MILWAUKEE
Resilience Model

Sandra Ramey and Chris Schroeder

CAUTION
POLICE TRAINING
IN PROGRESS

STOP

COPS
Community Oriented Policing Services
U.S. Department of Justice

Milwaukee
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LETTER FROM THE DIRECTOR OF THE COPS OFFICE

Colleagues:

Law enforcement officers and deputies are regularly exposed to stress on the job, whether it is responding to critical incidents such as shooting events or child abuse or working unusual hours due to shift work. Front-line officers experience ongoing exposure to high adrenaline situations such as these as they work to keep our communities safe, and agency programs focused on stress management are essential for officers to maintain both psychological and physical health. To support their long-term health and wellness, our officers and deputies need resilience training and practice to prepare for, recover from, and adapt to stress and trauma.

The Milwaukee Police Department (MPD) piloted a resilience training project for academy cadets and a group of MPD officers to analyze the impact on overall health and job satisfaction. Based on reports from the officers and cadets as well analysis of the study data, the resilience training program resulted in a positive impact on all participants; further, the earlier in their careers that officers receive resilience training, the more effective it is at increasing overall health and job satisfaction. This publication discusses the project study and recommendations based on the work of the MPD and primary investigator Dr. Sandra Ramey. Overall, the study found that law enforcement officers who learn early to manage stress will remain healthier, make better decisions, and have higher job satisfaction during their career than those who learn stress management later or not at all.

We appreciate the field's support of officers and their health and wellness and are grateful for the MPD's attention to this issue and their willingness to share their experiences. The COPS Office looks forward to the implementation of more resilience training programs in academies and Police Officer Standards and Training boards across the country in support of holistic officer wellness.

Sincerely,

Phil Keith
Director
Office of Community Oriented Policing Services

INTRODUCTION

Most law enforcement officers (LEO) begin their careers in good physical condition and health, demonstrated by passing academy physical fitness exams. However, job-related stress disorders can cause many to retire early or die prematurely (Waters and Ussery 2007; Joseph et al. 2009; Ramey et al. 2012). Compared to the general population, police officers tend to have a worsened metabolic profile[1] and a higher prevalence of cardiovascular disease (CVD) and risk factors (Hartley et al. 2011; Ramey et al. 2009; Ramey et al. 2011; Wright, Barbosa-Leiker, and Hoekstra 2011). Because stress appears to be virtually unavoidable in the law enforcement profession, it is critical that officers develop the ability to recover from recurrent stressors if physiological and psychological health are to be maintained (Johnson et al. 2014). This capacity to prepare for, recover from, and adapt in the face of stress, adversity, trauma, or challenge is defined as resilience (McCraty and Atkinson 2012).

LEOs are regularly exposed to several different types of stress including critical incidents (e.g., threats of danger, homicides, and death and exposure to accidents) and organizational stressors (e.g., extended work hours, shift work, rigid organizational structure). One study (Violanti et al. 2016) revealed that the five most stressful events among LEOs are (1) exposure to battered or dead children, (2) killing someone in the line of duty, (3) a fellow officer's being killed in the line of duty, (4) situations requiring use of force, and (5) physical attacks on one's person. The study also identified the most frequently occurring stressors. These included dealing with family disputes and crisis situations, responding to a felony in progress, fellow officers not doing their jobs, making critical on-the-spot decisions, and insufficient manpower to adequately handle a job.

Repeated and chronic exposure to highly intense stressors can produce dysfunctions within the stress response system, ultimately leading to a diseased state (Andrew et al. 2017). The demands of the law enforcement occupation place daily psychological and physiological stress on officers, consequently increasing their risk for illness and diseases associated with stress (Violanti et al. 2006). For example, some studies show that retired law enforcement officers have a 70 percent higher risk than the general population of developing CVD (Magnavita et al. 2018; Ramey et al. 2009). Post-traumatic stress disorder (PTSD), which is associated with a traumatic experience (Thomas, Saumier, and Brunet 2012), is also higher among law enforcement (8.3 percent; Bowler et al. 2010) than among the general population (3.5 percent; Kessler et al. 2005). Other health risks include depression (Lilly and Pierce 2012; Regehr et al. 2013),

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1. The metabolic profile refers to a person's levels of cholesterol, blood pressure, and glucose, all of which tend to be higher in police officers than in the general population.

acute distress disorder (Trachik et al. 2015), and—unfortunately—suicide (O'Hara et al. 2013). It is apparent that the law enforcement occupation remains in need of strategies and techniques to enhance its members' ability to cope with stress. Resilience training is one option to address coping with stress using self-regulation.

The Milwaukee (Wisconsin) Police Department (MPD), in partnership with Dr. Sandra Ramey of the University of Iowa College of Nursing, was awarded COPS Office microgrant funding for a project entitled "Development and Validation of a Resilience Curriculum at the Academy." The MPD and Dr. Ramey worked with the MPD Academy to complete deliverables including resilience training and program validation. The implementation of a resilience training intervention is highly dependent on the timing of the training. In a recent MPD academy class of 42 cadets ranging in ages from 21 to 53 years, greater job satisfaction of police officers three months after their graduation from the academy was statistically significantly associated with lower emotional stress (p < .001) and lower perceived stress (p = .01) (Ramey et al. 2017). For a different cohort of 38 working Milwaukee police officers, ages 22 to 54 years, with greater longevity on the job, the associations were not statistically significant for emotional and perceived stress *before* nor *after* the resilience training (Ramey et al. 2016). It appears from these early results that the timing of this intervention matters and implementation with recruits at the academy is likely the most effective time to deliver this training. Therefore, the current study focused on implementation of a resilience training program at the academy level.

GOALS AND STRATEGY

Program goals

Develop knowledge. Teach and evaluate an acceptable resilience-training curriculum using *best practice strategies* that have shown promise in the military and elsewhere. Using these tools will facilitate improved performance, communication, and decision-making, thus impacting interactions with the community—especially in potentially stressful situations.

Increase skills and abilities. Build organizational capacity within academy leadership using mentoring with an expected outcome of the academy teaching and facilitating future recruit resilience classes.

Increase practice. Validate the demonstration project by collection and analyses of psychological and physiological outcome measures (including heart rate variability [HRV],[2] measured by coherence[3]) pre- and post-intervention.

Institutionalize practice. Conduct focus groups to glean the perspectives and acceptance of the intervention by recruits; outcome measures include themes extrapolated from the group transcripts.

Increase awareness. Long term, this project increased awareness in multiple agencies about how to use and benefit from provision of training in the academy. Outcomes included the following: (1) dissemination using a COPS Office *Be On the Lookout* publication, (2) a formal report of approximately 30 pages, (3) another publishable paper, and (4) a poster presentation at the Royal College of Nursing International Research April 2018 Conference annual meeting.

All of these outcomes and goals have been accomplished.

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2. HRV is the measure of the heart's naturally occurring changes in beat-to-beat heart rate. While too much variability is harmful to physiological functioning, too little variation indicates a diseased state. HRV is also an important indicator of psychological resiliency and behavioral flexibility as well as the ability to effectively adapt to changing social or environmental demands (McCraty and Nila 2017).
3. Physiological coherence or heart coherence is the ability of the heart's rhythm pattern to become more ordered (McCraty and Nila 2017).
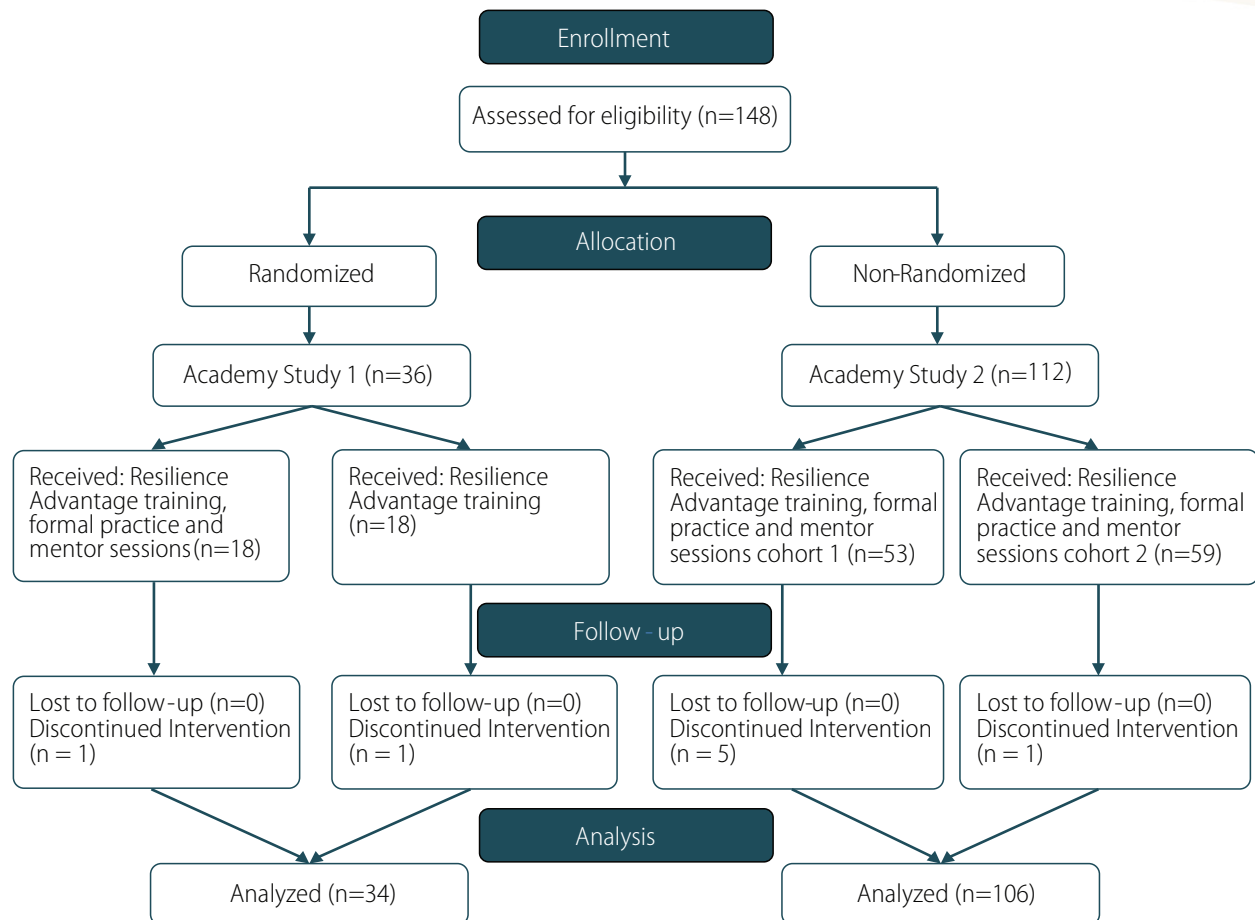
METHODS

Participants and study design

Participants were recruits enrolled in the MPD Police Academy in 2015, 2017, and 2018. All participants reviewed and signed the informed consent before the study. The study was approved by the Institutional Review Board at the University of Iowa. Figure 1 on page 6 reflects the process and sequence for this study and the precursor to this project, which was titled Academy Study 1. Both Academy Study 1 and the current study, Academy Study 2, were supported by funding from the U.S. Department of Justice Office of Community Oriented Policing Services (COPS Office). The combined enrollment for both studies is n = 146. Academy Study 1 employed an experimental design with an intervention and control group (Ramey et al. 2017). The two-hour class version of the Resilience Advantage (RA) was used for both Academy Study 1 and 2.

In Academy Study 2, recruits in two consecutive academy classes (n = 112) received the two-hour RA class; mentoring (four 45-minute sessions) conducted by phone with mental health experts, trained and employed by HeartMath;[4] and 12 weeks of self-regulation practice with the Inner Balance Application loaded on iPad while using an earlobe sensor. The experimental group in Academy Study 1 received the same protocol. Therefore, we decided to combine the Academy Study 1 data with the current Academy Study 2 data and use the control group from Academy Study 1 as a comparison group for the combined intervention group. The boxes in figure 1 labeled "Follow-up" reflect the number of recruits who did not complete the study because of attrition. Reasons for discontinuation included failure at the academy (n = 1), resignation from the academy (n = 2), or voluntary withdrawal from the study (n = 3). In addition, in Academy Study 2, focus groups were conducted approximately eight weeks after graduation to glean (1) the perspectives of the graduates about the program and (2) suggestions for subsequent improvement of the program at the academy.

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4. HeartMath is a series of tools and techniques developed at the Institute of HeartMath to provide a systematic process that enables people to shift into the coherent state and increase their resilience and ability to better self-regulate stress, improve performance, and maintain their composure in real-time, highly challenging situations (McCraty and Nila 2017).

Figure 1. Academy cohort flow diagram

Enrollment

Assessed for eligibility (n=148)

Allocation

Randomized

Non-Randomized

Academy Study 1 (n=36)

Academy Study 2 (n=112)

Received: Resilience Advantage training, formal practice and mentor sessions (n=18)

Received: Resilience Advantage training (n=18)

Received: Resilience Advantage training, formal practice and mentor sessions cohort 1 (n=53)

Received: Resilience Advantage training, formal practice and mentor sessions cohort 2 (n=59)

Follow - up

Lost to follow-up (n=0) Discontinued Intervention (n = 1)

Lost to follow-up (n=0) Discontinued Intervention (n = 1)

Lost to follow-up (n=0) Discontinued Intervention (n = 5)

Lost to follow-up (n=0) Discontinued Intervention (n = 1)

Analysis

Analyzed (n=34)

Analyzed (n=106)

Procedures: Academy Study 2

The RA training program was delivered in the last few weeks of recruit training at the MPD in Milwaukee, Wisconsin, by Dr. Sandra Ramey and one consultant, certified by HeartMath. All recruits attended an initial educational class 120 minutes in duration. The class content included three sections: (1) the physiology of stress, triggers of stress, and awareness of changes in the anterior chest area when encountering stressful situations; (2) instruction and practice on how to modify the autonomic response

to stress by altering breathing and heart rate with biofeedback; and (3) techniques to improve decision-making by focusing on positive rather than negative emotions (e.g., anger and frustration normally associated with stress) to change the physiological response to stress. Class discussion among attendees was encouraged to incorporate real-life events and situations into the conversations. All recruits were given an instructional book and a pocket flip chart that encompassed the class content.

Recruits allocated to the experimental group received an iPad with the HeartMath Inner Balance application preloaded and an earlobe sensor to use with the application. This application allowed recruits to practice techniques learned in the class to alter breathing and heart rate with visible feedback using the iPad screen. The intervention was based on the methodology successfully employed in the military (Laraway and McCraty 2010; Laraway and McCraty 2011) using best practices (Linden and Moseley 2006; Olsson et al. 2010; Palomba et al. 2011; Wang et al. 2010; Xu et al. 2007).

Approximately 10 days after the initial educational class, the recruits in the experimental group attended (in small groups of 10 to 14) the first of four 50-minute tele-mentor sessions. The sessions were led by two mental health experts from HeartMath and conducted via phone conferencing, scheduled approximately two weeks apart. The goals of these mentor sessions included reinforcing course content, improvement in coherence[5] using supported practice, facilitating mentoring among group members, and provision of a venue for recruits to discuss situations they may encounter (on and off the job) where they might apply and use the methods or tools imparted in the class. Further, these sessions modeled benefits for recruits to do check-ins regarding mental health, especially because they were facilitated by mental health professionals. The iPad allowed continual monitoring of recruit practice sessions electronically by Dr. Ramey and facilitated communication via email with the recruits while at the academy and for the two months after graduation.

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5. Physiological coherence or heart coherence is the ability of the heart's rhythm pattern to become more ordered (McCraty and Nila 2017).

Measures

All participants in Academy Study 2 completed electronically comprehensive self-reported measures (table 1) of stress at three time points: (1) baseline (during the first week of resilience training), (2) graduation from the academy, and (3) approximately two months after the recruits began their duties as working police officers. These self-reported stress measures were designed to assess both personal and occupational stressors, a component missing in previous studies. The iPads captured recruits' HRV[6] during their practice sessions. These data from practice were used to determine the effects and to measure expected outcomes of the training. The biological data were triangulated with the surveillance data.

Table 1. Psychological measures of stress

Type of Stress	Variables	Instrument	Reliability and Validity
Personal	Global measure of stress	**Perceived stress scale:** 14-item survey answers Likert responses.*	Cronbach's alpha .75*
	Vital exhaustion	**Maastricht questionnaire 9-item version of form B:** including feelings of fatigue, irritability, and demoralization answers Likert responses.†	Cronbach's alpha .83‡
Acute	Critical incident stress and post-traumatic stress syndrome	**Impact events scale:** 15-item measure response to critical incident stress after a traumatic event.§	Cronbach's alpha for .87 for the total scale.§
Organizational	Personal and organizational constructs	**Personal and organizational quality assessment-R:** 53-item measures physical stress, resilience, organizational climate and work performance.**	Cronbach's alpha for subscales .76–.92**
Resilience	Cognitive flexibility	**Response to stressful experiences scale**††	Cronbach's alpha .91–.93††
	Meaning making, active coping, spirituality		

*Cohen, Kamarck, and Mermelstein (1983).
†Corcoran and Fischer (1994).
‡Appels and Schouten (1991).
§Horowitz, Wilner, and Alverez (1979).
**Barrios-Choplin and Atkinson (2000).
††Johnson et al. (2011).

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6. HRV is the measure of the heart's naturally occurring changes in beat-to-beat heart rate. While too much variability is harmful to physiological functioning, too little variation indicates a diseased state. HRV is also an important indicator of psychological resiliency and behavioral flexibility as well as the ability to effectively adapt to changing social or environmental demands (McCraty and Nila 2017).

Survey data were collected using the REDCap platform, which supports online survey design and administration as well as data collection, storage and management. REDCap is supported by the Institute for Clinical and Translational Science (ICTS), which is the University of Iowa's National Institutes of Health (NIH)–funded Clinical and Translational Science Awards (CTSA) program.[7] The baseline survey was sent at the beginning of the academy training, the graduation survey was sent at the end of the academy training, and the follow-up survey was sent two months after the graduation survey was completed. For those who did not respond to their survey right away, reminder emails were sent every two days, up to five times.

Approximately three months after the academy resilience training, focus group sessions were held with recent academy graduates as they began their jobs; sessions lasted 30–45 minutes and were held at a central district location. Conducting focus groups with the recruits approximately three months after the intervention not only explored how officers applied what they learned in the resilience training to stressful situations they encounter on the job but also discovered other anecdotal experiences that may have occurred (from the recruit perspective) post-intervention that cannot be captured by the quantitative analysis. This feedback loop was used to hone and improve the training.

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7.   Administered through the National Institutes of Health, the CTSA Program "is designed to develop innovative solutions that will improve the efficiency, quality, and impact of the process for turning observations in the laboratory, clinic, and community into interventions that improve the health of individuals and the public." (NIH 2020)

STATISTICAL ANALYSIS

SAS 9.4 was used for data analysis. Demographic, lifestyle, and health characteristics were summarized separately for participants in the current Academy Study 2 and for the sample combining Academy Study 1 and Academy Study 2 participants. Descriptive statistics were calculated, and distributions were examined for all Academy Study 2 variables, including measures of training use (e.g., coherence, number and duration of practice sessions) and measures of stress and resilience at baseline, graduation, and two-month follow-up.

For Academy Study 2 data, change in coherence, defined as the difference between the baseline and the highest coherence score in any practice session, was tested using the Wilcoxon signed-rank test. The relationships between the change in coherence and (1) baseline coherence, (2) the number of practice sessions, and (3) changes in all measures of stress and resilience at graduation and two months on the job were examined with the Spearman's rank-order correlation (r_s). A paired-sample t-test was used to test the changes in all measures of stress and resilience between baseline and graduation and three months post-graduation. Changes in measures of stress and resilience were compared for participants attending 0–2, 3, and all 4 mentor sessions using the one-way ANOVA F-test.

Linear mixed models (LMM) were developed with SAS Procedure Mixed to compare RA training participants and controls on measures of stress and resilience; for this analysis data from Academy Study 1 and Academy Study 2 were combined. To account for the within-subject correlation due to repeated measurements, a compound symmetry covariance structure was used. The models included fixed effects of time (baseline versus graduation—no follow-up data were collected in Academy Study 1) and group (RA training versus controls) and the interaction between time and group. Participants' age and gender were tested as potential covariates and included in the models if statistically significant at $p < .05$. Estimates from the models were used to test changes in outcomes from baseline to graduation for both RA training and control groups and to compare the groups at baseline, graduation, and on the change.

QUALITATIVE DATA ANALYSIS

Focus groups had a semi-structured interview layout aiding in eliciting responses to the focus group questions. The sessions were audio recorded using a digital audio recorder and the audio recordings were later transcribed. Content analysis was used to identify emerging themes and subthemes within the quantitative data. Trends within the data were identified using QSR NVivo 10©, a computer program for analyzing qualitative data sets. Summarizations of group themes and individual quotes are used in the results.

RESULTS

Sample

As depicted by the cohort diagram (figure on page 6), Academy Study 1 included 36 recruits; two recruits left the academy during the study, and 34 recruits completed the study. Academy Study 2 enrolled 112 recruits: 53 in the first cohort and 59 in the second cohort. Six recruits left the academy during the study, and 106 recruits completed the study. Table 2 on page 16 displays demographic, lifestyle, and health characteristics for three samples: participants from Academy Study 2 only, for the combined sample of RA training participants from Academy Study 1 and Academy Study 2, and for Academy Study 1 controls. The majority of participants in Academy Study 2 (n = 106) were male (84.0%), with 71.7% being White and 17.9% African American. On average, participants in Academy Study 2 were 28.8 ± 6.2 (mean ± SD) years of age, ranging from 21 to 53 years. With regard to their health, 68.9% and 81.1% self-reported never being diagnosed with hypertension and hypercholesterolemia, respectively. No participant had cardiovascular disease (CVD) and only two participants (1.9%) reported a diagnosis of diabetes. The majority of participants (77.3%) reported fairly good or very good sleep quality in the past months.

The combined sample of participants who completed RA training in the Academy Study 1 and Academy Study 2 (n = 123) was similar to the Academy Study 2 only sample (n = 106) in terms of age (28.2 ± 6.3, ranging from 21 to 53 years of age), gender (83.7% male), race (69.9% White and 19.5% African American) and health characteristics. The controls from the Academy Study 1 (n = 17) were slightly younger (27.0 ± 6.1, ranging from 21 to 44 years of age), 82.4% male, 82.4% White, and 5.9% African American. Nearly all participants in both studies self-reported engaging in physical activity in the past month. There were no statistically significant differences between the RA training and control groups.

Table 2. Demographic, lifestyle, and health characteristics for participating law enforcement officers

Variable	Academy Study 2		Academy 1 & 2: RA training		Academy 1 controls	
	n	Mean ± SD (Range)	n	Mean ± SD (Range)	n	Mean ± SD (Range)
Age (years)	106	28.8 ± 6.2 (21–53)	123	28.2 ± 6.3 (21–53)	17*	27.0 ± 6.1 (21–44)
	n	%	n	%	n	%
Gender						
Male	89	84.0	103	83.7	14	82.4
Female	17	16.0	20	16.3	3	17.7
Race						
African American	19	17.9	24	19.5	1	5.9
White	76	71.7	86	69.9	14	82.4
Asian	3	2.8	3	2.4	0	0.0
American Indian/Alaska Native	1	0.9	1	0.8	1	5.9
Other	3	2.8	4	3.3	0	0.0
More than one race	3	2.8	4	3.3	1	5.9
Unknown	1	0.9	1	0.8	0	0.0
Ethnicity Latino						
Yes	28	26.4	32	26.0	3	17.7
No	78	73.6	91	74.0	14	82.4
Engaged in physical activity						
Yes	102	96.2	119	96.8	17	100.0
No	4	3.8	4	3.3	0	0.0
Hypertension						
More than once	12	11.3	13	10.6	0	0.0
Only once	17	16.0	19	15.5	6	35.3
Never	73	68.9	87	70.7	11	64.7
Not sure	4	3.8	4	3.3	0	0.0

|	Academy Study 2		Academy 1 & 2: RA training		Academy 1 controls	
Hypercholesterolemia						
Yes	11	10.4	12	9.8	4	23.5
No	86	81.1	102	82.9	13	76.5
Not sure	9	8.5	9	7.3	0	0.0
CVD[†]						
Yes	0	0.0	0	0.0	0	0.0
No	106	100.0	123	100.0	17	100.0
Diabetes						
Yes	2	1.9	2	1.6	0	0.0
No	104	98.1	121	98.4	17	100.0
Sleep quality in past month						
Very good	12	11.3	14	11.4	3	17.7
Fairly good	70	66.0	84	68.3	9	52.9
Fairly bad	23	21.7	24	19.5	5	29.4
Very bad	1	0.9	1	0.8	0	0.0

*Age was missing for one subject.

†CVD = cardiovascular disease.

Percentages may not sum to 100% because of rounding.

RA training use and coherence scores

For the participants in Academy Study 2 (n = 106), the total number of practice sessions ranged from 0 to 175, averaging 40.9 ± 41.7 and the total time in the sessions ranged from 3.6 to 3,715.7 minutes, averaging 275.4 ± 479.6. The highest coherence score observed after the start of the training ranged from 1.5 to 7.0, averaging 4.5 ± 1.4, and was higher on average by 1.6 ± 1.5 (p<.001) than mean baseline coherence score of 2.9 ± 1.3 (range = 0.6–6.3). The change in coherence (highest coherence score minus baseline coherence score) correlated negatively with baseline coherence (r_s = -.50, p<.001) and positively with the number of practice sessions (rs = .46, p<.001). These associations are illustrated by the scatterplots shown in figures 2 and 3 on page 18. The majority of participants (n = 74, 70.5%) attended 4 mentor sessions, while 17.1% (n = 18) attended 3 sessions and 12.4% (n = 13) attended 0–2 sessions.

Figure 2. Change in coherence by coherence at baseline
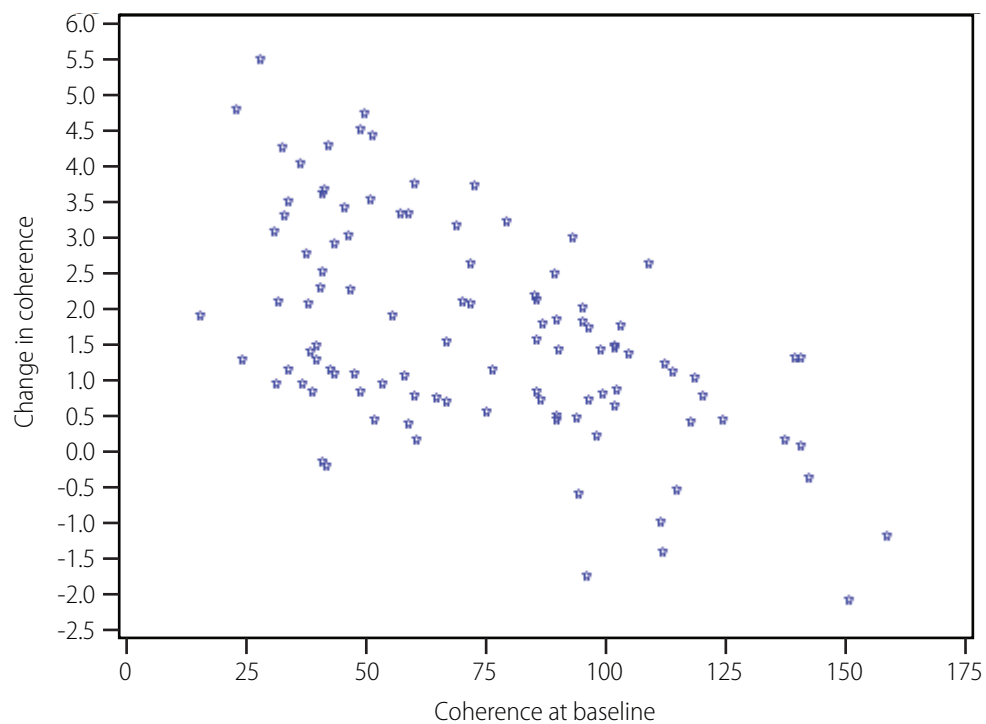
Figure 3. Change in coherence by the number of practice sessions
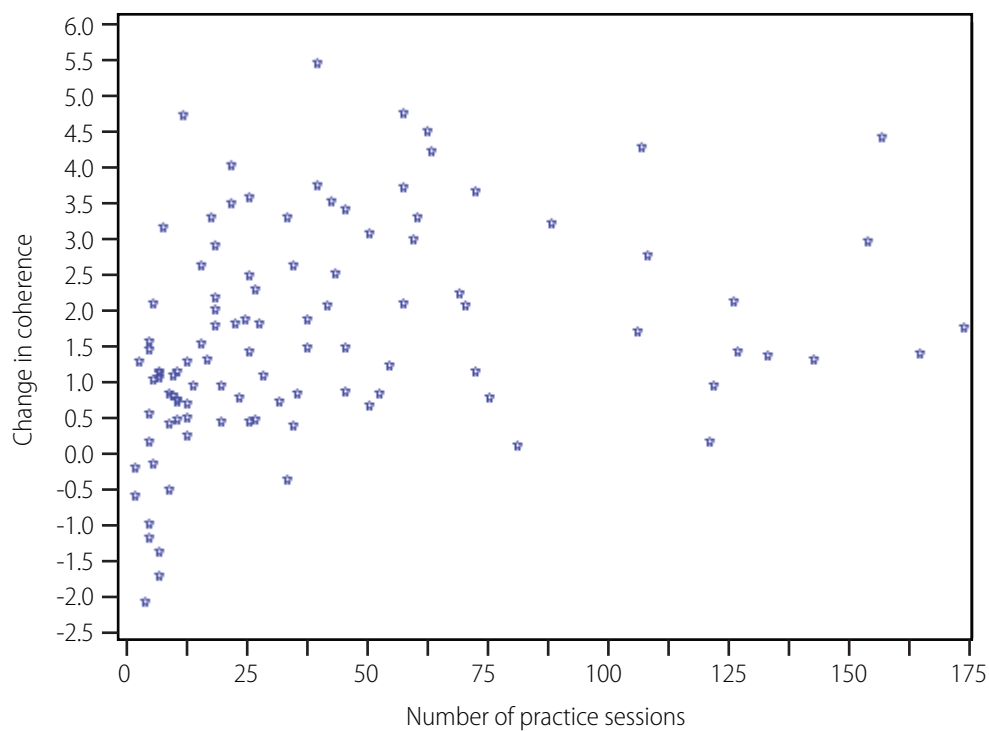
Measures of stress and resilience

Academy study 2

Table 3 presents descriptive statistics for measures of stress and resilience for participants in Academy Study 2 (n = 106). Means, standard deviations, and ranges are shown for baseline (i.e., pre–RA training) scores and changes in scores at 2 months (i.e., graduation) and 5 months since baseline (i.e., approximately 2 months on the job), along with corresponding p-values for the dependent samples t-tests. At graduation, statistically significant improvements were observed for scores on the Perceived Stress Scale (p=.01), Organizational Stress Scale (p=.002), including Relational Tension subscale (p=<.001) and "How stressed have you been" question (p=.01), and Physical Stress Scale (p=.01), including Fatigue subscale (p=.001). The improvements on the Perceived Stress Scale and Organizational Stress Scale remained statistically significant after two months on the job. Also, after two months on the job, a statistically significant improvement was observed for the Impact of Events Scale score (p<.001), including both subscales (p=.005 for Intrusive subscale and p=.001 for Avoidance subscale). However, the mean score on the Emotional Vitality scale decreased from baseline to graduation and two months on the job (p=.04 and .03, respectively), while the mean score on Intention to Quit subscale of the Organizational Stress Scale increased from baseline to graduation and two months on the job (p=.04 and .01, respectively).

Table 3. Descriptive statistics for measures of stress and resilience for participants in Academy Study 2 at baseline and changes at graduation and follow-up

	Baseline/Pre-RA training			Change at graduation (2 months* minus baseline)				Follow-up change (4 months[†] minus baseline)			
	n	M ± SD	Range	n	M ± SD	Range	p[‡]	n	M ± SD	Range	p[§]
Perceived Stress Scale (0–56)	106	18.07 ± 6.51	3.00–33.00	101	-1.46 ± 5.76	-18.00–21.00	.01	97	-1.47 ± 7.24	-21.00–22.00	.05
Vital Exhaustion (9–27)	106	13.09 ± 4.10	9.00–25.00	98	-0.58 ± 4.16	-13.00–9.00	.17	96	-0.26 ± 4.43	-10.00–12.00	.57
Response to Stressful Experiences Scale (0–88)	106	74.58 ± 11.30	44.00–88.00	98	-0.40 ± 9.30	-34.00–24.00	.67	95	-0.20 ± 12.76	-46.00–25.00	.88
Impact of Events Scale											
Total Stress Score (0–75)	106	17.59 ±14.23	0.00–63.00	97	-0.57 ± 13.67	-32.00–42.00	.68	96	-4.25 ± 11.38	-28.00–28.00	<.001
Intrusive Subscale (0–35)	106	6.58 ± 6.93	0.00–29.00	97	0.11 ± 7.02	-20.00–21.00	.87	96	-1.67 ± 5.65	-18.00–17.00	.005
Avoidance Subscale (0–40)	106	11.01 ± 8.78	0.00–34.00	97	-0.68 ± 8.45	-25.00–21.00	.43	96	-2.58 ± 7.48	-25.00–17.00	.001

Table 3, continued

Personal & Organizational Quality Assessment											
Emotional Vitality Scale (1–7)	105	5.32 ± 1.02	2.79–7.00	95	-0.19 ± 0.89	-3.50–1.43	.04	94	-0.22 ± 0.95	-3.28–2.14	.03
Emotional Buoyancy (1–7)	105	5.47 ± 1.10	2.75–7.00	95	-0.17 ± 1.07	-4.50–2.13	.13	94	-0.15 ± 0.94	-2.50–2.75	.12
Emotional Contentment (1–7)	106	5.14 ± 1.08	2.83–7.00	96	-0.25 ± 1.05	-3.67–1.83	.02	95	-0.32 ± 1.30	-4.83–2.17	.02
Organizational Stress Scale (1–7)	105	3.24 ± 0.98	1.00–6.13	92	-0.32 ± 0.97	-2.73–1.34	.002	94	-0.31 ± 0.97	-2.35–1.77	.003
Pressures of Life (1–7)	105	2.83 ± 1.15	1.00–6.00	93	-0.08 ± 1.13	-3.80–2.00	.50	94	0.20 ± 1.22	-2.60–3.60	.11
Relational Tension (1–7)	104	3.91 ± 1.42	1.00–7.00	91	-0.74 ± 1.46	-4.33–3.00	<.001	92	-1.12 ± 1.56	-5.00–2.34	<.001
Intention to Quit (1–7)	105	1.32 ± 0.71	1.00–4.00	91	0.17 ± 0.79	-2.50–3.00	.04	93	0.27 ± 0.93	-2.00–3.00	.01
How stressed have you been (1–15)	106	6.57 ± 3.33	1.00-15.00	96	-0.86 ± 3.24	-11.00–6.00	.01	95	-1.04 ± 3.49	-12.00–7.00	.005
Emotional Stress Scale (1–7)	105	1.78 ± 0.52	1.00–3.47	95	0.00 ± 0.51	-1.14–1.80	.95	94	-0.10 ± 0.53	-1.47–1.80	.08
Anxiety and Depression (1–7)	106	1.79 ± 0.60	1.00–3.86	96	-0.04 ± 0.59	-1.57–1.86	.53	95	-0.12 ± 0.64	-1.72–2.29	.08
Anger and Resentment (1–7)	105	1.78 ± 0.55	1.00–3.50	95	0.03 ± 0.56	-1.37–2.13	.60	94	-0.09 ± 0.55	-1.50–1.75	.12
Physical Stress Scale (1–6.8)	106	2.17 ± 0.76	1.00–4.60	96	-0.19 ± 0.65	-1.60–2.00	.01	95	-0.16 ± 0.82	-2.30–2.00	.07
Health Symptoms (1–6.8)	106	1.88 ± 0.66	1.00–4.00	96	-0.10 ± 0.62	-1.83–2.00	.12	94	-0.12 ± 0.71	-1.66–2.00	.11
Fatigue (1–6.8)	106	2.60 ± 1.06	1.00–5.50	96	-0.33 ± 0.95	-2.75–2.00	.001	95	-0.21 ± 1.20	-3.50–2.75	.08

* 2-month data were collected at graduation from the academy.

† Follow-up data were collected 2 months after graduation from the academy (approximately 4 months from baseline).

‡ *p*-values for t-tests of changes from baseline to graduation

§ *p*-values for t-tests of changes from baseline to follow-up after graduation

Lower scores indicate less stress or exhaustion for Perceived Stress Scale, Vital Exhaustion, and Impact of Events Scale. Higher scores indicate better coping for Response to Stressful Experiences Scale. On the Personal and Organizational Quality Assessment, higher scores indicate better emotional health for the Emotional Vitality Scale, while lower scores indicate lower levels of stress for the Organizational Stress Scale, the Emotional Stress Scale, and the Physical Stress Scale. M = mean; SD = standard deviation.

Comparison of participants attending 0–2, 3, or all 4 mentor sessions revealed significant differences among the groups with respect to their mean two-month changes on the Impact of Events Scale (p=.03) and Emotional Stress Scale (p=.03) scores. However, mean changes on these measures did not follow a particular pattern. For example, scores on the Impact of Events Scale increased, on average, by 7.0 ± 18.3 points for participants who attended 0–2 mentor sessions, decreased by 7.1 ± 14.8 points for participants who attended 3 sessions, and changed little (-0.2 ± 11.8) for participants who attended all 4 sessions.

At two months since graduation no differences among the groups were observed. Of the correlations between the change in coherence and all measures of stress and resilience at graduation and two months on the job, only one was statistically significant at alpha = .05 level (r_s = -.25, p<.02, for Emotional Buoyancy subscale of the Emotional Vitality Scale, at graduation only).

Combined Academy Study 1 and Academy Study 2 samples

Table 4 beginning on page 22 presents descriptive statistics for measures of stress and resilience at baseline and graduation as well as changes in these measures at graduation for the combined RA training group (Academy Study 1 and Academy Study 2 participants) and the control group (Academy Study 1 participants). The table also reports p-values for testing model-estimated changes from baseline to graduation for both groups and for comparisons of the groups at baseline, graduation, and on the change. All models included the fixed effects for group, time, and the group*time interaction. The model for the "How stressed have you been" question included gender as it was a statistically significant covariate only for this outcome (p=.03). Age was not a significant covariate for any of the outcomes. The results for the RA training combined sample were similar to the results for the Academy Study 2 only sample described earlier. At graduation, statistically significant improvements were observed for scores on the Perceived Stress Scale (p=.02), Organizational Stress Scale (p=.01), including Relational Tension subscale (p<.001) and "How stressed have you been" question (p=.01), and Physical Stress Scale (p=.01), including Fatigue subscale (p=.01). The mean score on Intention to Quit subscale of the Organizational Stress Scale increased from baseline to graduation for the combined RA training sample (p =.04). However, the decrease on the Emotional Vitality scale from baseline to graduation was not statistically significant for the combined sample (p=.11). No baseline to graduation changes were statistically significant for the controls, although, for some outcomes, changes were similar in magnitude between the groups (e.g., mean Perceived Stress Scale score decreased by 1.33 ± 5.76, p=.02 for RA training, versus 1.24 ± 6.75, p=.39 for controls). Comparisons of groups on changes did not reveal statistically significant differences for all outcomes except for Intention to Quit subscale: Mean score increased by 0.15 ± 0.76, p=.04, for RA training and decreased by 0.31 ± 1.00, p=.11, for controls, which resulted in p=.03 for the comparison of changes. Comparing group changes in absolute sense, the mean score on "How stressed have you been" question decreased by 0.88 ± 3.34 (p=.01) for RA training participants while slightly increased for the controls (0.14 ± 4.35, p=.92). RA training participants also improved on the Physical Stress Scale that includes Health Symptoms and Fatigue subscales (-0.17 ± 0.68, p=.01) while controls showed minimal change on this outcome (0.03 ± 0.86, p=.83). Also worth mentioning is the difference between the groups in absolute changes on the Impact of Events Scale: The mean total stress score showed no change for RA training participants (-0.04 ± 14.20, p=.97) and increased for controls, although not statistically significantly (3.35 ± 17.41, p=.35).

Table 4. Descriptive statistics for measures of stress and resilience by treatment group (RA training group includes participants in Academy Study 1 and Academy Study 2, and control group includes participants in Academy Study 1 only)

	RA Training				Control			
	N	M ± SD	Range	P*	N	M ± SD	Range	P*	p†
Perceived Stress Scale (0–56)								
Baseline	123	17.51 ± 6.43	3.00–33.00		17	14.65 ± 5.63	5.00–24.00		.10
Graduation	117	16.24 ± 7.06	2.00–36.00		17	13.41 ± 6.83	4.00–26.00		.11
Change‡	117	-1.33 ± 5.76	-18.00–21.00	.02	17	-1.24 ± 6.75	-11.00–14.00	.39	.96
Vital Exhaustion (9–27)								
Baseline	123	12.83 ± 3.95	9.00–25.00		17	11.71 ± 2.89	9.00–18.00		.27
Graduation	114	12.43 ± 4.16	9.00–25.00		16	11.25 ± 2.18	9.00–17.00		.27
Change‡	114	-0.50 ± 4.06	-13.00–10.00	.21	16	-0.50 ± 2.25	-5.00–3.00	.62	.98
Response to Stressful Experiences Scale (0–88)								
Baseline	123	74.20 ± 11.49	40.00–88.00		16	73.44 ± 11.89	54.00–88.00		.78
Graduation	114	73.62 ± 12.81	44.00–88.00		17	75.24 ± 10.43	56.00–88.00		.68
Change‡	114	-0.16 ± 9.10	-34.00–24.00	.74	16	1.94 ± 4.73	-10.00–9.00	.38	.35
Impact of Events Scale								
Total Stress Score (0–75)								
Baseline	123	16.75 ± 13.98	0.00–63.00		17	12.12 ± 13.13	0.00–50.00		.21
Graduation	113	16.87 ± 14.24	0.00–46.00		17	15.47 ± 15.17	0.00–49.00		.72
Change‡	113	-0.04 ± 14.20	-38.00–42.00	.97	17	3.35 ± 17.41	-17.00–45.00	.35	.39
Intrusive Subscale (0–35)								
Baseline	123	6.29 ± 6.82	0.00–29.00		17	4.76 ± 6.70	0.00–27.00		.39
Graduation	113	6.55 ± 6.93	0.00–25.00		17	6.76 ± 7.39	0.00–23.00		.90
Change‡	113	0.22 ± 7.22	-20.00–21.00	.72	17	2.00 ± 7.66	-10.00–17.00	.26	.35
Avoidance Subscale (0–40)								
Baseline	123	10.46 ± 8.58	0.00–34.00		17	7.35 ± 7.41	0.00–23.00		.15
Graduation	113	10.32 ± 8.26	0.00–30.00		17	8.71 ± 8.53	0.00–30.00		.47
Change‡	113	-0.26 ± 8.61	-25.00–21.00	.82	17	1.35 ± 11.01	-15.00–28.00	.53	.51
Personal and Organizational Quality Assessment								
Emotional Vitality Scale (1–7)								
Baseline	122	5.35 ± 1.01	2.79–7.00		16	5.58 ± 0.72	4.29–6.57		.55
Graduation	111	5.20 ± 1.14	2.79–7.00		17	5.65 ± 0.88	3.93–7.00		.11
Change‡	111	-0.12 ± 0.89	-3.50–1.50	.11	16	0.18 ± 0.45	-0.50–0.93	.50	.23

		RA Training				Control			
	N	M ± SD	Range	P*	N	M ± SD	Range	P*	p†
Emotional Buoyancy (1–7)									
Baseline	122	5.50 ± 1.08	2.75–7.00		16	5.72 ± 0.81	4.00–7.00		.65
Graduation	111	5.34 ± 1.23	2.50–7.00		17	5.77 ± 1.01	3.63–7.00		.18
Change‡	111	-0.10 ± 1.04	-4.50–2.13	.19	16	0.19 ± 0.46	-0.75–1.00	.59	.33
Emotional Contentment (1–7)									
Baseline	123	5.16 ± 1.09	2.83–7.00		16	5.41 ± 0.91	4.00–6.67		.50
Graduation	112	5.00 ± 1.26	2.00–7.00		17	5.51 ± 1.00	3.33–7.00		.09
Change‡	112	-0.16 ± 1.07	-3.67–2.43	.11	16	0.18 ± 0.90	-1.67–2.17	.58	.28
Organizational Stress Scale (1–7)									
Baseline	122	3.18 ± 1.01	1.00–6.13		16	2.58 ± 0.94	1.19–4.63		.04
Graduation	108	2.91 ± 1.02	1.00–5.89		17	2.29 ± 1.09	1.00–5.02		.02
Change‡	108	-0.31 ± 1.03	-3.16–1.99	.01	16	-0.38 ± 1.23	-2.40–2.88	.21	.87
Pressures of Life (1–7)									
Baseline	122	2.81 ± 1.14	1.00–6.00		16	2.55 ± 1.17	1.00–4.80		.48
Graduation	109	2.78 ± 1.20	1.00–6.20		17	2.15 ± 1.21	1.00–5.80		.05
Change‡	109	-0.09 ± 1.18	-3.80–3.40	.66	16	-0.48 ± 1.50	-3.00–3.40	.16	.25
Relational Tension (1–7)									
Baseline	121	3.78 ± 1.46	1.00–7.00		16	2.46 ± 1.25	1.00–5.00		<.001
Graduation	108	3.10 ± 1.29	1.00–6.33		17	2.18 ± 1.14	1.00–4.67		.01
Change‡	107	-0.69 ± 1.45	-4.33–3.00	<.001	16	-0.44 ± 1.17	-2.67–1.66	.32	.38
Intention to Quit (1–7)									
Baseline	121	1.31 ± 0.68	1.00–4.00		16	1.50 ± 0.91	1.00–4.50		.37
Graduation	107	1.47 ± 0.95	1.00–5.50		17	1.18 ± 0.50	1.00–3.00		.18
Change‡	106	0.15 ± 0.76	-2.50–3.00	.04	16	-0.31 ± 1.00	-3.50–1.00	.11	.03
How stressed have you been (1–15)									
Baseline	123	6.37 ± 3.28	1.00–15.00		14	6.36 ± 2.90	2.00–12.00		.89
Graduation	111	5.54 ± 3.18	1.00–15.00		17	6.35 ± 3.35	1.00–13.00		.33
Change‡	111	-0.88 ± 3.34	-11.00–6.00	.01	14	0.14 ± 4.35	-6.00–9.00	.92	.33
Emotional Stress Scale (1–7)									
Baseline	122	1.78 ± 0.52	1.00–3.47		16	1.52 ± 0.51	1.00–2.93		.06
Graduation	111	1.79 ± 0.61	1.00–3.67		17	1.57 ± 0.51	1.00–2.60		.14
Change‡	111	-0.01 ± 0.54	-1.14–1.80	.98	16	0.07 ± 0.37	-0.60–0.78	.61	.64

Table 4, continued

	RA Training				Control			
	N	**M ± SD**	**Range**	**P***	**N**	**M ± SD**	**Range**	**P***	**p†**
Anxiety and Depression (1–7)								
Baseline	123	1.77 ± 0.57	1.00–3.86		16	1.45 ± 0.43	1.00–2.43		.04
Graduation	112	1.76 ± 0.65	1.00–4.00		17	1.46 ± 0.48	1.00–2.57		.06
Change‡	112	-0.03 ± 0.60	-1.57–1.86	.62	16	0.02 ± 0.38	-0.43–0.71	.92	.78
Anger and Resentment (1–7)								
Baseline	122	1.79 ± 0.59	1.00–4.38		16	1.58 ± 0.63	1.00–3.38		.17
Graduation	111	1.82 ± 0.67	1.00–3.63		17	1.67 ± 0.61	1.00–2.88		.40
Change‡	111	0.01 ± 0.60	-1.37–2.13	.73	16	0.12 ± 0.46	-0.75–0.84	.46	.57
Physical Stress Scale (1–6.8)								
Baseline	123	2.13 ± 0.74	1.00–4.60		16	1.75 ± 0.65	1.00–3.10		.06
Graduation	112	1.97 ± 0.75	1.00–5.00		17	1.80 ± 0.77	1.00–4.00		.40
Change‡	112	-0.17 ± 0.68	-1.60–2.50	.01	16	0.03 ± 0.86	-1.77–2.30	.83	.28
Health Symptoms Scale (1–6.8)								
Baseline	123	1.84 ± 0.65	1.00–4.00		16	1.60 ± 0.58	1.00–3.33		.17
Graduation	112	1.75 ± 0.67	1.00–3.83		17	1.67 ± 0.59	1.00–3.17		.64
Change‡	112	-0.10 ± 0.64	-1.83–2.00	.12	16	0.05 ± 0.73	-2.13–1.34	.70	.36
Fatigue (1–7)								
Baseline	123	2.56 ± 1.04	1.00–5.50		16	1.98 ± 0.99	1.00–4.50		.04
Graduation	112	2.30 ± 1.08	1.00–7.00		17	2.00 ± 1.10	1.00–5.25		.30
Change‡	112	-0.30 ± 1.02	-2.75–3.75	.01	16	0.00 ± 1.36	-2.00–3.75	.98	.31

* p-values for changes from baseline to graduation

† p-values for comparisons of RA training and control groups at baseline, graduation, and on the change

‡ Change scores were calculated by subtracting baseline scores from the scores collected at graduation from the academy; p-values were obtained using t-tests with estimates from linear mixed models for each outcome.

Lower scores indicate less stress or exhaustion for Perceived Stress Scale, Vital Exhaustion, and Impact of Events Scale. Higher scores indicate better coping for Response to Stressful Experiences Scale. On the Personal and Organizational Quality Assessment, higher scores indicate better emotional health for the Emotional Vitality Scale, while lower scores indicate lower levels of stress for the Organizational Stress Scale, the Emotional Stress Scale, and the Physical Stress Scale. M = mean; SD = standard deviation;

Focus Group Thematic Analyses

Recruits (n = 40, which equates to 38% of the n = 106 recruits from study 2) attended the focus groups and the majority reported important benefits from use of the techniques. Reports from recruits included feeling calmer in training situation (e.g., firearms and active shooter scenarios) with improvement in the clarity of their thinking. Recruits reported using the breathing techniques at home and in their personal lives outside of the work environment—for example, at the gym during workouts and in rush-hour traffic.

COMMUNITY INVOLVEMENT

When asked, *do you think that you are more likely or less likely to get involved in the community after you graduate, given your experience in this project* the most prevalent responses included the following:

- My Field Training Officer (FTO) promotes staying involved in the community.

- If you do better, they do better and staying calm with the community members.

A few participants mentioned they currently are involved and plan to stay involved with activities in the communities where they work.

When asked, *how have your views on police officer or personal health changed*, common responses included the following:

- The importance of healthy dietary choices and sleep have become very apparent.

- Staying positive and finding appropriate outlets such as talking or exercising.

One recruit shared about learning how to "take the uniform off when off duty" to help make a mental and physical transition from work to home. Even after just two months on the job, new police officers became aware of the high amount of sitting time associated with the job.

Problem solving

When asked, *have your views on what you can personally do to solve problems when stressful situations in the community arise changed,* common themes included the following:

- Taking your time and asking questions.

- Breathing during stressful situation and when talking with difficult people.

- Focusing on trying to stay calm and relaxed.

Breathing during and after pursuits or shootings and gun involvement was mentioned, as was reminding worked-up civilians to also *breathe*. Several group participants voiced that they already used a breathing technique and others identified additional strategies they use to cope.

Relevance of training to community

When asked, *is the resilience training related to the communities you work with*, participants stated the following:

- Helping civilians breathe during stressful situations to calm them [is related to this training].

- Treating people within the community with respect as the two main ways the training is relevant to the community.

Improving interaction

When asked, *what kinds of things do you think you'll do, if any, to improve community interactions and/or family interactions*, the participants specified the following:

- Breathe in my vehicle and try to relax while driving home or in the driveway before entering home.

- Talk things out.

- Use the new breathing techniques to cope with aggressive family members.

They also mentioned using the breathing technique during interactions with their spouses and children.

Program feedback

When asked, *what parts of the training did you find most helpful*, the frequent responses were the following:

- Initial information/training is research based

- Breathing technique

- iPad and sensors

- Email reminders

- Use of the breathing technique during active shooter training and in traffic

When asked, *what should be changed in the resilience curriculum*, the followed were suggested:

- Smaller device; iPads were too big to carry around

- Mentor sessions need to be face to face

- Get the training earlier in the academy

- Have the buy in of all staff at the academy and train all academy instructors

- Train the FTOs in the Resilience Advantage

When asked, *what was least helpful or the least relevant aspect of the training from your view*, the following were identified:

- Mentor sessions

- Offered too late into the academy

- Mandatory nature of the training, e.g., "Forced to do the breathing;" bulky iPads and preferred a phone app for practice

- Unrelated to this project but voiced was a need to acclimate to all the paperwork on the computer they are expected to do in the Field Training

Participants self-reported that they did appreciate that the iPad software used colors—red, green, blue—to show their success with the breathing exercises, but still suggested the same amount of money could have been better spent on a different and smaller practice device. When asked, *what aspects of the training did you share with others? With whom did you share aspects of the study; please explain the context*, sharing with family specifically wives, mothers, and girlfriends was mentioned frequently. They also shared the training and what they were doing with friends and especially those with military training.

Our analyses of focus group data further illuminate officer perspectives and differences in how recruits and officers with greater longevity on the job approach community situations. Community perspectives about LEOs' role clearly matter greatly to the new officers; they wonder how their communities will view them. However, they recognize it will take time to overcome or change some community perceptions. Moreover, new officers become acutely aware that LEOs with greater tenure on the job sometimes handle situations differently. More needs to be gleaned about LEOs' and correctional officers' perspectives on stress and how these constructs impact their resilience, perceived stress, health, and job performance.

DISCUSSION

The current study examined the efficacy of implementing a resilience training program at the academy level in MPD recruits. Results indicated RA training significantly increased coherence from baseline and was positively associated with the number of practice sessions. According to McCraty and Nila (2017), optimal levels of coherence are associated with improved self-regulation, mental capacities, and emotional stability. With continued practice, these optimal states become innate in stressful situations (p. 259).

It is crucial that law enforcement officers be able to regulate stress to minimize impact on their physical and mental health. Recruits who completed the RA training generally reported reduced perceived stress, organizational stress, relational tension, and physical stress on graduation from the Police Academy, while control participants did not demonstrate significant improvements. For Academy Study 2 participants, all of whom completed the RA training, perceived stress and organizational stress remained significantly reduced from baseline after two months on the job and Impact of Events stress scores improved significantly by two months on the job. Also worth mentioning is that an absence of statistically significant improvements from baseline (e.g., for vital exhaustion and response to stressful events) does not automatically mean that intervention was not effective in improving these outcomes after graduation from the academy. Compared to fresh academy recruits, stress levels are reasonably expected to increase when LEOs start their jobs. The control group in this study was not followed up 2 months after graduation; thus, we are unable to compare stress levels between those who completed the RA training and those who did not when they are settled on their jobs. More research is needed to close this gap.
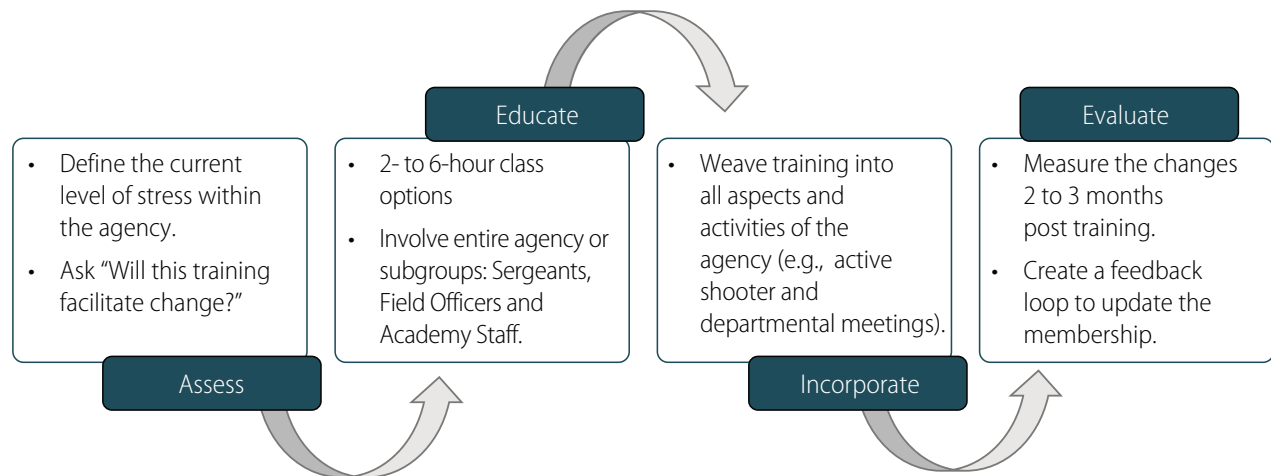
The majority of recruits pointed out how the intervention was effective for them both in terms of job performance and interacting with the community.

Recommendations for integration of a resilience training program

Goals of the project included creation of a model for other agencies to follow (figure 4 on page 30). The first step in the process is to define where the agency is at the onset. Good things to ask include (1) why the training is necessary, (2) what needs to change within the organization, and (3) how improving resilience will help officers on and off the job. Use existing tools like Personal and Organizational Quality Assessment to assess stress in the organization. Alternatively, open discussion, interviews, or focus groups can help define further define where the agency is at baseline and support the need for the training. Continuous feedback is necessary beginning with the assessment at baseline and culminating with evaluation. This information is essential to inform refinement within your organization.

If you implement this training within the academy, it is best to impart the training during the first few weeks of the academy curriculum so recruits can apply the tools while at the academy. This will ensure that the recruits can apply the practices in all activities at the academy.

Figure 4. Model for introducing a resilience program

Educate		Evaluate

Assess
- Define the current level of stress within the agency.
- Ask "Will this training facilitate change?"

Educate
- 2- to 6-hour class options
- Involve entire agency or subgroups: Sergeants, Field Officers and Academy Staff.

Incorporate
- Weave training into all aspects and activities of the agency (e.g., active shooter and departmental meetings).

Evaluate
- Measure the changes 2 to 3 months post training.
- Create a feedback loop to update the membership.

Versions of the RA are available in two- and six-hour formats. Include the sergeants, FTOs, and academy staff in the training. Recruits interface with all of these department members, and they need the training to be able to reinforce, apply, and role-model for recruits. Include why the training is important and how this can help officers on and off the job. This addresses the question "Why should I care about this training?" This is especially important because of how often police officers are asked to attend training, and the topic is never revisited nor reinforced and becomes what is sometimes referred to as a "flash in the pan." Weaving of the concepts into all activities—e.g., active shooter training, officer involved shooting processing—demonstrates commitment and acceptance of the postulates of resilience. Evaluating change within two months after the training is valuable to document what has changed and to provide a feedback loop for the next cycle of training. These data can help hone and refine your process. Focus groups or one-on-one interviewing can help define what needs to be done next time. Ask (1) what was helpful, (2) what was not helpful, and (3) what needs to change. Again, it is imperative to include all levels of involvement from recruits to the leadership, FTOs, and sergeants. Let everyone know how their feedback was used to refine the process.

Involving the entire agency will improve the success of the resilience training program. From the very beginning of this study, the Health and Wellness Coordinator at the academy worked with our team to build organizational capacity by learning how to incorporate this training into the current academy curriculum. In June 2019 he attended the HeartMath RA certification training in Boulder Creek, California. The Health and Wellness Coordinator who attended the HeartMath Training said:

> "I have presented the one-hour version of the program to the recruits and they enjoyed it. I also have the recruits do a short exercise circuit on every break that they have. There are times I will have them heart-focused breathe instead of the circuit so that it is not forgotten. Every day a different recruit is the recruit duty officer for the day and I have that particular recruit practice heart-focused breathing with the Inner Balance ear sensor. I emphasize regularly to them that the time to use this technique is before phase tests and role play scenario-based training. I also taught the technique to Police Ambassadors, which is a program for young people ages 18–25 who are interested in law enforcement. I have them every Tuesday for six months and I have them practice heart-focused breathing for three minutes before I start class. I have also talked to the captain about teaching it at an upcoming in-service. I also am going to teach it in the private sector."

CONCLUSION

The end result of this study was development of a simple model to guide effective delivery of resilience training at the academy and validation of the effectiveness of this training for recruits. Training and mentoring staff at the academy to deliver these types of interventions after the departure of the researcher is essential to provide resilience training cost effectively as a regular part of the academy curriculum. If police department members can begin their careers effectively managing personal and emotional stress, they likely will not only be healthier and make better decisions but may also experience increased job satisfaction.

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ABOUT THE COPS OFFICE

The **Office of Community Oriented Policing Services (COPS Office)** is the component of the U.S. Department of Justice responsible for advancing the practice of community policing by the nation's state, local, territorial, and tribal law enforcement agencies through information and grant resources.

Community policing begins with a commitment to building trust and mutual respect between police and communities. It supports public safety by encouraging all stakeholders to work together to address our nation's crime challenges. When police and communities collaborate, they more effectively address underlying issues, change negative behavioral patterns, and allocate resources.

Rather than simply responding to crime, community policing focuses on preventing it through strategic problem-solving approaches based on collaboration. The COPS Office awards grants to hire community policing officers and support the development and testing of innovative policing strategies. COPS Office funding also provides training and technical assistance to community members and local government leaders, as well as all levels of law enforcement.

Since 1994, the COPS Office has invested more than $14 billion to add community policing officers to the nation's streets, enhance crime fighting technology, support crime prevention initiatives, and provide training and technical assistance to help advance community policing. Other achievements include the following:

- To date, the COPS Office has funded the hiring of approximately 130,000 additional officers by more than 13,000 of the nation's 18,000 law enforcement agencies in both small and large jurisdictions.

- Nearly 700,000 law enforcement personnel, community members, and government leaders have been trained through COPS Office–funded training organizations.

- To date, the COPS Office has distributed more than eight million topic-specific publications, training curricula, white papers, and resource CDs and flash drives.

- The COPS Office also sponsors conferences, round tables, and other forums focused on issues critical to law enforcement.

COPS Office information resources, covering a wide range of community policing topics such as school and campus safety, violent crime, and officer safety and wellness, can be downloaded via the COPS Office's home page, www.cops.usdoj.gov. This website is also the grant application portal, providing access to online application forms.

It is critical that law enforcement officers and deputies receive training and ongoing agency support to develop the skills essential for recovery from employment stressors that impact their physical and psychological health over time. The Milwaukee Police Department (MPD), in partnership with researcher Dr. Sandra Ramey, RN, piloted a resilience training intervention program with an academy class of 42 cadets and a control group of 38 active Milwaukee police officers during a two-year period. Report outcomes showed that earlier delivery of resilience training leads to improved mental resilience, physical health, decision-making, and job satisfaction. This publication is a report and evaluation of the MPD resilience training intervention program, including implementation and supporting data as well as recommendations and pilot project outcomes.