

POLITIE-IN-ACTIE: De rol van freeze-fight-flight in posttraumatische stress symptomen

Gepubliceerd: 04-06-2014 Laatste bijgewerkt: 15-05-2024

The main objective of this study is to determine the role of freeze-fight-flight reactions in the development and maintenance of PTSD symptomatology.

Ethische beoordeling	Goedgekeurd WMO
Status	Werving gestopt
Type aandoening	Angststoornissen en -symptomen
Onderzoekstype	Observationeel onderzoek, met invasieve metingen

Samenvatting

ID

NL-OMON44532

Bron

ToetsingOnline

Verkorte titel

freeze-fight-flight

Aandoening

- Angststoornissen en -symptomen

Synoniemen aandoening

post traumatische stress; angst

Betreft onderzoek met

Mensen

Ondersteuning

Primaire sponsor: Radboud Universiteit Nijmegen

Overige ondersteuning: Netherlands Organization for Scientific Research (NWO VICI grant awarded to prof. dr. Karin Roelofs)

Onderzoeksproduct en/of interventie

Trefwoord: freeze, prospective study, PTSD

Uitkomstmaten

Primaire uitkomstmaten

Psychophysiological recordings (electrodermal activity, electromyographic activity, breathing rate, heart rate, pupil diameter)

Behavioral recordings (reaction times, decision making, memory performance)

Brain function ((f)MRI)

Self-report questionnaires & one clinical interview

Secundaire uitkomstmaten

Salivary cortisol, alpha-amylase and testosterone

Hair hormones (cortisol, testosterone)

Epigenetic and genetic profiles as assessed from saliva

Toelichting onderzoek

Achtergrond van het onderzoek

Police officers are trained to deal with acute threat and to control their automatic action tendencies in order to optimize adequate response capacity. In stressful situations, however, most people tend to fall back on primary *freeze-fight-flight* (FFF) tendencies and have great difficulty controlling their actions (Leach, 2004). This forms a major problem for people in high-risk professions, such as police officers, whose control over automatic action tendencies is essential for optimal performance during stressful situations (Nieuwenhuys et al., 2012). The relation between automatic and controlled emotional behavior has considerable consequences for our society. For instance, with increasing regularity police officers are confronted with violence, and with growing frequency they respond to this by drawing their firearms, enhancing the risk of unintended damage and of violence escalation. For these reasons, stress-induced lack of control over freeze fight or flight tendencies forms an increasingly recognized problem in high risk professions. Indeed, over

30% of young, inexperienced police recruits develop stress-related symptoms of fearful avoidance or aggression after being exposed to a life-threatening situation (Maguen et al., 2009). Moreover, chronic manifestations of increased flight as well as fight reactions have been associated with avoidance and aggressive symptoms in victimized veterans and police officers with full blown posttraumatic stress disorders (PTSD) (Lenhardt et al., 2012). Avoidance behavior is considered the major maintaining factor in PTSD. Despite the largely automatic nature of the response tendencies supporting avoidance and aggressive behavior, previous research has primarily accounted for these disorders in terms of cognitive biases involving attention, memory, and belief. However, a large number of patients suffering from stress-related disorders, such as PTSD, are resistant to current cognitive and pharmacological therapies, and it remains unclear whether cognitive biases are so pervasive that they can influence automatic behaviors in PTSD. The most promising road, in fact, is to test whether such behaviors can be explained by automatic response tendencies. It is all the more remarkable that this approach has not been applied to posttraumatic stress symptoms, given that there is a large body of work on freeze-fight-flight behavior in animals, which comprises a basic adaptive mechanism that might account for the persistence of posttraumatic anxiety and aggression in humans. For these reasons, the main objective of this study is to determine the role of FFF reactions in the development and maintenance of PTSD symptomatology.

Doel van het onderzoek

The main objective of this study is to determine the role of freeze-fight-flight reactions in the development and maintenance of PTSD symptomatology.

Onderzoeksopzet

The study consists of two waves of data assessment. The first assessment wave takes place before (scan 1; pre-exposure) police recruits make the transition from the relatively safe environment of theoretical training to their first services in the emergency aid. The second assessment wave takes place after (scan 2; post-exposure) the police recruits have been exposed to the relative stressful services in the emergency aid. After completion of data collection we will be able to prospectively predict trauma-related changes in phenotypic PTSD symptoms, on the basis of pre-existing FFF markers (i.e., measures on the behavioral, psychophysiological, neuroendocrinological and MRI levels) assessed at Scan 1. In addition, we will test whether changes in FFF markers from Scan 1 to Scan 2 relate to PTSD-symptomatology after exposure to aversive events. This prospective study approach enables us to distinguish predisposing from acquired abnormalities in FFF reactions to predict PTSD symptomatology after the experience of aversive events.

Inschatting van belasting en risico

During testing, participants will undergo established behavioral tasks and MRI scans. Some are stress induction and anxiety provocation procedures that may cause a moderate level of subjective distress. Our lab has extensive previous experience with these procedures (see e.g., CMO protocol numbers 2010/257, 2011/382 and 2013/551). All procedures described in this protocol are well established, carry negligible risk, and constitute a minimal burden for the participants. Young healthy police recruits at the police academy are chosen as subjects in the study because subsyndromal PTSD-symptoms are highly prevalent among police officers. Further, the current design has a baseline assessment when police recruits are still in the relatively safe environment provided by a police academy training, and a follow-up measurement wave after 12 months of which 6 months have been spent during armed duty in emergency aid, where they will be exposed to critical incidents (involving suicide, violence, childhood abuse, disasters etc) on a regular basis. Consequently, participants only have to visit the lab twice; once at the beginning of their police education (Scan 1), the other towards the end (Scan 2), with approximately 12 months in between. No pharmacological or otherwise invasive interventions are applied.

Contactpersonen

Publiek

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Wetenschappelijk

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Locaties

Landen waar het onderzoek wordt uitgevoerd

Netherlands

Deelname eisen

Leeftijd

Volwassenen (18-64 jaar)

65 jaar en ouder

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

Tussen 18 en 45 jaar oud

Rechtshandig

Normaal of gecorrigeerd tot normaal gezichtsvermogen

Normaal (ongecorrigeerd) gezichtsvermogen

Body mass index tussen 18.5 en 30

Bereidheid en vermogen om geschreven toestemming te geven, en bereidheid en vermogen om de aard en inhoud van het onderzoek te begrijpen en te participeren in lijn met de studie eisen

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

Abnormaal gehoor of slecht gezichtsvermogen

Meer dan gemiddeld 3 alcoholische consumpties per dag

Meer dan gemiddeld 1 maal per week psychotropische of recreatieve drug gebruik

Psychotropisch drug of recreatieve drug gebruik korter dan 72 uur voor ieder lab bezoek en/of alcohol gebruik minder dan 24 uur voor deelname aan het onderzoek

Regelmatig gebruik van corticosteroiden

Metale objecten in het lichaam, met name in het oog

Gebruik van een medische pleister die niet kan worden afgenomen

Geschiedenis of huidige neurologische behandeling

Geschiedenis van of huidige gebruik van endocriene behandeling

geschiedenis van hoofd operatie

Huidige parodontitis

Claustrofobie

Epilepsie

Onderzoeksopzet

Opzet

Type:	Observationeel onderzoek, met invasieve metingen
Onderzoeksmodel:	Anders
Toewijzing:	Niet-gerandomiseerd
Blinding:	Open / niet geblindeerd
Controle:	Actieve controle groep
Doel:	Anders

Deelname

Nederland	
Status:	Werving gestopt
(Verwachte) startdatum:	24-11-2014
Aantal proefpersonen:	410
Type:	Werkelijke startdatum

Ethische beoordeling

Goedgekeurd WMO	
Datum:	04-06-2014
Soort:	Eerste indiening
Toetsingscommissie:	IRB Nijmegen: Independent Review Board Nijmegen (Wijchen)

Goedgekeurd WMO	
Datum:	06-11-2014
Soort:	Amendement
Toetsingscommissie:	IRB Nijmegen: Independent Review Board Nijmegen (Wijchen)

Goedgekeurd WMO	
Datum:	09-04-2015
Soort:	Amendement
Toetsingscommissie:	IRB Nijmegen: Independent Review Board Nijmegen (Wijchen)

Goedgekeurd WMO

Datum: 23-02-2016
Soort: Amendement
Toetsingscommissie: IRB Nijmegen: Independent Review Board Nijmegen (Wijchen)

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

Geen registraties gevonden.

Andere (mogelijk minder actuele) registraties in dit register

ID: 24254

Bron: Nationaal Trial Register

Titel:

In overige registers

Register	ID
CCMO	NL48861.072.14
OMON	NL-OMON24254

Resultaten

Einddatum onderzoek: 26-02-2018

Totaal aantal deelnemers: 425