mean scores and standard error for Job Stress Survey scales and coping scales according to personality types (controlled for gender and age)

	Spectator E–N–C–			Insecure E–N+C–			Sceptic E–N–C+			Brooder E–N+C+			Hedonist E+N–C–			Impulsive E+N+C–			Entrepreneur E+N–C+			Complicated E+N+C+		
	<i>M</i>	SE	$\eta^2$	<i>M</i>	SE	$\eta^2$	<i>M</i>	SE	$\eta^2$	<i>M</i>	SE	$\eta^2$	<i>M</i>	SE	$\eta^2$	<i>M</i>	SE	$\eta^2$	<i>M</i>	SE	$\eta^2$	<i>M</i>	SE	$\eta^2$
Job Pressure	4.6	.06	.001	5.0 <sup>a</sup>	.06	.004	4.7	.06	.000	5.1 <sup>a</sup>	.05	.014	4.6 <sup>b</sup>	.04	.006	4.7	.06	.000	4.5 <sup>b</sup>	.05	.008	5.0 <sup>a</sup>	.06	.006
Severity																								
Lack of	5.2	.06	.000	5.4 <sup>a</sup>	.07	.002	5.1 <sup>b</sup>	.06	.004	5.4 <sup>a</sup>	.06	.002	5.1 <sup>b</sup>	.05	.004	5.3	.07	.000	5.1 <sup>b</sup>	.06	.004	5.7 <sup>a</sup>	.07	.014
Support																								
Severity																								
Control	21.0	.24	.002	20.4 <sup>b</sup>	.25	.006	21.9	.24	.002	21.2	.22	.001	21.2	.17	.001	20.7 <sup>b</sup>	.26	.003	22.7 <sup>a</sup>	.22	.014	22.3 <sup>a</sup>	.26	.004
coping																								
Support	13.2 <sup>b</sup>	.17	.008	13.7	.18	.001	13.6	.17	.001	13.6	.16	.002	14.1	.13	.001	14.4	.19	.002	14.4 <sup>a</sup>	.16	.003	14.6 <sup>a</sup>	.19	.004
coping																								

Covariance analyses with personality type as factor and gender and age as covariates (UNIANOVA).

<sup>a</sup> Significantly higher than the mean score of the other types pooled ( $p \leq$ ; post-hoc contrast) at the .01 level.<sup>b</sup> Significantly lower than the mean score of the other types pooled ( $p \leq$ ; post-hoc contrast) at the .01 level.



### 3.2. *Job stress severity*

As shown in Table 3, there were, as expected, elevated levels of perceived job stress among the groups with low Extraversion and high Neuroticism (the insecure and brooder types). Also as expected, we found lower mean scores on both job stress severity indexes among the personality groups with high Extraversion and low Neuroticism (the hedonist and entrepreneur types). In those with high Neuroticism, high Extraversion, and high Conscientiousness (the complicated type) we found elevated levels on both job stress severity indexes. Among the groups with low Extraversion, low Neuroticism, and high Conscientiousness (the sceptic type) there was a lower mean score on the lack of support severity index.

### 3.3. *Coping strategies*

Regarding higher coping scores, the entrepreneur and complicated types stood out, with higher mean scores on control coping and support coping. They share the combination of high Conscientiousness and high Extraversion. The impulsive and the insecure types had low control coping scores. They share the combination of high Neuroticism and low Conscientiousness. Low support coping was only found in the spectator type.

## 4. Discussion

An intriguing finding was the few differences between the personality types on the frequency scales of the JSS. This indicates an agreement on how often the different stressors, which are included in the job pressure and lack of support scales, occur. In other words, the differences between the personality types arise mainly when it comes to evaluating the strain associated with these stressors.

We identified four patterns concerning severity of perceived stress, while there were few differences of reported frequency of stress. First, the personality types characterized with a combination of high values on Extraversion and low values on Neuroticism, as seen in entrepreneur and hedonist types, reported lower values of perceived stress compared to others. Second, the insecure and the brooder personality types, which combine low Extraversion with high Neuroticism, had higher levels of perceived stress compared to others. These two findings were as expected, and in accordance with previous findings using these dimensions separately. These findings may imply that for these personality types Extraversion and Neuroticism contribute in the same direction in regard to perceived stress, without Conscientiousness playing a moderating part.

The third pattern in connection to the severity indexes was found among the impulsive and complicated personality types, which have high levels on both Extraversion and Neuroticism. Of these types, the most Conscientious (the complicated type) had higher scores on both severity indexes compared to others, while the less conscientious (the impulsive type) had scores in line with others on these indexes. The difference between these types is that while the complicated type appears conscientious and orderly, the impulsive type appears active and changing. This is also reflected in the high scores on control coping among the complicated and low

scores among the impulsive types, respectively. Trying to control stressors, as the complicated type is trying to do, probably activates their negative emotionality, leading to a negative focus on these stressors. Consequently, they are perceived as more severe. The impulsive type, on the other hand, is not trying to control external events. Consequently, their Neuroticism does not colour these events, and they do not perceive them as more severe than others do.

The fourth pattern we found in connection with the perceived severity of job pressure and lack of support was among the personality types with low scores on both Neuroticism and Extraversion, that is, the spectator and the sceptic types. Also among these types the third personality dimension played a moderating role. In the sceptic type, which is characterized by high scores on Conscientiousness, we found lower scores on the lack of support severity index, while the spectator type, which has low scores on Conscientiousness, did not differ from other types on the severity index. In other words, the sceptic type perceives lack of support from colleagues and leaders as less severe than others. Both of these types are relatively less responsive to other people, but emotionally stable. The difference is that the conscientious sceptic type is more effective in managing life than the spectator type is. This difference might indicate that the sceptic type is less troubled by lack of support than others.

When it comes to coping, we found two patterns. First, the entrepreneur and complicated types had higher values on active coping strategies like control coping and support coping. These personality types share the combination of high Extraversion and high Conscientiousness. Second, persons with personality types combining low Extraversion and low Conscientiousness reported either less control coping (the insecure type), or support coping (the spectator type) compared to others. The reason for these findings might be that we only measured active coping strategies that require a certain degree of Extraversion and Conscientiousness. However, in addition to these patterns, we found the impulsive type (high Extraversion, low Conscientiousness, high Neuroticism) to use less control coping than others. This personality type is characterized by the combination of personality characteristics that have opposite effects on control coping (high Extraversion and low Conscientiousness). Thus, in this case the high Neuroticism seems to have a decisive influence for the result.

An essential question is whether the results presented in this paper imply that one should recruit the entrepreneur type into the police? In that regard, three points encourage to moderation. The first point concerns the effect-size of our results. The differences we found between the personality types were generally small, as indicated by the  $\eta^2$  values in Table 3. The second point regards performance of other police activities. Even though some personality types seem to handle job pressure and lack of support somewhat better than others, we do not know how they perform in other aspects in their service. Thirdly, we cannot be entirely sure that the differences found indicate that some personality types experience higher levels of stress, rather than overstate their levels of stress.

The strength of this study is the nationwide sample representing all occupational levels in the police service, the application of validated international instruments, and the large number of respondents made multivariate analyses feasible. Weaknesses are the cross-sectional design and that the data is based on self-report questionnaires. The sample was not representative of the total police population in Norway, and the external generalizability of the data may also be limited because policing in Norway differs from that of many other jurisdictions.

The typological approach may simplify interpersonal variability by reducing the individuals' positions on continuous scales to merely two possibilities each, thereby disregarding small but important differences. However, the results suggest that interactions would not have been able to reproduce the different combinations equally well, because not all relations appeared to be linear. Moreover, when analyzing the same material with regression analyses, we found significant two-way, and three-way interactions that supported our findings when using the typology approach. However, these results were somewhat difficult to comprehend and not very illustrative. Converting interval scales to ordinal scales reduces the predictive power (Pittenger, 2004). However, this is first and foremost a problem when using the typology together with other variables in order to predict an outcome. In such instances, the explained variance of the personality dimensions will be less than if the dimensions were used as interval scales. Consequently, this should not be a problem in this study.

In conclusion, the study suggests that combinations of the personality factors Neuroticism, Extraversion, and Conscientiousness are of some importance for stress and coping in a police sample. Even though the personality measurements and scales used to measure stress and coping were different to those used by Vollrath and Torgersen (2000), our results are quite similar to theirs. This should be taken as an indication of the usefulness of this personality typology to complement existing knowledge about the effects of single personality factors by giving a graphic, comprehensive, and differentiated understanding about an individual's experience of, and adjustment to, stress.

## Acknowledgements

This study was supported by the Norwegian Department of Justice, the Norwegian Foundation for Health and Rehabilitation, the Norwegian Institute of Public Health, and the National Institute of Occupational Health.

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