CHAPTER 1

General Introduction
**Introduction**

From time to time, police officers experience physical violence during work (Naeyé, 2005; Timmer, 2005). Most cases of physical violence concern resistance during arrest (Naeyé, 2005). Other examples of situations involving physical violence are getting control over people under influence of alcohol or drugs, bystanders who interfere with police actions, or aggression during mediation of quarrels. To enforce law, and secondly, to defend themselves against physical violence, police officers in the Netherlands have a legally established authorization to apply force. For that purpose, they learn and train arrest- and self-defence skills (ASDS) during regular police training. To investigate the effectiveness of the regular ASDS training, the current thesis reports five studies that investigated how well officers feel prepared, how they perform in threatening situations, and whether the current form of training can be improved.

This introduction first describes how the authorization to apply force, examination of skills, and skill training are established in the Netherlands. Then, it discusses how the stressful nature of violent situations can influence police performance, including the results of an earlier study that showed that ASDS performance is negatively affected by anxiety (Nieuwenhuys, Caljouw, Leijsen, Schmeits, Oudejans, 2009). This study not only yielded new insights (e.g., how to assess ASDS performance in an experiment), but also new questions, that were partly the motivation for this thesis. The last paragraph of this introduction describes the study aims and the structure of this thesis.

**Preparation for violence: authorisation, examination and training**

**Authorisation to apply force**

The authorisation to apply force on duty brings much responsibility. In the Netherlands, this is established in the Police Act (2012) and the Police instructions (1994). Article 4 of the Police instructions states that police officers are only allowed to use police force if they are trained in using it correctly, and if they use it only in situations for which using police force is warranted. Furthermore, article 7 of the Police Act states that officers are allowed to use police force if it is in proportion with the threat and the intended goal cannot be accomplished in another way. If possible, warnings should precede police force.

Being trained is conceptualised in the regulation for the examination of law-enforcement skills for the police (in Dutch, ‘Regeling Toetsing en Geweldbeheersing Politie’ [RTGP]), introduced in January 2002. With introducing this regulation, 32 hours per year were made available for officers to train their skills and to participate in the examinations of handgun shooting (twice per year), ASDS (once per year) and knowledge of violence control (once per year). Passing the examinations is required to be allowed to carry police weapons and use police force.
Examinations

The Dutch ASDS exam mainly focuses on correct skill execution. Officers work in pairs and execute the requested skills generally on another colleague who acts as a suspect and is not assessed at that moment. The execution of ASDS during examination deviates from the line of duty in a number of ways. Officers receive instructions on which skills to use, while on duty, officers have to interpret the situation and choose their actions themselves. By acting on their own insight, other variables next to skill execution play an important role. For instance, officers have to judge whether force is needed and if so, the used force needs to be in proportion with the threat in that situation. Such aspects are less addressed in the current form of examination.

Furthermore, the colleague that acts as the suspect is often a cooperative suspect. He or she behaves not or just a little aggressive and hardly resists during skills execution by the officers who are assessed. On duty, aggression is certainly reality (e.g., Naeyé, 2005), by which officers could experience anxiety (Anderson, Litzenberger, & Plecas, 2002), a variable that is mostly not included during examination. That seems remarkable as research has repeatedly shown that anxiety negatively affects police performance (Nieuwenhuys et al., 2009; Nieuwenhuys & Oudejans, 2010; Oudejans, 2008).

Given the difference in threat and anxiety between examinations and the line of duty, officers often act differently during examinations than on duty. In addition, the current ASDS find their origin in sports and can be executed well in a controlled setting such as during an ASDS examination. However, there are indications that these skills are more difficult to apply against aggressive suspects on duty, especially if anxiety affects officers action possibilities (cf. Pijpers, Oudejans, Holsheimer, & Bakker, 2003). Because of the differences between the examinations and the line of duty, many officers see the examinations more or less as a play than as an assessment of skill for the line of duty (Witzier, 2006). Taken together, the above mentioned issues may suggest that the ASDS examinations do not sufficiently assess the skills needed on duty.

Training

Besides the yearly ASDS examination (for which officers receive about an hour to prepare), Dutch officers receive two or three practice days per year. The standard program of such days consists of two hours theory, two hours ASDS training, two hours handgun training, and two hours training practical situations. Altogether, this means that officers effectively train their ASDS about four to six hours per year (see Timmer & Pronk, 2011 for comparable situations in other EU countries). Despite the limited possibilities to train their ASDS, the National Police, but also the Dutch society expects that officers perform at a professional level. It is questionable whether that is reasonable given the little possibilities for training. That assumption is underlined by Timmer (2005) who states that in violent situations (regular) officers frequently have difficulties to act in a structured way and that they can hardly rely on well-trained procedures.
Anxiety

Besides the few possibilities for training, anxiety is often another limiting factor for effective performance on duty. As a result of aggressive behaviour of one or more suspects or the importance of performing well, officers may experience anxiety (Anderson et al., 2002). Anxiety can be defined as “an aversive emotional and motivational state in threatening circumstances” (Eysenck, Derakshan, Santos, & Calvo, 2007, p. 336), and is “related to the subjective evaluation of a situation, and concerns jeopardy to one’s self-esteem during performance or social situations, physical danger, or insecurity and uncertainty” (Schwenkmezger & Steffgen, 1989, p. 78, 79).

In previous years, many studies have shown that anxiety negatively affects perceptual-motor performance (e.g., Behan & Wilson, 2008; Causer, Holmes, Smith, & Williams, 2011; Nieuwenhuys, & Oudejans, 2010; Nieuwenhuys, Pijpers, Oudejans, & Bakker, 2008; Wilson, Wood, & Vine, 2009). Still, researchers have been divided on the process that causes that effect. On one hand, distraction theories (e.g., attentional control theory; Eysenck et al., 2007) argue that anxiety causes a shift in attention from task-relevant (goal-driven) information towards task-irrelevant (stimulus-driven) information. Stimulus-driven attention can be external such as a threat or internal such as worries about failure and its consequences. With the shift in attention to task-irrelevant information, less attention is available to focus on the current task, which often results in worse performance. On the other hand, skill focus theories (e.g., explicit monitoring, Beilock & Carr, 2001) argue that anxiety leads to more inward attention in trying to explicitly control or monitor someone’s own movements. Although for novices skill focus is necessary to learn and improve skill execution, monitoring movements can seriously harm experts’ performance as they normally execute their skills automatically (see for example Beilock & Carr, 2001; Gray, 2004).

Nieuwenhuys and Oudejans (2012) argued that distraction and skill focus theories may not be mutually exclusive. They argued that when, for instance, a skilled tennis player is playing a tournament final and experiences that her backhand is not performing as usual, her attention may be drawn towards the execution of her backhand. This example is compatible with the argumentation of the skill focus theories, but it is also possible to label her shift in attention as a distraction away from information that is task-relevant for this skilled tennis player. Therefore, Nieuwenhuys and Oudejans (2012) argue that both theories are based on similar principles. That is, anxiety shifts attention towards stimulus-driven stimuli leaving less attention to adjust and calibrate movements based on goal-driven (task-relevant) information. On the basis of the two existing frameworks, Nieuwenhuys and Oudejans (2012) introduced an integrated model concerning anxiety and perceptual-motor performance explaining various ways in which anxiety affects performance. The core of their model is based around the assumption that anxiety can affect people’s attention, interpretation, and response tendencies.
That these assumptions are highly relevant for police work became visible in Nieuwenhuys’ PhD-thesis entitled “Effects of anxiety on police officers’ shooting behaviour under pressure” (2012). For instance, a number of studies showed that officers looked less at their targets when they were more anxious indicating less goal-driven attention (Nieuwenhuys & Oudejans, 2010, 2011). However, other studies showed changes in officers’ decision making while their gaze behaviour appeared to be similar to when they were less anxious (Nieuwenhuys, Savelsbergh, Oudejans, 2012; Nieuwenhuys, Cañal-Bruland, Oudejans, 2012). Nieuwenhuys, Savelsbergh, and Oudejans (2012) suggested that officers’ interpretation of threat may have been changed and that they made their decisions on the basis of perceived threat rather than actual information about the situation (e.g., whether the suspect had a gun in his hand).

All in all, the anxiety-induced changes in attention or interpretation led to changes in response tendencies. In Nieuwenhuys and Oudejans (2010, 2011), officers’ changes in attention led to ducking more down and speeding up their actions in attempts to decrease the chance of getting hit. As a result, they shot less accurate. In Nieuwenhuys, Savelsbergh, and Oudejans (2012) and Nieuwenhuys, Cañal-Bruland, and Oudejans (2012), officers’ assumed threat interpretation led to shooting earlier. In Nieuwenhuys, Savelsbergh, and Oudejans (2012), officers also made more inaccurate decisions regarding whether or not to shoot a suddenly appearing suspect who either appeared with his hands up and surrendered or appeared with a handgun and shot at the officer (in a video-simulation set-up).

Thus, Nieuwenhuys’ thesis shows that anxiety can have serious consequences for performance on duty. The studies show consistently that police officers’ attention, interpretation, and response tendencies concerning handgun shooting are often affected by anxiety. However, although situations with physical violence occur more often on duty than situations with handgun shooting, the situations with physical violence are less often investigated. Still, Nieuwenhuys et al. (2009) took the first step to examine the influence of anxiety on ASDS performance. To assess the quality of ASDS performance, they worked with 5-point Likert scales. The scales were found reliable and valid and therefore an effective tool to assess officers’ ASDS performance. To examine the influence of anxiety, officers performed a number of skills on a foam strike field in the low-anxiety condition and the same skills against an aggressive looking and behaving suspect in the high-anxiety condition (but in the end he did not really resist). The assessment of officers’ performance showed that they had performed worse in the high-anxiety condition than in the low-anxiety condition. Yet, the overall assessments did not give insight into why performance became worse under anxiety. Given the fact that most officers frequently face physical violence, it is important to optimize training, and as a result, performance on duty. To achieve that, it is essential to gain more insight into the influence of anxiety on ASDS performance, which was the general aim of the research reported in the current thesis.
Study aims

As most results concerning anxiety and police performance are collected in experimental settings, it would be interesting to first investigate whether the results of those experiments match officers’ perceptions of their performance on duty. To answer that question, a questionnaire study investigated officers’ perceptions of how well they feel prepared and able to manage violence on duty (Chapter 2). That study further explored whether officers’ experience with violence (more vs. less) and how often officers experience anxiety (often vs. less often) influenced these perceptions.

Furthermore, it is important to gain more insight into the precise elements of performance that are affected by anxiety such as the kinematics of task execution. Therefore, Chapter 3 describes an experiment in which posture and movement variables were collected when officers performed several ASWS in a low- and a high-anxiety condition. Next, in police performance on duty eventual skill execution may not be the only factor that is negatively affected. Communication and proportionality are examples of other elements of police performance that also need to be taken into account. Chapter 4 describes an experiment in which officers had to choose and initiate their actions themselves while they had to arrest a non-cooperative suspect. Besides on overall performance, officers’ performance was assessed on communication, distance to the suspect, proportionality of applied force, quality of skill execution, and handcuffing.

These three studies were also designed to provide input for how ASWS training can be improved with the aim to reduce the negative influence of anxiety on performance. The first question was whether an increase in training frequency would lead to a reduced negative influence of anxiety (Chapter 5). To this end, officers with and without additional martial arts experience performed several ASWS in a low- and high-anxiety condition. The second question was whether ASWS training would improve if it consists more of skills that are based on primary reflexes (Chapter 6). To this end, officers received a reflex-based self-defence training (FIRST™) and a regular ASWS training (control training) after which performance was assessed in six realistic scenarios. Finally, Chapter 7 (Epilogue) summarizes and highlights the main findings of the experiments. It also describes implications for future scientific research. Finally, it enumerates a number of practical implications for possible improvements of ASWS training. The upshot of this discussion is that, if possible, the frequency of ASWS training should be increased. Even if that is not possible, the content of the trainings can be adjusted such that improved performance on duty is to be expected (e.g., more realistic and more reflex-based). In that way, officers may be better prepared for performance in threatening situations on duty.