



# The influence of autonomy support on self-regulatory processes and attrition in the Royal Dutch Navy



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## ABSTRACT

The purpose of this study was to investigate the underlying mechanisms that explain the influence of instructor support on attrition levels within Navy basic military training. Based on self-determination theory, we hypothesized that higher autonomy support leads to lower intent to quit, mediated by self-efficacy and training value. Results from a group of trainees ( $N = 208$ ) confirmed that autonomy support negatively predicted intent to quit and that this relationship was mediated by self-efficacy. Training value did not mediate between autonomy support and intent to quit. In addition, logistic regression showed intent to quit predicted attrition. In conclusion, the application of self-determination theory provided new insights into the mechanisms underlying attrition in the military domain.

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## 1. Introduction

To ensure that military ranks are filled at all times, a constant effort is made to draft and train new service members. However, a substantial proportion of military recruits does not finish basic military training. This can lead to a shortage in ready to deploy service members. This can be especially problematic in times of high operational tempo because it puts additional strain on operational units. In addition, it carries high costs associated with lost investments and reduced morale (e.g. Booth-Kewley, Larson, & Ryan, 2002).

Several researchers have studied factors influencing attrition in the military. First of all, demographic factors (age, gender, and ethnicity) and aptitude (cognitive and physical) were found to be relevant. For example, a self-reported history of physical problems (e.g., shortness of breath, or back problems) is positively related to higher attrition levels. Age and aptitude have been shown to reduce attrition (Booth-Kewley et al., 2002; Larsson, Broman, & Harms-Ringdahl, 2009; Talcott, Haddock, Klesges, Lando, & Fiedler, 1999). Second, the importance of psychological characteristics of recruits such as personality and behavioral styles has been studied (e.g., Bartone, Roland, Picano, & Williams, 2008; Davis, 2006). For example, Bartone et al. (2008) found that higher levels of psychological hardiness are negatively associated with attrition. However, such factors are difficult to influence by organizations. By contrast, the behavior of military leaders and instructors can be influenced more directly.

The importance of leadership and instructor behavior for attrition in the military has been shown in a range of studies using different theoretical approaches. Transformational leadership has been studied by several researchers (Bass, Avolio, Jung, & Berson, 2003; Shamir, Zakay, Breinin, & Popper, 1998). For example, Hardy et al. (2010) showed that instructors who show more transformational leadership (e.g. fostering acceptance of team goals, appropriate role model behavior, inspirational motivation and individual consideration) positively affect self-confidence, resilience and satisfaction in recruits and have lower levels of turnover in their groups. Another line of research is concerned with the effects of social support on attrition. For example, Lucas et al. (2010) showed that perceptions of social support provided by drill instructors were positively related to completion rates of Navy training.

The aforementioned studies have established the importance of instructor behavior in basic military training. Instructors work very intensively with recruits and therefore can have a large impact on recruit well-being, motivation and attrition. A theoretical approach that has to our knowledge not yet been applied to attrition in the military is self-determination theory (SDT; Deci & Ryan, 2000). In the educational domain, SDT has proven to be a valuable theory in describing the relationship between personal needs, environmental factors and self-regulatory processes that explain students' motivation and engagement in education. Especially the importance of autonomy support for intrinsic motivation might be relevant for the military domain, because the military is not an autonomy supportive environment in itself. According to SDT, students benefit from autonomy supportive environments because such an environment stimulates self-regulatory processes that enhance performance and reduce attrition (Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004). The aim of

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the present study is to test the relevance of SDT for the military domain by investigating whether autonomy support affects self-regulation and subsequently attrition during basic military training.

### 1.1. Autonomy support and the military

According to self-determination theory, students can be motivated for different reasons (Deci & Ryan, 2000, 2002). On the one hand, students can be motivated because they acknowledge the inherent value of education as it provides a possibility to acquire new knowledge and develop competencies (i.e., intrinsic or autonomous motivation). On the other hand, students can be motivated by external factors, such as punishment and reward, which drive them to participate in education (i.e., extrinsic or controlled motivation). Although the initial focus of SDT research was on the educational domain, recently the relevance of SDT has been shown for employees (Hardré & Reeve, 2009). Research has shown that in general, students or employees with a stronger intrinsic motivation will persevere more even under difficult and stressful circumstances and develop more self-confidence or self-efficacy in their abilities (Ames & Archer, 1988; Richer, Blanchard, & Vallerand, 2002; Vallerand, Fortier, & Guay, 1997). Teachers or instructors can influence students' intrinsic motivation by shaping the motivational climate that satisfies the basic need for autonomy (Ames, 1992; Vansteenkiste et al., 2004).

There are two kinds of motivational environments: performance environments versus autonomy-supportive environments. The first one is a controlling environment that focuses on performance and competition. The second one endorses the intrinsic interests of students and avoids external incentives and threat. The latter will engage students more and subsequently motivate students to persist and learn in the face of difficulties (Goudas & Biddle, 1994; Reeve, Bolt, & Cai, 1999; Theodosiou & Papaioannou, 2006; Vallerand, Deci, & Ryan, 1987). Hardré and Reeve (2003) showed that among high school students an autonomy-supportive learning environment, providing opportunities for individual competency development and emphasizing the value of learning and education, results in less attrition. They showed that the students reported higher levels of perceived competence to do well at school and valued the education they received more and therefore had less intention to quit.

The military organization can be considered a distinct culture from civilian organizations. Traditionally, the military is more controlling than most civilian organizations. In military organizations hierarchy and discipline is considered more important than individual autonomy and competency development (Soeters, Winslow, & Weibull, 2003). As such the military is a performance focused motivational environment that seems to impede the support for the basic need for autonomy as established by SDT. However, recent studies have shown that the basic need for autonomy is relevant for individuals in different cultures, even when this need seems less important due to cultural norms (e.g., Hardré et al., 2006; Zhou, Ma, & Deci, 2009). As militaries are struggling to keep their ranks filled, the support of the need for autonomy may be a key factor in reducing attrition. Therefore, in this study, the role of instructor autonomy-support behavior on intent to quit and subsequently attrition during basic military training was investigated. In line

with Vallerand et al. (1997) and Hardré and Reeve (2003), a motivational mediation model (see Fig. 1) was tested that argues that autonomy support by the instructor enhances self-efficacy beliefs and strengthens perceived value of training, resulting in lower intent to quit and subsequently less attrition. These proposed mediating pathways find support in literature. Firstly, instructor autonomy support positively affects self-efficacy as it enables recruits to regulate their mastery experiences that build self-efficacy (Bandura, 1997; Deci, Vallerand, Pelletier, & Ryan, 1991). This is also in line with a study by Hardré and Reeve (2003) that showed that autonomy support positively affected students' perceived competence. In turn, self-efficacy negatively affects intent to quit, because people who are highly self-efficacious have a strong belief in their ability to manage life's challenges and consequently show more perseverance in achieving their goals (Bandura, 1997). The negative relationship between self-efficacy and intentions to quit in training or education has been shown in both the civilian and military domain (Gruber, Kilcullen, & Iso-Ahola, 2009; Hardré, Sullivan, & Crowson, 2009; Hardy et al., 2010; Robbins, Oh, Le, & Button, 2009; Sitzman, 2012). Secondly, an autonomy supportive environment will enhance students' inner endorsement of the teaching goals because they are internalized (Ames, 1992). In line with this, Hardy et al. (2010) showed that supporting behaviors by instructors increase recruits' satisfaction with military training. In turn, the perceived intrinsic value of education or training is an important motivational resource for students because it facilitates engagement (Hulleman, Durik, Schweigert, & Harackiewicz, 2008). To our knowledge, these mediating pathways have not been studied in the military yet.

To summarize, the model in this study hypothesized that the effect of instructor support on intent to quit is mediated by self-efficacy and perceived training value. In addition, we hypothesized that intent to quit predicts attrition above instructor support, self-efficacy and perceived training value.

## 2. Method

### 2.1. Study context

To test our hypotheses we were able to study a group of recruits in basic military training in the Dutch Royal Navy. This training lasts 12 weeks and aims to facilitate the transfer to military life, teach basic military skills, and build stress tolerance. The training is ended by a physically demanding final exercise in which recruits are tested on perseverance and military skills. The training environment can be characterized as controlling because recruits have to follow strict routines and schedules. Recruits are placed into classes which are led by a group instructor.

### 2.2. Participants & procedure

In total 208 recruits (189 male, 19 female) (mean age 19.77, SD 2.4) in the basic military training of the Dutch Navy participated in this study. Educational level ranged from high school (50%), lower professional school (49%) to higher professional school or university (1%). These recruits were part of four subsequent cohorts in basic military training. Recruits were informed about the goals and methods of the study at the beginning of basic training. It was explained that anonymity would be maintained, that participation was voluntary and that consent was implied by returning the questionnaire. Questionnaires were filled out in a classroom setting in the third week of training (before our data collection 13 recruits dropped out of training and were not involved in this study). This period was chosen because the first two weeks are aimed to get the recruits acquainted with military life and instructors and after these weeks training is intensified. The goal of the study was to investigate the influence of an autonomy supportive environment

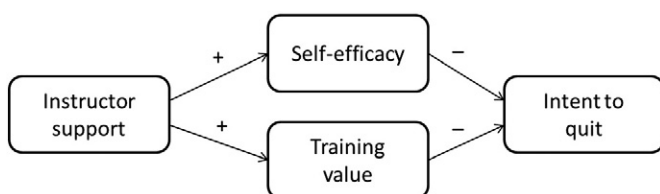


Fig. 1. Multiple mediation model with hypothesized relationships between instructor autonomy support, self-efficacy, training value, and intent to quit.

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