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Predictive value of psychological resilience for mental health disturbances: A three-wave prospective study among police officers

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ABSTRACT

Psychological resilience is considered an important predictor for mental health disturbances among rescue workers. To what extent resilience predicts mental health disturbances among police officers at different stages while adjusting for existing (mental) health disturbances is unclear. Among 566 police officers resilience was operationalized by the Resilience Scale-nl and the Mental Toughness Questionnaire-48 questionnaires (8 scales in total). Mental health disturbances (such as depression symptoms and PTSD) and other health-related variables were assessed at baseline and follow-ups at three and nine months. Hierarchical logistic regression analyses assessed the predictive values of the 8 resilience scales for mental health disturbances at baseline (n = 566), three months (n = 566) and nine months (n = 364), adjusted for demographics, work circumstances, and health-related factors at baseline. Seven of the eight resilience scales at baseline were cross sectional associated with mental health disturbances at baseline. Only four scales were independent predictors for mental health disturbances at three months. When examining mental health disturbances at nine months, only one resilience scale remained a significant predictor. In sum, psychological resilience has a declining protective capacity for mental health disturbances over a medium time-span, specifically when corrected for baseline mental health disturbances.

1. Introduction

The resilience concept has been described in many different manners (Aburn et al., 2016; Britt et al., 2016; McGeary, 2011; Windle, 2011), but is generally defined as either a process, an outcome or a personal capacity (Britt et al., 2016; Fletcher and Sarkar, 2013). In its early form resilience was mostly considered to be a trait, or trait-like characteristic (Kobassa, 1979; Luthans et al., 2006). However, the interplay of the individual with his/her environment was recognized as the process that constitutes resilience, shifting the concept away from solely residing in individuals and being a characteristic individuals are born with (Rutter, 1993; Pangallo et al., 2015). Moreover, resilience was considered to be changeable, either by exposure to adversity or by aimed interventions (Britt et al., 2016; Rutter, 1993).

To date still many approaches to conceptualizing and operationalizing psychological resilience make the assessment and comparability complex across studies (Britt et al., 2016; McGeary, 2011; Meredith et al., 2011; Paton et al., 2008; Luthar et al., 2000; Windle et al., 2011). Given the lack of consensus on definitional and measurement issues in the literature, it is important that any study clearly states which type of definition and measurement is used in the current study. In the current paper, we decided to use an approach that, in line with previous empirical studies among police officers, views resilience as an individuals' capacity to mitigate stress levels caused by circumstances that are likely to induce stress, such as potentially traumatic experiences. Exhibiting resilient behaviors prior to potentially stressful events protects individuals from adverse outcomes after these experiences. In other words, resilience could be considered a psychological resource that allows individuals to adapt well in the face of adversity (Hobfoll, 1989; Waugh et al., 2008).

In research, psychological resilience as a personal characteristic is often operationalized by instruments that contain multiple dimensions that together provide a measure of the degree of the general construct. The review of Pangallo et al. (2015) examined factors within several psychological resilience measurement instruments, and found 9 themes and 16 subthemes that are considered part of the overarching psychological resilience construct as a personal capacity. Among the subthemes are flexibility, acceptance, control, self-efficacy, commitment, and social competence as capacities (Pangallo et al., 2015). Among the most applied dimensions are Challenge, Control and Commitment, as

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found in the Mental Toughness Questionnaire 48 (MTQ-48) by Clough et al. (2007) and the widely used Dispositional Resilience Scale (DRS) by Bartone et al. (1989). Another example is Personal competence, conform to the Resilience Scale (Wagnild and Young, 1993) and the Connor-Davidson Resilience Scale (CD-RISC; Connor and Davidson, 2003). However, the theoretical argument is always similar: the presence of these characteristics in an individual is hypothesized to determine his/her capacity to mitigate stress levels caused by circumstances that are likely to induce stress, such as potentially traumatic experiences. The use of the concept is often loaded with an implicit connotation of mentally strong individuals, which is also implied by terms such as hardiness and mental toughness. Among others, physical health (e.g. Taft et al., 1999), social functioning (e.g. Elbogen et al., 2014), and increased performance (e.g. Simpson et al., 2006) are found to be associated with psychological resilience in cross-sectional studies.

However, most studies assessed the associations between psychological resilience and general or specific mental health problems. Cross-sectional studies among paramedics, police officers, firefighters, and soldiers found that resilience was associated with high general mental health (Taylor, 2013), low post-traumatic stress disorder (PTSD; Lee et al., 2014; McCanlies et al., 2014; Streb et al., 2014; Zakin et al., 2003), low anxiety (Zakin et al., 2003), low depression (Youssef et al., 2013a, 2013b; Zakin et al., 2003), low somatization (Schaubroeck et al., 2011; Zakin et al., 2003), high positive and low negative affectivity (Maguen et al., 2008), low alcohol use (Gabriel et al., 2015), low psychoactive substance use (Teichman and Cohen, 2012), low burnout (Lo Bue et al., 2013), low violent behavior (Elbogen et al., 2012), and low suicidal behavior (Pietrzak et al., 2011). How informative these cross-sectional studies may be, in order to more firmly establish the protective qualities of psychological resilience in employees, longitudinal studies are needed, including baseline corrections of pre-existing mental health issues (Rona et al., 2009).

Resilience is deemed important in rescue work occupations, as they expose their employees on a frequent basis to stressful and potentially traumatic events (PTE) that may negatively impact their mental well-being. Police officers are exposed to stressful experiences far more frequent than most members of society, such as violence, accidents, sexual abuse, threat, and confrontation with injured of dead children. Therefore, law enforcement is an occupation that requires individuals, among others, to be resilient (De la Vega et al., 2013; Elliott et al., 2015; Garbarino et al., 2013; McCanlies et al., 2014; Miller, 2008).

To the best of our knowledge only four longitudinal studies among aforementioned groups explicitly corrected for baseline levels of mental health or history of mental health, when assessing the independent predictive value of resilience for mental health problems. Thomassen et al. (2015) assessed to what extent hardiness predicted general mental health from pre-deployment until mid-deployment (three-month period) above baseline general mental health scores, among soldiers. Baseline hardiness no longer predicted follow-up general mental health when baseline general mental health was controlled for. Three other studies, analyzing the specific mental health outcomes of depression (Dolan and Adler, 2006; Wild et al., 2016), suicidal behavior (Youssef et al., 2013a, 2013b) and PTSD (Wild et al., 2016), showed similar results. The first study examined predictors of major depression or PTSD episodes in paramedics over a two-year span, while correcting for psychiatric history. Lower scores on the CD-RISC were not predictive of PTSD episodes. However, the likeliness of experiencing an episode of major depression slightly, but significantly, increased when CD-RISC scores decreased (OR = 0.96). The second study found a significant effect of the CD-RISC on follow-up suicidal behavior (approximately three years later) while controlling for, among others, baseline suicidal behavior among 176 war veterans. However, the corresponding partial *r*-squared of psychological resilience was 0.01, while the baseline measurement of suicidality was 0.09 (Youssef et al., 2013a, 2013b). The third study among a large group of veterans returning from overseas deployment corrected for baseline depression and found that this variable was predictive of four to five month follow-up depression while military hardiness was not. A significant but very small interaction effect of hardiness and deployment stressors was found.

These longitudinal studies question the protective capacity of psychological resilience against the development of mental health problems in high risk occupations, and stand in stark contrast with earlier mentioned cross-sectional studies which reported substantially larger effect sizes. Although some positive results were found in four longitudinal studies, the findings are ambiguous as both significant and non-significant results were found: the effect sizes of psychological resilience effects were never notably substantial. Also, these longitudinal studies were conducted among military samples and a paramedic sample and the characteristics of these professional populations might not be fully generalized to police officers.

To improve our knowledge on the predictive value of psychological resilience, the present three-wave longitudinal study among police officers was conducted. Based on previous studies we hypothesized the following: the predictive value of psychological resilience measures for mental health problems decreases over time, especially when controlling for mental health problems at baseline. The predictive value of resilience was adjusted for demographic characteristics (age, gender and educational level, cf. Bijl et al., 1998), work circumstances (operational, organizational stressors and job satisfaction, cf. Setti and Argentero, 2013; Van der Velden et al., 2010), and health (mental health disturbances, general health and services use). The present study applies the definition of resilience as the psychological resilience as a capacity of individuals to be able to perform well under stressful circumstances and not to develop adverse outcomes afterwards.

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2. Methods

2.1. Participants and procedures

Data for the current study stem from a research project determining the effects of a resilience enhancement training for police officers. Results of this quasi-experimental study were published elsewhere (Van der Meulen et al., 2017). The study compared pre-training baseline and three and nine months post-training follow-up measurements of psychological resilience (as measured by the Resilience Scale-nl and the Mental Toughness Questionnaire 48) between an experimental and a control group. The overarching finding was an absence of significant effects indicating that the training did not influence resilience levels and did not influence mental health levels. Because of these negative findings and to increase power, the experimental and control group were combined for all analyses. Nevertheless, in the analyses we controlled for training participation. This study was conducted in 2013.

For the current study, participants that at least participated at baseline and the follow-up at three months were used. Respondents were either recruited through training enrollment, which occurred randomly, or recruited through randomly selecting and contacting police officers in four police districts in the Netherlands. The majority of the respondents (59.5%) had emergency and enforcement duties (street officers), the remainder had investigative (10.1%), managerial (10.1%), intake & service (5.5%) or support (6.4%) functions, or were still in training (1.2%). 3.0% specified they had 'another' function and 4.2% did not specify their function. In the original study design the experimental group was provided paper and pencil questionnaires, the control group was provided similar questionnaires but in a digital manner. The attrition rate from baseline to follow-up at three months was 51.2% and from three to nine months 35.7%. The original study was approved by the Psychological Ethical Testing Committee of Tilburg University and respondents gave their written informed consent.