

Article

LEOSS-R: four types of police stressors and negative psychosocial outcomes associated with them

S. Hakan Can*, Helen M. Hendy** and Turgay Karagoz***

Abstract The present study developed the Law Enforcement Officer Stress Survey-Revised (LEOSS-R) to identify types of police stressors, then it examined which stressors were most associated with negative psychosocial outcomes for police officers. Participants included 232 Turkish police officers who completed anonymous surveys to describe work and home characteristics, to rate the 25 police stressors included in the LEOSS (Van Hasselt *et al.*, 2008), and to report negative psychosocial outcomes that might be associated with exposure to police stressors. Factor analysis produced the 18-item LEOSS-R with four dimensions of police stressors: Critical Incidents, Department Politics, Daily Hassles, and Work–Home Conflicts. The LEOSS-R subscales showed goodness-of-fit, strong internal reliability, and support for validity in expected associations with work and home variables (work hours, police support, marital status, family support). Critical Incidents and Work–Home Conflicts were unrelated to negative psychosocial outcomes, perhaps because police officers expect and train for them. The stressor of Department Politics was associated with more police partner aggression. Daily Hassles were associated with more anger, poor self-esteem, and more romantic partner aggression. Future research could examine how departmental policy or leadership may reduce the negative impact of Daily Hassles for its officers.

Past research with police officers from the USA suggests that exposure to police occupational stressors is associated with increased risk for negative psychosocial outcomes such as poor self-esteem and aggression to romantic partners and police partners (Violanti, 2004; Can *et al.*, 2008; Stevens, 2008; Gershon *et al.* 2009; Can and Hendy, 2014). Such problems for individual officers can also increase the risk of problems for their police

department's performance, absenteeism, turnover, and workman's compensation costs (Julsether, 2011). Police department Employee Assistance Programs might develop more effective interventions to reduce these problems if they had a brief measurement tool to guide officers to identify their most prominent types of police stressors. Employee Assistance Programs might also be enhanced by knowing which types of police stressors put officers

*Ph.D., Administration of Justice, Penn State University, Schuylkill Campus, 200 University Drive, Schuylkill Haven, PA, 17972; E-mail: shc11@psu.edu

**Psychology Program, Penn State University, Schuylkill Campus

***Captain, Turkish National Police, Criminal Justice Program, Penn State University, Harrisburg Campus

at greatest risk for specific negative psychosocial outcomes so that their intervention efforts could be designed to reduce these stressors themselves or to provide officers with skills to reduce the negative impact these stressors can have on their lives. Therefore, the goal of the present study was to develop a measurement tool that could identify types of stressors experienced by police officers, and then to determine which of these types of stressors were most associated with negative psychosocial outcomes for police officers.

Theories suggesting types of police stressors

Suggestions for types of stressors experienced by police officers may be found in theories that have been used for understanding stressors experienced by military personnel, who also face potentially dangerous scenarios on a daily basis. For example, the Conservation of Resources Theory suggests that one type of stressor experienced by soldiers would be their perceived loss of important 'personal, social, material, and energy resources' (Hobfoll, 2011, p. 117). Such potential losses of resources might include the many dangerous 'critical incidents' in police work that could result in physical injury or loss of life.

The Demand-Control-Support Model (Karasek *et al.*, 1981) is another theory often used to explain stressors for a variety of professions. The theory suggests that the most intense workplace stressors would be conditions in which 'department politics' involve high work demands, low control of when and where these demands occur, and low social support from supervisors or co-workers. Similarly, the Effort-Reward Imbalance Model (Siegrist, 1996) suggests that a powerful workplace stressor would be the perception of 'department politics' and injustice in the availability of resources or promotions.

The Dynamic Equilibrium Theory (Headey and Wearing, 1989) suggests that small 'daily hassles'

(such as equipment failure, co-worker delays, bad road conditions, arguments) would be stressors for police officers if they disrupt expected patterns of events. Past research with non-police samples suggests that such small daily hassles are more significantly associated with negative psychosocial outcomes than are major life events such as divorce, bereavement, or job loss (Chamberlain and Zika, 1990; Majella de Jong *et al.*, 1996). Also, past research with samples of police officers suggests they perceive such daily hassles as more stressful than violent critical incidents (Brown and Campbell, 1990; Crank and Caldero, 1991; Biggam *et al.*, 1997), and that daily hassles were more predictive of officers' health complaints than exposure to critical incidents or Department Politics (Otis and Pelletier, 2005).

Finally, the Person-Environment Fit Model (Caplan and Harrison, 1993) suggests that workplace stressors are experienced when 'work-home conflicts' occur between the individual's roles and responsibilities in these two important domains. More specifically, theories on relationships between work and home domains suggest they may show one of three patterns (Lambert, 1990; Howard *et al.*, 2004; Stevens, 2008; Hall *et al.*, 2010): (1) work and home characteristics are 'independent' of each other; (2) work and home characteristics show 'compensation effects' in which strengths or support in one domain reduce stressors in the other domain; and (3) work and home characteristics may show 'spill-over effects' in which challenges in one domain increase stressors in the other domain. For the present study we hypothesized that both 'compensation effects' and 'spill-over effects' would be found for associations between the police officers' work stressors and home characteristics. For example, we hypothesized that perceptions of strong family support would show 'compensation effects' in reduced concerns about any 'department politics' LEOSS-R dimension, and that perceptions of strong police support would show 'compensation effects' in reduced concerns about any 'work-home conflict' LEOSS-R

dimension (Lambert, 1990). Also, we hypothesized that officers with more weekly work hours would show 'spill-over effects' with increased reports of any 'work-home conflict' LEOSS-R dimension, and that married officers would show 'spill-over effects' with increased concerns about any 'critical incidents' LEOSS-R dimension because such incidents increase their risk for injury or death and catastrophic consequences for spouses.

Available measures of police stressors

Many available measures of police stressors include 'critical incidents' such as exposure to violence or horrific scenes of death and injury, as suggested by the Conservation of Resources Theory described above. Examples of measures with 'critical incidents' are the 25-item LEOSS (Van Hasselt *et al.*, 2008), the 34-item Critical Incident History Questionnaire (Weiss *et al.*, 2010), and the 71-item Confidential Police Survey (Stevens, 2008). Measures of police stressors also have included 'Department Politics' such as co-worker uncooperativeness, poor leadership, and limited opportunities for promotion, as suggested by the Demand-Control-Support Model and the Effort-Reward Imbalance Model described above. Examples of measures with 'Department Politics' are the 25-item LEOSS (Van Hasselt *et al.*, 2008), the Confidential Police Survey (Stevens, 2008), and the 68-item Work Environment Index (Liberman *et al.*, 2002). Additionally, measures of police stressors have included 'work-home conflict' such as shifting work hours that reduce sleep, recreation, or family time, as suggested by the Person-Environment Fit Model described above. Examples of measures with 'work-home conflict' are the 25-item LEOSS (Van Hasselt *et al.*, 2008) and the 71-item Confidential Police Survey (Stevens, 2008). Finally, measures of police stressors have included small 'daily hassles' such as

equipment malfunctions, delays, and arguments, as suggested by the Dynamic Equilibrium Theory (Headley & Wearing, 1989). One measure that focuses on 'daily hassles' is the 86-item Police Daily Hassles Scale (Hart *et al.*, 1994).

Of all the available measures of police stressors described above, the 25-item LEOSS (Van Hasselt *et al.*, 2008) is the briefest measure that also includes the widest variety of theoretically suggested types of police stressors (Critical Incidents, Department Politics, Work-Home Conflict, Daily Hassles). The advantage of a brief measure of police stressors is that it would be easier for police departments to use because their officers would be more likely to complete all of its items with care. The advantage of a measure that includes many types of police stressors suggested to by theory would be that police departments would be less likely to miss issues of importance to their officers when assessing stressors they experience. However, development of the LEOSS did not include factor analysis to identify underlying dimensions or subscales of particular types of police stressors. Identification of such dimensions of police stressors would be important in a measurement tool used by police departments because it could help them uncover the most significant types of stressors experienced by their officers hence they could focus their resources into the most relevant intervention programmes.

Development of the original LEOSS began by asking 166 Federal Bureau of Investigation (FBI) trainees to 'list five situations you find stressful' (Van Hasselt, 2008, p. 136), which produced a list of 89 scenarios. Then, 100 police officers from Alaska and Florida locations (91% male; mean age = 41.2 years; 57% married; 47.0% Patrol Officer rank; mean experience = 16.5 years) were asked to use a seven-point ratings for both the *likelihood* of police officers encountering the situation, and for the *difficulty* of the situation for police officers. Finally, the 89 scenarios were narrowed to 25 items for which the officers' median rating was at least '4' for *likelihood* and '5' for *difficulty*. The total

LEOSS score for exposure to police officer stressors was calculated as the sum of *likelihood* $\times$ *difficulty* ratings for the 25 items, and the measure showed strong internal reliability ($\alpha = 0.87$).

Purpose of the present study

The primary purpose of the present study was to develop a LEOSS-R using exploratory factor analysis with the 25 items of the original LEOSS (Van Hasselt et al., 2008). Based on theories of occupational stressors as reviewed above, we anticipated that the LEOSS-R subscales would include items that clustered together as 'critical incidents', 'department politics', 'daily hassles', and 'work-home conflicts'. To evaluate psychometrics of the new LEOSS-R, we planned to examine goodness-of-fit values, internal reliability, and support for validity of the LEOSS-R dimensions in expected associations with work and home variables (such as officer rank, years of experience, weekly work hours, perceived police support, marital status, household size, perceived family support).

A secondary purpose of the present study was to determine which of the LEOSS-R types of stressors were most associated with possible negative psychosocial outcomes for police officers: anger, poor self-esteem, romantic partner aggression, and police partner aggression.

The new LEOSS-R could be used by police departments as a needs-assessment tool to identify the most prominent types of stressors experienced by their officers. The LEOSS-R could also be used by future researchers in studies of predictors, consequences, and treatment programs to reduce officer stressors. Additionally, results from the present study about negative psychosocial outcomes associated with LEOSS-R stressors could guide police departments to develop Employee Assistance Programs that focus on reducing these stressors, or that focus on reducing their negative impact on police officers and the departments in which they serve.

Method

Participants and procedures

Study participants for the present study began by distributed paper copies of an anonymous survey to 325 police officers from the large urban Istanbul Police Department, randomly selected from a list of all active duty officers provided by the Istanbul Police Human Resources Department, and after permission was granted by the Turkish National Police. The Istanbul Police Department is one of the largest police departments in Europe serving the fifth largest city in the world. In the past decade, city of Istanbul became the hub for many international businesses, which would like to have easy access to the countries (Azerbaijan, Uzbekistan, Turkmenistan, etc.), which were separated from Union of Soviet Socialist Republics (USSR) and the Middle East. Accordingly, the department's personnel had been almost doubled together with the intensity of its duties.

The survey was returned by 250 (77%) of the 325 Turkish officers (96% men; 87% under 30 years of age; 80% Patrol Officer rank; mean years of service = 7.0 years, $SD = 5.3$; mean weekly work hours = 60.0 hours, $SD = 13.4$; 71% married; mean household size = 2.9, $SD = 1.0$). Of these 250 officers who returned the survey, 232 (92%) responded to all 25 items of the LEOSS (Van Hasselt et al., 2008) that was used to develop the new LEOSS-R (96% men; 87% under 30 years of age; 80% Patrol Officer rank; mean years of service = 6.9 years, $SD = 5.3$; mean weekly work hours = 60.3 hours, $SD = 13.7$; 71% married; mean household size = 2.9, $SD = 1.1$).

The anonymous surveys were distributed to officers by their department supervisors as paper copies with large sealable envelopes. Officers completing the surveys were asked to drop them into boxes located at specific locations within the police department. One of the authors of the present study then collected them each weekday for a period of 45 days. The surveys asked for demographic information including gender and age. The surveys also

requested information about work and home variables that might be associated with police stressors such as police rank, years of service, weekly work hours, a measure of perceived police support, marital status, household size, and a measure of perceived family support (as described below). Finally, the survey asked officers to report measures of possible negative psychosocial outcomes that might be associated with exposure to police stressors: anger, self-esteem, romantic partner aggression, police partner aggression (as described below).

Measurement

The LEOSS (Van Hasselt *et al.*, 2008) consists of 25 scenarios for which officers in the present study were asked to use five-point ratings (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always) to report both the 'likelihood' and the 'difficulty' of each scenario. These two scenario ratings were multiplied, and then the 25 scenario product scores were summed to serve as the officer's score for exposure to police stressors. Although the original LEOSS application by Van Hasselt and colleagues used seven-point ratings, five-point ratings were used throughout the present study to avoid confusion across the many measures included in the questionnaire.

Family support. This was measured with the 23-item family subscale from the Social Support from Family and Friends Scale (Procidano and Heller, 1983), for which officers used a five-point rating (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always) to report how often they agreed with each statement about their family relationships during the past years. Examples of items are 'I rely on them for emotional support', 'I have a deep sharing relationships with them', 'they enjoy hearing about what I think', 'we are very open about what we think about things', 'they are sensitive to my personal needs', and 'they seem to like to make me mad'. Ratings for appropriate items were reversed and the mean rating was used as the score for perceived family support ($\alpha = 0.90$).

Police support. This was measured using the same 23-item subscale from the Social Support from Family and Friends Scale (Procidano and Heller, 1983) as that described above for the measure of family support because the same items would apply to the officer's perception about his/her relationships within the police department. Officers were again asked to use a five-point rating (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always) to report how often they agreed with each statement about their 'police family' relationships during the past year. Ratings for appropriate items were reversed and the mean rating was used as the score for perceived police support ($\alpha = 0.90$).

Anger. This was measured with the 16-item Anger Expression Scale (Spielberger *et al.*, 1985), which includes eight items of 'expressed anger' ('lose my temper', 'slam doors', 'tell them how I feel') and eight items of 'repressed anger' ('boil inside', 'hold grudges', 'am angrier than willing to admit'). Officers were asked to use a five-point rating to report how often they displayed anger in each way (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always), with the sum of these ratings used as each officer's anger score ($\alpha = 0.76$).

Self-esteem. This was measured using the 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1965). Officers were asked to use a five-point rating (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always) to report how much they had each thought during the past year, appropriate items were reversed in their ratings, then the sum of the 10 ratings was used as the self-esteem score ($\alpha = 0.72$).

Romantic partner aggression. This was measured with the 12-item Revised Conflict Tactics Scale (Caulfield and Riggs, 1992). Officers were asked to use a five-point rating (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always) to report how often during the past year they

displayed each behaviour during conflict with their present romantic partner. The Revised Conflict Tactics Scale is the most widely used measure of relationship conflict style because it includes items about verbal and physical aggression that may apply in a variety of types of relationships including parental relationships, romantic relationships, work relationships, and friendships (Schafer, 1996). For example, the scale includes the following items: insulted or swore at the other, stomped out of the room, did or said something spiteful, threatened to end the relationship, threw something at the other, pushed or grabbed or shoved the other, slapped the other. In the present study, the score for romantic partner aggression was calculated as the sum of these 12 ratings ($\alpha = 0.92$).

Police partner aggression. This was measured with the 12-item Revised Conflict Tactics Scale (Caulfield and Riggs, 1992) because these behavioural items could also apply to relationships that officers have within the police department. Officers were again asked to use a five-point rating (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always) to report how often during the past year they displayed each behaviour during conflict with their 'present police partner'. The score for police partner aggression was then calculated as the sum of these 12 ratings ($\alpha = 0.93$).

Data analysis

The first goal of data analysis in the present study was to identify types of police stressors found within the 25-item LEOSS (Van Hasselt et al., 2008) to produce the new LEOSS-R. SPSS 21 software was used to conduct exploratory factor analysis using responses by the 232 Turkish police officers to the 25 LEOSS items, with each LEOSS items score being calculated as the product of five-point ratings given for 'likelihood' and 'difficulty' of the police scenario described. The exploratory factor analysis was conducted with varimax rotation and the strict requirements that each

dimension included at least three items, and that all items within a dimension show factor loadings of 0.60+ for that dimension only, and that all dimensions show internal reliability above the traditionally recommended 0.70 value. Such strict criteria meant that some of the original 25 items might be eliminated from the new LEOSS-R measure, but they were necessary if the new LEOSS-R measure were to have conceptually clear and distinct dimensions with strong internal reliability and goodness-of-fit. The clearer the LEOSS-R dimensions and the stronger their psychometrics, the more confidence police departments may have when using it to identify specific stressors experienced by their officers.

Psychometric examination of the new LEOSS-R subscales included a recommended combination of three goodness-of-fit values for the sample of 232 Turkish police officers (Hu and Bentler, 1999; Arbuckle, 2007): relative chi square with values of 5.00 or less suggesting acceptable fit, comparative fit index (CFI) with values of 0.90 or above suggesting acceptable fit, and Root mean square error of approximation (RMSEA) with values of 0.10 or less suggesting acceptable fit. Internal reliability for each new LEOSS-R subscale was examined by calculating Cronbach's α for items within each subscale for the 232 officers.

Support for validity of each new LEOSS-R subscale was evaluated as expected associations with work and home characteristics using stepwise multiple regression analyses in which the LEOSS-R subscale score was the criterion variable (defined as the mean product of 'likelihood' $\times$ 'difficulty' five-point ratings for items within the subscale). Predictor variables considered in these stepwise multiple regressions included four work characteristics (patrol officer rank effect coded as '0 = no, 1 = yes', years of service, weekly work hours, and perceived police support) and three home characteristics (marital status effect coded as '0 = no, 1 = yes', household size, and perceived family support). Stepwise multiple regression was chosen for these analyses of work and home variables

associated with each LEOSS-R subscales because it was anticipated that these variables would be inter-correlated, and we wanted those with the strongest associations with police stressors to stand out. Based on the idea of ‘compensation effects’ between work and family domains of police officers (Lambert, 1990; Howard *et al.*, 2004; Stevens, 2008; Hall *et al.*, 2010), we hypothesized that strong family support would be associated with lower ratings for any ‘department politics’ LEOSS-R dimension, and that perceptions of strong police support would be associated with lower ratings for any ‘work-home conflict’ LEOSS-R dimension. Based on the idea of ‘spill-over effects’ that occur between work and family domains of police officers (Lambert, 1990; Howard *et al.*, 2004; Stevens, 2008; Hall *et al.*, 2010), we hypothesized that officers with more weekly work hours would report more of any ‘work-home conflict’ LEOSS-R dimension, and that married officers would report more concern about any ‘critical incidents’ LEOSS-R dimension because of their risks for injury and consequences for spouses. (NOTE: Sample sizes for these stepwise multiple regression analyses were less than 232, as shown in Table 3, because some officers failed to complete all measures of work and home variables.)

The second goal for data analysis in the present study was to determine which of the new LEOSS-R types of stressors were most associated with possible negative psychosocial outcomes for police officers: anger, poor self-esteem, romantic partner aggression, and police partner aggression. Simultaneous multiple regression analyses were conducted using each of these four negative psychosocial outcomes as the criterion variable, with the LEOSS-R subscale scores serving as predictor variables (again defined as the mean product score of ‘likelihood’ $\times$ ‘difficulty’ five-point ratings for items within the subscale). Sample sizes for these multiple regression analyses were less than 232, as shown in Table 4, because some officers failed to complete all measures of psychosocial outcomes.

Results

Types of police stressors identified by the LEOSS-R

Exploratory factor analysis of the 25-item LEOSS ratings by 232 Turkish police officers produced a new 18-item LEOSS-R with four dimensions of types of police stressors: Critical Incidents (five items), Department Politics (four items), Daily Hassles (five items), and Work–Home Conflicts (four items). Of the 25 items considered, seven were eliminated because they failed to show factor loadings of 0.60+ on any dimension (items 7, 9, 10, 12, 13, 23, 25). (Table 1) The four LEOSS-R dimensions revealed acceptable goodness-of-fit values with relative $\chi^2 = 2.54$, CFI = 0.90, and RMSEA = 0.082. Internal reliability scores were above the recommended 0.70 for all four LEOSS-R dimensions, with the 232 Turkish officers reporting work–home conflicts as their most intense type of police stressor ($F_{(3, 693)} = 167.10$, $P = 0.000$).

(Table 2 shows descriptive statistics, internal reliability, and bivariate correlations for the four LEOSS-R subscales.)

Support for the validity of the new LEOSS-R subscales was demonstrated with expected associations between work and home variables. As hypothesized, Department Politics stressor was rated lower by officers with strong family support, and Work–Home Conflicts and Daily Hassles stressors were rated lower by officers with strong police support. Also, as hypothesized, officers who reported more weekly work hours also gave higher ratings for Work–Home Conflicts stressor, and married officers gave higher ratings to the stressor of Critical Incidents stressor. Additionally, high work hours were associated with Critical Incidents stressor. (Table 3)

Police stressors associated with negative psychosocial outcomes

Multiple regression analyses revealed that significantly more anger was reported by police officers who reported more Work–Home Conflicts

Table 1: Exploratory factor analysis results showing four LEOSS-R subscales for 232 Turkish police officers

#	LEOSS-R Dimension	Factor loading
Critical Incidents		
2.	You are called to respond to a silent alarm from a bank.	0.832
4.	You are executing an arrest warrant when the suspect barricades himself/herself.	0.737
1.	You are called to a burglary in progress. The assailant may be armed.	0.727
5.	You respond to a major motor vehicle accident with multiple injuries and possible fatalities.	0.709
3.	You are executing an arrest warrant for a violent criminal and are unsure of his/her location.	0.642
Department Politics		
6.	You are engaged in a promotional process.	0.722
14.	You are trying to solve a high profile case while the public pressures for immediate results.	0.711
11.	You are recruited to investigate a fellow officer.	0.682
15.	You have spent hours putting data in your computer, only to have it go down and data lost.	0.636
Daily Hassles		
24.	You have been injured and your back-up is late responding.	0.712
18.	You are on your way to a high emergency call when the radio has interference.	0.696
20.	You frequently argue with your spouse but are unable to resolve anything.	0.694
21.	You are making progress on a case when pulled off for political reasons.	0.634
22.	You are on a high pursuit chase in icy conditions.	0.617
Work–Home Conflicts		
16.	You find work is taking up more time, leaving you with little left for family and recreation.	0.837
8.	You have plans with your family but work demands interfere and you are unable to go.	0.756
19.	Changing shifts has interfered with your sleep patterns.	0.722
17.	You are unable to work on a project because your supervisor keeps changing the direction.	0.605
Eliminated items		
7.	You have been brought up on civil rights violations which are untrue.	
9.	You are responsible to notify the parents of a child killed by a hit and run driver.	
10.	You are called to contain a public rally that is becoming agitated.	
12.	You find that your subordinates did not complete the assignment you gave.	
13.	You must rely on employees that you feel are not trustworthy or incompetent.	
23.	You are investigating an officer's death in which suicide is suspected.	
25.	You respond to a shooting in progress between two gangs.	

Table 2: Descriptive statistics, internal reliability, and bivariate correlations for four LEOSS-R subscales for 232 Turkish police officers

	M (SD)	α/ψ	Critical Incidents	Department Politics	Daily Hassles	Work–Home Conflicts
Critical Incidents	5.13 (4.36)	0.87		0.503***	0.670***	0.462***
Department Politics	4.50 (3.94)	0.74			0.546***	0.387***
Daily Hassles	4.39 (6.16)	0.84				0.517***
Work–Home Conflicts	10.39 (6.16)	0.80				

* $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$

($P = 0.003$). Also, lower self-esteem was reported by police officers with more exposure to Work–Home Conflicts and Department Politics ($P = 0.001$, $P = 0.000$, respectively), but higher self-esteem scores were seen for officers with more exposure

to Critical Incidents ($P = 0.012$). Additionally, more conflict with romantic partners was reported by officers with more Work–Home Conflicts and more exposure to Critical Incidents ($P = 0.029$, $P = 0.040$, respectively). Finally, more conflict with

Table 3: Stepwise multiple regression to examine work and home characteristics associated with four LEOSS-R subscales for Turkish police

	Critical Incidents			Department Politics			Daily Hassles			Work-Home Conflicts		
	Beta	t	P	Beta	t	P	Beta	t	P	Beta	t	P
Work characteristics												
Patrol officer (0 = no, 1 = yes)	NS			NS			NS			NS		
Years of service	NS			NS			NS			NS		
Weekly work hours	0.145	2.15	0.033	NS			NS			0.255	3.95	0.000
Perceived police support	NS			NS			-0.294	4.46	0.000	-0.244	3.78	0.000
Home characteristics												
Married (0 = no, 1 = yes)	0.136	2.01	0.046	NS			NS			NS		
Household size	NS			NS			NS			NS		
Perceived family support	NS			-0.232	3.47	0.001	NS			NS		
	$R^2 = 0.042$			$R^2 = 0.054$			$R^2 = 0.086$			$R^2 = 0.127$		
	$F_{(2, 210)} = 4.56$			$F_{(1, 211)} = 12.00$			$F_{(1, 211)} = 19.92$			$F_{(2, 210)} = 15.26$		
	$P = 0.012$			$P = 0.001$			$P = 0.000$			$P = 0.000$		

NS, not significant.

Table 4: Simultaneous multiple regression for LEOSS-R Subscales associated with negative psychosocial outcomes for police officers

LEOSS-R stressor	Anger			Self-Esteem			Romantic Partner Aggression			Police Partner Aggression		
	Beta	t	P	Beta	t	P	Beta	t	P	Beta	t	P
Critical Incidents	-0.126	1.38	0.170	0.078	0.87	0.383	0.055	0.62	0.537	0.085	0.95	0.344
Department Politics	0.060	0.75	0.456	-0.089	1.14	0.256	0.075	0.96	0.337	0.182	2.31	0.022
Daily Hassles	0.248	2.56	0.011	-0.290	3.08	0.002	0.267	2.84	0.005	0.119	1.26	0.209
Work-Home Conflicts	0.072	0.92	0.361	0.014	0.19	0.851	-0.053	0.70	0.484	-0.059	0.77	0.440
	$R^2 = 0.066$			$R^2 = 0.085$			$R^2 = 0.108$			$R^2 = 0.090$		
	$F_{(4, 216)} = 3.83$			$F_{(4, 216)} = 5.23$			$F_{(4, 216)} = 6.67$			$F_{(4, 216)} = 5.48$		
	$P = 0.005$			$P = 0.000$			$P = 0.000$			$P = 0.000$		

police partners was reported by officers who more Work–Home Conflicts ($P=0.000$). (Table 4)

Discussion

Psychometrics of the new LEOSS-R

The four LEOSS-R subscales showed goodness-of-fit, strong internal reliability, and support for validity in expected associations with work and home variables for the present sample of Turkish police officers. For example, present results supported the hypothesized ‘compensation effects’ between work and home (Lambert, 1990; Howard *et al.*, 2004; Stevens, 2008; Hall *et al.*, 2010), with strong family support being associated with weaker Department Politics stressors, and strong police support being associated with weaker Work–Home Conflict stressors. Present results also supported the hypothesized ‘spill-over effects’ from home to work challenges (Lambert, 1990; Howard *et al.*, 2004; Stevens, 2008; Hall *et al.*, 2010), with officers working many weekly hours reporting stronger Work–Home Conflict stressors, which would be expected if these long work hours resulted in them missing sleep, family meals, family recreation time. Also, married officers reported stronger Critical Incidents stressors than did non-married officers, perhaps because married officers worry about the effects on their spouses if such dangerous incidents resulted in their injury or death. Another finding of present results was that long weekly work hours were associated with stronger Critical Incident stressors, perhaps because more hours on the job meant more chances of being exposed to dangerous critical incidents, or because such critical incidents require additional work hours for investigation, completion of required paperwork, and court appearances.

LEOSS-R stressors associated with negative outcomes

The LEOSS-R stressors of Critical Incidents and Work–Home Conflict were found to be unrelated to the negative psychosocial outcomes considered

in the present study for the Turkish police officers (anger, poor self-esteem, romantic partner aggression, police partner aggression). Perhaps police officers expect such stressors, are trained to respond to them, and perhaps even are eager for the challenges of meeting them. However, the police stressor of Department Politics was associated with increased police partner aggression, perhaps because officers were angry over perceived injustices in the allocation of resources or promotions.

Perhaps surprisingly, Daily Hassles was the LEOSS-R stressor most consistently associated with the negative psychosocial outcomes considered for Turkish police officers of the present study. Such small Daily Hassles (such as equipment failure, co-worker delays, bad roads, arguments) were associated with more anger, worse self-esteem, more romantic partner aggression, and more police partner aggression. Similarly, past research with both police and non-police samples has found negative outcomes more associated with small daily hassles than with ‘bigger’ stressors such as exposure to violence, death, or workplace politics (Brown and Campbell, 1990; Chamberlain and Zika, 1990; Crank and Caldero, 1991; Biggam *et al.*, 1997; Otis and Pelletier, 2005). According to the Dynamic Equilibrium Theory (Headey and Wearing, 1989), such small daily hassles are particularly stressful because they disrupt expected patterns of events and how to respond to them. It has even been proposed that the ‘bigger’ events in life produce negative outcomes because they typically result in a cascade of daily hassles that disrupt the individual’s expectations and challenge his/her coping skills (Eckenrode, 1984).

Applications of present results

Police department Employee Assistance Programs could use the LEOSS-R to guide their officers to identify their most powerful types of stressors, and then to focus on interventions to reduce them or negative outcomes associated with them. Because Work–Home Conflict was rated as the most severe stressor by the Turkish police officers

of the present study, Employee Assistance Programs could focus their efforts on reducing it. More specifically, such Work–Home Conflict was more intense with longer weekly work hours, hence Employee Assistance Programs could work on creative ways for their departments to reduce long work weeks while maintaining quality service to their communities. Workshops could also guide officers in actions they can take to improve their sleep quality and to find more opportunities for individual and family recreation.

Also, because Daily Hassles were found to be the type of police stressor most consistently associated with negative psychosocial outcomes (more anger, worse self-esteem, and more romantic partner aggression), Employee Assistance Program could focus on how to reduce the frustrations identified within the Daily Hassles dimension such as equipment failure, co-worker delays, and dangerous road conditions, and inconsistency in supervisor instructions.

Future research could examine how police department policy or leadership can reduce Daily Hassles stressors and their negative impact for their officers.

Besides its usefulness as a needs-assessment tool by police departments, the LEOSS-R may be useful to researchers who wish to study in greater depth the predictors and consequences of exposure to police stressors. For example, researchers could evaluate the relative intensity of the four LEOSS-R stressors (Critical Incidents, Department Politics, Daily Hassles, Work–Home Conflict) is influenced by public perception of police officers, by new police administration, by changes in the number of patrol officers, and by the introduction of new technology. Additionally, researchers could examine which of the four LEOSS-R stressors best explain police officer perception of their department's leadership quality, their job satisfaction, or their intention to remain in the department.

Study limitations

One limitation of the present study was that it included a convenience sample of police officers

from one large urban city in Turkey. Future research could conduct confirmatory factor analyses on more varied and randomly selected international samples of police officers to determine if they experience the same four types of LEOSS-R stressors (Critical Incidents, Department Politics, Daily Hassles, Work–Home Conflict). Additionally, the LEOSS-R could be examined for its relevance to other law enforcement personnel such as prison guards or probation officers.

References

- Arbuckle, J. L. (2007). *AMOS 16.0 User's Guide*. Amos Development Corporation: Spring House, PA.
- Biggam, F. H., Power, K. G., MacDonald, R. R., Carcary, W. B. and Moodie, E. (1997). 'Self-Perceived Occupational Stress and Distress in a Scottish Police Force.' *Work and Stress* **11**: 118–133.
- Brown, J. M. and Campbell, E. A. (1990). 'Sources of Occupational Stress in the Police.' *Work and Stress* **4**: 305–318.
- Can, S. H. and Hendy, H. M. (2014). 'Police Stressors, Negative Outcomes Associated with Them, and Coping Mechanisms that May Reduce Them.' *Police Journal: Theory, Practice, and Principles* **87**: 167–177.
- Can, S. H., Sever, M. and Mire, S. (2008). 'Police Job Stress and Domestic Violence in Police Families.' *International Journal of Crime, Criminal Justice, and Law* **3**: 73–81.
- Caplan, R. D. and Harrison, R. V. (1993). 'Person–Environment Fit Theory: Some History, Recent Developments, and Future Directions.' *Journal of Social Issues* **49**: 253–276.
- Caulfield, M. B. and Riggs, D. S. (1992). 'The Assessment of Dating Aggression: Empirical Evaluation of the Conflict Tactics Scale.' *Journal of Interpersonal Violence* **7**: 549–558.
- Chamberlain, K. and Zika, S. (1990). 'The Minor Events Approach to Stress: Support for the Use of Daily Hassles.' *British Journal of Psychology* **81**: 469–481.
- Crank, J. P. and Caldero, M. (1991). 'The Production of Occupational Stress in Medium-Sized Police Agencies: A Survey of Line Officers in Eight Municipal Departments.' *Journal of Criminal Justice* **19**: 339–349.
- Eckenrode, J. (1984). 'Impact of Chronic and Acute Stressors on Daily Reports of Mood.' *Journal of Personality and Social Psychology* **46**: 907–918.
- Gershon, R. R. M., Barocas, B., Canton, A. N., Li, X. and Vlahov, D. (2009). 'Mental, Physical, and Behavioral Outcomes Associated with Perceived Work Stress in

- Police Officers.' *Criminal Justice and Behavior* **36**: 275–289.
- Hall, G. B., Dollard, M. F., Tuckey, M. R., Winefield, A. H. and Thompson, B. M. (2010). 'Job Demands, Work-Family Conflict, and Emotional Exhaustion in Police Officers: A Longitudinal Test of Competing Theories.' *Journal of Occupational and Organizational Psychology* **83**: 237–250.
- Hart, P. M., Wearing, A. J. and Headey, B. (1994). 'Perceived Quality of Life, Personality, and Work Experiences: Construct Validation of the Police Daily Hassles and Uplifts Scales.' *Criminal Justice and Behavior* **21**: 283–311.
- Headey, B. and Wearing, A. J. (1989). 'Personality, Life Events, and Subjective Well-Being: Toward a Dynamic Equilibrium Mode.' *Journal of Personality and Social Psychology* **57**: 731–739.
- Hobfoll, S. E. (2011). 'Conservation of Resource Caravans and Engaged Settings.' *Journal of Occupational and Organizational Psychology* **84**: 116–122.
- Howard, W. G., Donofrio, H. H. and Boles, J. S. (2004). 'Inter-Domain Work-Family, Family-Work Conflict and Police Work Satisfaction.' *Policing: An International Journal of Police Strategies and Management* **27**: 380–395.
- Hu, L. and Bentler, P. M. (1999). 'Cut-Off Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives.' *Structural Equation Modeling* **6**: 1–55.
- Julseth, J., Ruiz, J. and Hummer, D. (2011). 'Municipal Police Officer Job Satisfaction in Pennsylvania: A Study of Organizational Development in Small Police Departments.' *International Journal of Police Science and Management* **13**: 243–254.
- Karasek, R. A., Baker, D., Marxer, F., Ahlbom, A. and Theorell, T. (1981). 'Job Decision Latitude, Job Demands and Cardiovascular Disease: A Prospective Study of Swedish Men.' *American Journal of Public Health* **71**: 694–705.
- Lambert, S. J. (1990). 'Processes Linking Work and Family: A Critical Review and Research Agenda.' *Human Relations* **43**: 239–257.
- Liberman, A. M., Best, S. R., Metzler, T. J., Fagan, J. A., Weiss, D. S. and Marmar, C. R. (2002). 'Routine Occupational Stress and Psychological Distress in Police.' *Policing: An International Journal of Police Strategies and Management* **25**: 421–439.
- Majella de Jong, G., Timmerman, I. G. H. and Emmelkamp, P. M. G. (1996). 'The Survey of Recent Life Experiences: A Psychometric Evaluation.' *Journal of Behavioral Medicine* **19**: 529–542.
- Otis, N. and Pelletier, L. G. (2005). 'A Motivational Model Of Daily Hassles, Physical Symptoms, and Future Work Intentions Among Police Officers.' *Journal of Applied Social Psychology* **35**: 2193–214.
- Procidano, M. E. and Heller, K. (1983). 'Measures of Perceived Social Support from Friends and from Family: Three Validation Studies.' *American Journal of Community Psychology* **11**: 1–24.
- Rosenberg, M. (1965). *Society and the Adolescent Self-Image*. Princeton, NJ: Princeton University Press.
- Schafer, J. (1996). 'Measuring Spousal Violence with the Conflict Tactics Scale: Notes on Reliability and Validity Issues.' *Journal of Interpersonal Violence* **11**: 572–585.
- Siegrist, J. (1996). 'Adverse Health Effects of High-Effort/Low-Reward Conditions.' *Journal of Occupational Health Psychology* **1**: 27–41.
- Speilberger, C. D., Johnson, E. H., Russel, S. F., Crane, R. J., Jacobs, G. A. and Worden, T. J. (1985). 'The Experience and Expression of Anger: Construction and Validation of an Anger Expression Scale.' In Chesney, M. A. and Rosenman, R. H. (eds), *Anger and Hostility in Cardiovascular and Behavioral Disorders*. New York: Hemisphere, pp. 5–30.
- Stevens, D. J. (2008). *Police Officer Stress: Sources and Solutions*. Upper Saddle River, NJ: Pearson/Prentice Hall Press.
- Van Hasselt, V. B., Sheehan, D. C., Malcolm, A. S., Sellers, A. H., Baker, M. T. and Couwels, J. (2008). 'The Law Enforcement Officer Stress Survey (LEOSS): Evaluation of Psychometric Properties.' *Behavior Modification* **32**: 133–151.
- Violanti, J. M. (2004). 'Predictors of Police Suicide Ideation.' *Suicide and Life-Threatening Behavior* **34**: 277–283.
- Weiss, D. S., Brunet, A., Best, S. R. et al. (2010). 'Frequency and Severity Approaches to Indexing Exposure to Trauma: The Critical Incident History Questionnaire for Police Officers.' *Journal of Traumatic Stress* **23**: 734–743.