

# The Creation of Committed Combatants

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## Abstract

Theories on conflict behaviour regard armed groups as unitary actors whose members faithfully execute the strategic decisions of their leaders. Nevertheless in reality mutinies and insubordination occur. In this paper, we argue that the faithful execution of orders depend in on the level of organizational commitment of combatants. This level can be increased with the help of four management strategies. Using a dataset based on fieldwork in Congo, we analyze the influence of each of these strategies on the level of commitment. The Bayesian analyses show that recruitment, training, and promotion has statistical reliable influence, but that providing rewards does not.

**Keywords:** Commitment, Armed Groups, Congo, and Bayesian Analysis.

**Words:** 9.065

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## **Introduction**

Battle is a harrowing business. In addition to the physical risks of death or injury, combatants are subjected to intense psychological pressure generated by exhaustion, privation, noise, worries about family and friends, and the sight of people, whether comrades or civilians, being killed and wounded (Keegan, Holmes and Gau 1985, 39). Added to the general stress of the battle, is the pressure of the faithful execution of orders coming from the commanders. Even if these orders stand in sharp contrast with the existing norm and values one has, such as the killing of civilians. However, most studies concerned with conflict party behaviour regard rebel groups as unitary actors that faithfully execute the strategic decisions of their leaders. Valentino (2004, 67) for instance argues that mass killing is an intentional tactic employed by leaders in pursuit of their strategic objectives.

However, there are many examples of mutiny, insubordination and eventually splintering of armed groups that renounce this assumption. The most striking example involved 20,000 American troops in Manila who protested their continuing deployment despite the war's end in January 1946 (Gal 1985). Another, more recent example of mutiny, occurred in Israel, where 12 soldiers refused to participate in the eviction of Jewish settlers occupying illegally buildings in the mainly Palestinian city of Hebron in 2007 (Hider 2007). Mutinies, insubordination and fictionalization also occur in many nonstate armed groups. Recently for example, a hard line commander of the Moro Islamic Liberation Front (MILF) led a split. Opposing peace talks between the government and his armed group, he and his followers attacked un-authorized, Christian communities and formed their own armed group (Gould-Williams 2004).

Whether troops follow orders depends in great length on the level of commitment the individual combatant feels towards his or her armed group. As the examples have shown, having a low level of organizational attachment can result in insubordination, mutiny, or even fractionalization within an armed group. Creating commitment among the fighters is then also crucial for the faithful execution of orders and indirectly for the survival of armed groups. But

how do leaders of armed groups ensure the loyalty and the commitment of their subordinates? Which mechanisms do they employ to make sure that orders are followed and defection is deterred under circumstances demanding extreme personal sacrifices?

Although organizational commitment should be of vital concern for those scholars that study the behaviour of these groups, there have been few to no studies on the creation of organizational commitment in armed groups, whether these groups belong to the state or whether they are fighting it (Gade, Tiggler, and Schumm 2003). In addition to enhancing the traditional literature on (civil) wars, understanding the ways in which armed groups attract recruits is of great value for the development of not only effective Disarmaments Demobilisation and Reintegration (DDR) programs that detach combatants from their organizations and reintegrate them into society but also for the several security sector reform projects in which rebel groups are integrated into the national armies.

Given the practical and empirical importance of understanding organizational commitment in armed groups, this article starts with presenting the theoretical framework by introducing the concept of organizational commitment and the Human Resource Management (HRM) practices. These practices are normally used in legal private or public firms to enhance cohesion and commitment of their employees. By combining the HRM practices with literature and insights on armed groups, several hypotheses are derived. We test them with the help of a micro-level dataset based on intensive fieldwork conducted in the Eastern provinces of the Democratic Republic of the Congo (DRC). To test whether leaders of armed groups employ particular strategies to enhance organizational commitment among their combatants, the data is examined with the help of a Bayesian analyses. We present the statistical results and conclude with a discussion about the implications of these findings.

## **HRM practices and Committed Combatants**

Although there seems to be a minimal shared understanding of what affective organizational commitment comprises, ambiguity exists on its exact nature. It is agreed that the concept emphasize attachment to the employing organization, including its goals and values. However, commitment is more than passive loyalty – committed members give something from themselves (i.e., they have an active relationship) in order to contribute to the organizations well being.<sup>2</sup> Hence, affective organizational committed combatants are fighters, who strongly belief in and accept the goals and values of the armed group and are prepared to exert considerable effort on the behalf of the group. They remain with the armed group because they want to, not because they need to or they ought to (also called continuance commitment and normative commitment) (Porter et al. 1974; DeCotiis and Summers 1987). As such, it is assumed that committed combatants are less likely to participate in mutiny or in insubordination and are more inclined to faithful execute the orders of their leaders, even if they go against their personal value system.

Despite its obvious relevance, organizational commitment has received scant examination within the military research and research on armed groups (Allen 2003). This is especially surprising since many scholars have argued that those organizations which are active in high risk activities and endure extreme demands and severe stress, are those who rely most often on commitment (Gal 1985). Those scholars that approached the topic found out that committed combatants perform better and are more likely to stay with the group (Gade, Tiggler, and Schumm (2003). Also Siebold (2006, 186) and Oliver et al. (1999), although not examining directly the effect of affective organizational commitment, emphasize that cohesion within armies enhances unit performance and decreases discipline problems

In addition to the relatively few studies on the military and commitment, there are also few that have actually investigated what organizations can do to enhance such commitment (e.g.,

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<sup>2</sup> Notice that commitment is different than job satisfaction, since the latter emphasizes the specific task environment where an employee performs his or her duties (Mowday and Steer 1979). As such, commitment is often seen as a more stable aspect of the organizational life.

Whitener 2001). Those studies that have been conducted, however, do provide some evidence to suggest that organizations can influence employees' commitment through their Human Resource Management (HRM) practices (Meyer and Smith 2000; Haer, Banholzer, and Ertl 2011). HRM is an approach that involves all management decision and practices that directly affects or influences the people, or human resources, who work for a particular organization (Shahnawaz and Juyal 2006). Besides influencing the overall competence of employees, the cost effectiveness, and the congruence between the employee and the organization's goals, organizational commitment is regarded as an immediate and, perhaps, the most critical outcome of these HRM practices (Beer, Walton, and Spector 1984). These practices promote, reinforce, and influence commitment through recruitment and selection, training and socialization, promotion and assessment, and compensation and benefits (Meyer and Allen 1997; Meyer and Smith 2000).<sup>3</sup>

#### *Recruitment and Selection*

In the creation of organizational commitment, the recruitment and selection of fighters for the armed group is an important strategy. A careful recruitment process, in which recruits are selected with, in essence, the same norms and values as promoted by the armed group, secures those potential combatants that the group needs. Other recruits, those that for example join for private gains or who have a high propensity for turnover can be identified early and turned down.

There are different strategies to identify the recruits that fit the organization. However, the key of every strategy should be the exchange of trustworthy information between the recruit and the armed group. Studies like Cable and Judge (1996) and Judge and Cable (1997), revealed for example, that if the organization provides potential applicants with information on both positive and negative aspects of the job, the candidate develops a higher level of organizational

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<sup>3</sup> There is some confusion over which practices are considered to be part of the HRM strategy (Gould-Williams 2004). However, most of the practices mentioned in the literature fall into one of these four general categories.

commitment, a higher level of job satisfaction, a higher level of trust in the organization and will be better able to cope with the demands of the job (Meyer and Allen 1997).

Strategies to identify the right recruit for an armed group are different in nature than those general used in legal public and private firms. Perhaps with the exception of the Fuerzas Armadas Revolucionarias de Colombia (FARC) in Colombia, hardly any armed group have official “job talks” in which they give the recruit a realistic job preview (Gutiérrez Sanín 2008). However, while some people make the conscious decision to join the armed group and are likely to have at least an idea what to expect, others are simply abducted and forced to fight against their will. By abducting their recruits, the armed group does not provide the recruit with the possibility of making a conscious decision to join or not. Hence, it can be expected that those recruits are less committed than those that joined on a voluntarily basis. This is summarized in the following hypothesis:

H1: Combatants who join the armed group voluntarily show a higher level of affective organizational commitment.

### *Training and Socialization*

Another important strategy for rebel leaders to build up organizational commitment in their group is through the process of socialization. In this process, new recruits should acquire the social knowledge and skills necessary to assume a role in the armed group (Van Maanen and Schein 1979). This is mostly done through the provision of various forms of training (Ahmad and Bakar 2003). Armed movements, such as the Pan Africanist Congress (PAC) in South Africa made for example, costly investments in the political indoctrination of their fighters (Herbst 2000). Also the Communist Party of Nepal-Maoist (CPN-M) is known for their indoctrination programs (Onesto 2005). Training is designed to create cohesion and solidarity through nurturing the group- and fighting spirit of the individual as well as to produce an adequate level of expertise

(Keegan, Holmes, and Gau 1985). Hence, it is one of the cornerstones of any armed group; they can hardly be effective without it.

In addition to training, the socialization process involves the usage of internal mechanisms that promote discipline such as avenues for punishment. Punishment practices in armed groups vary according to the influences of national character, citizenry, and leaders of the organization (Hamby 2002). Although distinctive, its primary purpose is to socialize each combatant by guiding him or her to the daily routine of working in an armed group by punishing what is regarded in the group as 'bad' behaviour. Hence, the combatant gains more awareness of what is expected of him or her. To test the influence of these two traditional associated socialization elements on the creation of organizational commitment, two hypotheses are formulated:

H2: The more training the combatants receive, the higher their level of affective organizational commitment.

H3: The more punishment combatants receive, the higher their level of affective organizational commitment.

### *Compensation and Benefits*

Another strategy to enhance the level of organizational commitment among troops is to give the individual combatant a kind of benefit or compensation for their participation in group's activities. This idea is nothing new. For hundreds of years soldiers stood to profit from their efforts in battle. In the Middle Ages wealthy prisoners could for example be ransomed, and their horses and armour sold, by their captors (Keegan, Holmes and Gau 1985, 53). Armed groups, which provide their members with benefits, are perceived by the combatants as showing greater care, concern and as being fair (i.e., they feel supported by their organization). This in turn, enhances affective organizational commitment on the side of the employee (Paul and Anantharaman 2004).

Benefits and compensation can come in many different forms. Loscocco (1990) for example, has focused in her research solely on the effect of financial rewards and conclude that: “women and men who reported that they are well-rewarded financially were also more likely to be committed to their companies” (Loscocco 1990, 170). Although Loscocco has focused on legal public organizations, receiving a wage or extra money for participation might also play a crucial role in establishing organizational commitment in armed groups. However, these groups can also provide other tangible rewards, such as drugs, traditional medicine, extra food, and/or male or female sex slaves. In addition to these tangible forms of compensation and benefit, some scholars have emphasized the positive effect of intrinsic rewards, such as self-image re-enforcement on organizational commitment (e.g., Angle et al. 1983; Meyer and Allen 1997). The effect of compensation and benefit on the level of organizational commitment shown by combatants can be summarized by the following hypothesis:

H4: The more rewards combatants receive, the higher their level of affective organizational commitment.

#### *Promotion and Assessment*

The last strategy that the HRM theory offers to enhance organizational commitment consists of policies and practices concerning the upward movements of employees (Meyer and Allen 1997). It is argued that these kind of policies are perceived as evidence that the organization, whether an armed group or other kind, is committed to the individual employee, which leads them to reciprocate. Young, Worchel and Woehr (1998) for example, show that employees who believe they have internal career opportunities are more committed. Internal career opportunities in armed groups consist most of the time in the form of receiving a different military rank or a different task within the operative unit. In the Lord’s Resistance Army (LRA) in Uganda for

example, most children are initially loads carriers – a hard and exhausting job. When they gain the trust of their commander, some children are promoted to guards or watchmen, responsibilities that are easier to carry out and are more prestigious jobs (Haer, Banholzer and Ertl 2011).

However, the seemingly simple positive relationship between promotion and the level of affective organizational commitment is complicated by the fact that too much promotion might work counterproductive. As Kaplin and Ferris (2001) pointed out, promotion has to be perceived as ‘fair’ and ‘deserved’. Receiving too often promotion or seeing that too many people receive promotion, can lead to an over justification and a subsequent reduction of the intrinsic rewards in the form of motivation coming from a high level of affective organizational commitment (Deci 1971; Pfeffer and Lawler 1980). Hence, promotion does not always lead to an increase in affective organizational commitment. These two contrasting views on the influence of promotion can be as followed summarized:

- H5a: The more promotion combatants receive, the higher their level of affective organizational commitment.
- H5b: The less promotion combatants receive, the higher their level of affective organizational commitment.

## **Research Design**

Previous research on the behaviour of armed groups has mostly employed qualitative information – gathered largely from secondary literature or expert interviews – or highly aggregated quantitative information (Haer and Becher forthcoming). However, testing these hypotheses requires systematic quantitative data on the micro-level. This article therefore, employs the systematic information retrieved from interviews with combatants in the DRC. This country is the site of one of the world’s worst ongoing humanitarian crises and a long lasting civil war (International Crisis Group 2009). Although an official peace agreement has been signed in 2003, a large number of warring factions are still straying through large areas of the country,

raiding villages and committing severe human right abuses. As these militant groups are operating in similar settings but pursue different political or economic goals and display diverse internal structures, they are interesting cases to study. Furthermore, little is known about the internal lives of these groups.

The data used to test our hypotheses was collected in the Eastern Kivu provinces of the DRC in April and May 2009. In this period, structured interviews were held with 96 combatants with the help of locally trained translators. Most of these questions concerned the day-to-day behaviour of the combatant within a unit of their armed group. Questions were for example asked about recruitment- and punishment methods, reasons for staying or leaving the group, the use of weapons, the internal structure of the groups, and the interactions with other armed groups. The 96 interviews resulted in a dataset of 139 observations, i.e., respondent per armed group. Most of the interviews were held in so-called welcome centres. These centres provide shelter and elementary help for released or escaped (child) soldiers. Other combatants were traced with the help of these centres and interviewed at their working place.<sup>4</sup>

#### *Dependent Variable: Commitment*

*Commitment* was measured with the help of several questions focusing on different aspects of this concept and the intensity in which they prevail during and after the combatant's period in the armed movement. Most of these questions are loosely based on the standardized Organizational Commitment Questionnaire (OCQ), a standardized instrument often used to measure the strength of the individual's identification with and involvement in a public or private organization (Porter et al. 1974). Since this instrument was developed with having western legal public and private organizations in mind, the formulation of some items was adapted and some other items

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<sup>4</sup> An obvious concern is truth telling. Combatants may have strong incentives to misrepresent the facts. To avoid possible situations that enhance this, the survey explicitly avoided questions whose answers could be incriminating for the individual. Moreover, the survey was administered in private and a form of consent was signed, in which the interviewer promised to keep up the anonymity of the respondent and permission for the interview was asked. No incentives were offered for participating to the interview.

were removed or replaced completely. Table 1 shows the descriptive statistics of this variable. The constructed measure has a mean of 2 and a standard deviation of 1.268, which indicates a sufficient variation in this measure.

To allow specialist on the DRC conflict and their armed group to evaluate the validity of the commitment measurement as compared with their view on the armed group behaviour acquitted with other approaches, we plotted the mean and standard deviation of the level of commitment per armed group in Figure 1.

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Figure 1 about here  
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Although, commitment does not vary significantly across the groups ( $F(7, 131) = 1.24, p = 0.2839$ ), we can see that combatants who were a member of the old national army (the Alliance des Forces Démocratiques pour la Libération du Congo - AFDL) and the newly formed national army (Forces Armées de la République Démocratique du Congo - FARDC) show a somewhat lower level of loyalty than those who were active members of the several non-state armed groups. This is partly due to the fact that the national armies are often formed by integrating these non-state armed groups.

*Independent Variables*

To test our first hypothesis, we look at the influence of the recruitment method on the level of commitment developed by the combatants, coded as 1 for *voluntary joining* and 0 if the combatants had been forced to join the armed group. Our second hypothesis stipulates that socialization in the form of receiving *training* has a positive effect on a soldier's level of commitment. Training can come in many forms, but in the interviews three kinds stood central: the amount of military

training (lessons received on the handling of different kind of weapons), political training (lessons on the ideology and the political goals of the armed group), and spiritual training (lessons on the use of ‘traditional medicine’, the bible, witchcraft, etc.). Although the later form of training might seem unrelated to the development of affective organizational commitment, the promotion of spirituality and religion in wartime is often seen as a device to help buttress morale (Keegan, Holmes, and Gau 1985). All these training variables are measured in the number of years a combatant enjoyed them. A second independent variable that was used to measure the concept of socialization is the level of *punishment* received by the combatants. This was measured by an ordinal question with three categories (often, sometimes, never).

The third strategy that might influence the level of commitment of combatants is by the lure of *rewards*. Combatants were asked to indicate whether they received extra food, money, sex slaves, spiritual objects, or drugs as a reward for participating for fighting (before or after). Note that we have measured only the amount of received tangible rewards as estimating the amount of received intrinsic rewards is difficult. On the basis of these answers, an index was created that measured the amount of received rewards. The last independent variable that was included in the analyses is whether combatants were *promoted*. Unfortunately, the survey did not contain a question measuring the amount of promotion nor did it contain measurements of the relative amount of promotion combatants received in comparison to others members of the unit. Hence, we constructed a proxy on the basis of the answers given to the questions measuring the important factors contributing to promotion. For example, we asked whether it was important to be extra cruel during fighting for getting a promotion. The respondent could indicate whether it was very important, important, not at important at all. We assumed that respondents who were never promoted were not able to answer these questions. Hence, by counting the missing values on these items, a dichotomous proxy was made for promotion. See Appendix 1 for the exact wording of the used questions and Table 1 for the average, minimum, and maximum value of all the independent variables.

### *Control variables*

It is assumed that affective organizational commitment can be enhanced with the above-mentioned HRM practices. However, previous research reveals that the level of commitment is also determined by three general antecedents: personal variables, job and role characteristics, and structural factors (Smeenk et al. 2006). Most of the variables that fall into one of these three categories do not seem to be of relevance when applying to armed groups, such as working hours, job challenge and social involvement. However, in order to control for the most robust antecedents, we decided to include the *age* of the respondent when they joined the armed group and for the organizational tenure or *duration*, measured in the number of years of membership. Both age and organizational tenure are generally positively related to the level of organizational commitment in public and private organizations, albeit weakly (e.g., Mathieu and Zajac 1990; Allen and Meyer 1993). See Table 1 for the descriptive statistics of these two variables.

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Table I about here

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### *Method*

This unique dataset is based on a convenience sample. Combatants were selected because of their convenient accessibility and proximity and not because they are representative for the entire population. Hence, it is therefore likely that the in the dataset over represent combatants coming from the Kivus areas. In addition, it might be the case that the dataset is more likely to include combatants connected to particular armed groups, which have their main base in the Kivus provinces, such as the Maï Maï. Because of the possibility of having a sample bias, it is not

possible to make any inference about the entire population of combatants with standard empirical methods.

A method that resolves partly this inference problem is the so-called Bayesian approach for analyzing data. Bayesian analysis provides inferences that are conditional on the data and are exact, without reliance on normality approximations based on large sample asymptotics (Congdon 2003). Hence, Bayesian analysis is ideally suited for making inference to the (random or non-random) sample at hand rather than making inference to a hypothetical super population as is done by frequentist statisticians (Hangartner et al. 2007).

The main difference between the classical statistical method and the Bayesian approach is that in the former, sample data are taken as random while population parameters are presumed to be fixed. In the Bayesian approach, on the contrary, population parameters are considered to be random variables. These random Bayesian population parameters are characterized by a so-called prior distribution, which is a probability distribution that express the uncertainty about how likely various values of the unknown parameters are. Since there is no strong guidance for the construction of these priors for the models described above, we choose for all parameters a noninformative or vague prior distribution with a mean of zero and a large variance. These prior distributions hold as little prior information about the parameters as possible and will therefore not influence the estimated posterior coefficients.

This prior distribution is combined with the traditional likelihood to obtain posterior distribution of the parameter of interest on which statistical inference is based (Congdon 2003, 2). For the models tested in this article, that means that the likelihood function is in the format of a maximum likelihood estimation of a probit model. Calculating the posterior distributions and integrating out the parameters is done with the help of randomly drawing many simulated samples from the posterior distribution. These simulated samples are drawn with the help of Markov Chain Monte Carlo (MCMC) Gibbs sampling method. In total three chains for 30.000

iterations initiating from randomly chosen starting points are ran. We discarded the first 2.500 iterations as burn-in.

### *Results*

Before presenting the results of the different Bayesian ordered Probit (BOP) analyzes, attention should be devoted to the MCMC converge underlying these analyzes. Even though convergence is guaranteed with an infinite number of MCMC iterations, finite iterations require assessment of (non-)convergence especially because convergence cannot be appraised directly (Hangartner et al. 2007). To assess convergence or non-convergence a batch of formal tests for non-convergence, namely Heidelberg and Welch (1983), Raftery and Lewis (1992), Geweke (1992), and the version of Gelman and Rubin (1992), are employed. While the first three tests compare the mean and variance for non-convergence of a single chain, the fourth test compares the mean and variance for all three chains. None of these tests indicated non-convergence. In addition, we use measures of auto correlation of all model parameters and cross-correlation between the model parameters in order to determine how fast the chain is mixing through its stationary distribution. The results show that the chain is fastly mixing and auto correlations and cross-correlations are satisfactorily low.<sup>5</sup>

Table II provides the posterior mean and the standard deviation for each of the independent variables associated with the tested strategies together with the set of control variables. The coefficients are to some extent similar in interpretation to the coefficient and the standard deviation in standard ordered probit analyses. Although the Bayesian approach can deal with convenience samples, the results should be taken *cum grano salis*. Unlike the standard frequentist approach, the results allow for a probabilistic interpretation. Hence, the asterisks in the table indicate that there is a 95%, 90% or 85% probability that the credible interval (i.e. confidence intervals in terms of frequentist statistics) contain the mean of the parameter. Since this article

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<sup>5</sup> Results are available upon request.

has a X-centered focus, i.e. we examine the effect of the different HRM practices on the level of affective organizational commitment rather than trying to explain the total amount of commitment, the table does not report any model-fit statistics (Ganghoff 2005).

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Table II about here  
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In the second column of Table II, the influence of the recruitment strategy on the level of commitment exhibited by the combatants is assessed. The results show that the recruitment strategy has an effect on the level of commitment, for this effect the 95% credible interval does not include the zero. This result is also confirmed using the frequentist approach of ordered probit analysis.

In the second column of Table II, the influence of the recruitment strategy on the level of affective organizational commitment exhibited by the combatants is assessed. The results show that the recruitment strategy has indeed an effect on the level of commitment, for this effect the 95% credible interval does not include the zero. This result suggests that we need to reject hypothesis 1, in which we assumed that individual who joined voluntarily will develop a stronger sense of commitment than those combatants who have been abducted by force. In fact, the results show a completely different picture: the negative coefficient indicates that those combatants that were abducted into the armed group show a higher level of commitment in comparison to those who joined voluntarily. To be more precise, the coefficient of -0.41 indicates that in comparison with those that joined an armed group on a voluntarily basis, abductees have around 10% higher level of commitment.

Even though this result appears counterintuitive, it becomes more comprehensible when taking the negative of the age coefficient into account. This coefficient indicates that specifically

young combatants show a high level of commitment.<sup>6</sup> This confirms once again the sad truth that recruiting children as soldiers – even by force - is in general an effective strategy. Not only are they cheap, effective and - as children make up more than half of the population in many developing countries - easy to replace fighters, they are also easy to manipulate, to model and to indoctrinate (Haer, Banholzer, and Ertl 2011; Schauer and Elbert 2010).

Our next set of hypothesis set forth that the socialization process, in the form of training and punishment should have a influence on the level of commitment a combatant feels towards his or her armed group. The results, which can be found in the third column of Table II, exhibit that training has indeed an effect on the level of affective organizational commitment of the individual combatant, as for this effect, the 90% credible interval does not include zero. However, in contrast to our hypothesis in which we assumed that more training leads to more affective organizational commitment, the effect of training has a negative effect, as is showed by the negative coefficient of -0.147. This means that one year extra training leads to a decline of around 4% in the level of affective organizational commitment.<sup>7</sup> To look more into this negative relationship, we examine the effect of the individual components of training (military, political, and spiritual training) on the level of commitment. The analysis show that this negative but statistical reliable effect of training is mainly due to the influence of military and spiritual training. These are the kind of trainings that are specially used during battle. The more military and spiritual training a recruit received, the less committed he or she becomes. The coefficient of -0.5959 for military training for example, indicates that with one year extra of military training combatants receives, their level of commitment declines with a shocking 15%. The effect of spiritual training is somewhat lower; the coefficient of -0.1901 evince that one year extra of spiritual training decreases the level of affective commitment of around 5%. These negative

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<sup>6</sup> Additional analyses suggest that there is a linear relationship between age and commitment. Hence, the level of commitment does not seem to change per age group.

<sup>7</sup> Note that there is one threshold missing in the analyses. This means that the model is over specified and that a much simpler model could have produced the same results. However, this is not possible when examining the other strategies.

effects of training on the level of commitment might be explained by the fact that the more combatants receive this particular training, the more likely they are used in battles in which they experience life threatening events that not only might influence them physical (e.g. getting harmed) but also mentally. This in return can negatively influence their loyalty towards the armed group. Although, we did not receive any indication during the held interviews, it might also be the case that training is offered selectively out of cost reason; only those combatants that need it (i.e. those that have a low level of commitment in the first place) will receive it. Political training, although the effect is not statistical reliable, has on the other hand a positive effect on commitment. This confirms at least partly the idea that indoctrination of soldiers might be crucial for the establishment of commitment among fighters.

In addition to the influence of training, we examine the influence of punishment on the level of organizational commitment showed by the combatants. We argued that punishment is positively related to commitment, since combatants learn what is regarded to be good and bad behaviour. This positive relationship is confirmed by the Bayesian analysis. To be more precise, one unit change in punishment results in 4% more commitment. Nevertheless the relationship between punishment and commitment might be curvilinear; those combatants that receive less punishment might have a high level of commitment and at the same time, those combatants that experience much punishment have a high level of commitment. To test this curvilinear relationship requires a more fine graded measurement of punishment that we now have available.

The effect of rewards on the level of commitment is also shown in Table II. The coefficient is positive, indicating that the more rewards an individual combatant receives the higher his or her level of affective organizational commitment becomes. However, the effect is not statistical reliable in the Bayesian analysis. This might be due to the proxies used to measure this particular variable. Receiving rewards was measured by counting the missing values on the survey questions. This mixed effect, i.e. positive but not statistical reliable, can also be found in HRM studies in the public and private sector. For example, Paul and Anantharaman (2004, 78)

conclude that among various HRM practices, rewards have the greater influence on organizational commitment, while a recent meta analyses conducted by Smeenk et al. (2006, 2039) conclude that the level of compensation is found to have no significant influence on any form of organizational commitment. Although rewards have no reliable effect, the control variable of age has it. Age is, as expected, negative related to the level of commitment and statistical reliable at the 95% credible interval.

The last column reports the effect of the promotion strategy on the level of commitment. We formulated two contrasting hypotheses on the influence of promotion on the level of organizational commitment of combatants. The first hypothesis expected a positive relationship between promotion and commitment, considering promotion as a reward. However, the second hypothesis regarded a negative relation between promotion and commitment, based on the idea that promotion has to be something special and unique. The negative coefficient in the sixth column indicates that this later hypothesis is confirmed. To be more precise the coefficient indicates that when combatants receive somewhat more promotion (a difference of 1 category in the variable) the level of commitment decreases with around 27%. What we were not able to test, because of a lack of data, is the relative influence of promotion. That means, it might be the case that receiving promotion has only an impact if every other combatant does not receive it. However, for testing this idea we need information on the general promotion policies per unit, and this data is not available.

#### *Alternative Specification and Robustness Checks*

Three alternative specifications were made to control for robustness of the above findings. One problem that might trouble the results is the dependency of some observations, i.e. some respondents are more than once in the dataset since they were members of more than one armed group. To control for this possible bias, we sampled 8 different datasets with each 96 observations (each respondent was only once included in each of dataset). For those respondents

that were more than once in the dataset, it was randomly chosen which entry was included. The Bayesian analyses performed on these 8 datasets did not result in any significant difference. The direction and average effect of all independent and control variables were the same. Nevertheless, because of the considerable decrease in the number of observations (from 139 to 96 observations), some effects became – as expected - less significant reliable.

In addition, an alternative measure of commitment was made in order to check the robustness of the measurement of the dependent variable. The commitment measure so far has been based on 8 questions (see Appendix 1 for the exact wording). Some of these questions are closely related with each other, and perhaps it was difficult for some combatants to determine the difference between the present-tense question: “I still feel close to my friends in the group” and the past-tense question: “how close did you feel to your friends in the bush?”. Hence, a new measure of commitment was made, excluding the latter question. The new measure of commitment has a somewhat lower mean of 1.8993 and a lower standard deviation of 1.1380, compared to the original measurement. The results of the Bayesian analyses using this new measure did again not differ substantially, with the exception of a minor change in the effect of training. In the Bayesian calculations with the new measure, this effect becomes less strong, which is partly due to an increase in the effect of military training on the level of commitment. In other words, with the removal of a measure that tapped the bonding between friends during their time in the armed group, the effect of the military training on the level of commitment declined. This is no surprise, given the fact that in the military there is a very strong relationship between the fighting spirit of the individual combatants and the bonding that takes place within a unit (Keegan, Holmes, and Gau 1985).

Lastly, the priors used in the Bayesian analyses were changed. Instead of having an uninformative prior with a mean of zero and a large variance, two randomly chosen other priors were employed; one with a small variance and one with a different mean value. Again, the results seem to be robust. Abducted combatants show the highest level of commitment, training

(especially military and spiritual training) has a negative reliable effect on the level of affective commitment among combatants, rewards do still not have a statistical reliable effect, and the effect of promotion is still significant reliable.

## **Conclusion**

Most studies on the behaviour of armed groups on and off the battlefield are based on the assumption that combatants' faithfully execute the order given by their commanders. Nevertheless, many examples can be found of combatants who are involved in mutiny and insubordination. There are even armed groups that fractionalize. Although we do not deny the fact that most troops follow the orders of the commanders without questioning, we argue in this article that the linkage between a given order and its execution is not always as plausible as portrayed by these studies and that it depends in great part on the level of organizational commitment of the combatants. It is then also necessary to explore this concept and to understand which practices armed groups might employ to manage the level of affective organizational commitment. This insight does not only enhance the academic literature but also help to develop more effective DDR programs.

Armed groups, like every other public or private organization can manage their combatants by using HRM practices, like recruitment and selection procedures, training and socialization methods, providing compensation and benefits, and by using promotion and fair assessment of the individual combatant. All these practices increase the level of affective organizational commitment, i.e., combatants with a high level of such commitment remain with the armed group because they want to, not because they need to or ought to.

With the help of unique micro-level data collected in the DRC in 2009, we analyze the effect of each of these strategies on the level of commitment showed by the individual Congolese fighter. The Bayesian analyses show that in contrast to what the HRM theory prescribes, abducted combatants, those that did not make consciously the choice of joining the armed group

are more committed to the armed group in comparison to those that joined voluntarily. This can partly be explained by the fact that most often younger persons are abducted. These are much more easily to indoctrinate or to influence. Also the years in training, especially in military and spiritual areas, have a negative influence on the level of commitment. This is probably due to the fact that the more of this training they receive, the more often they are exposed to the horrors of the battlefield, which is likely to reduce the level of commitment. The last HRM practice that has influence on the level of affective organizational commitment is whether combatants are promoted or not. The less often an individual in the group receives promotion the more it is valued and appreciated. This idea is confirmed by the analyses, which shows that rare promotions lead to more organizational commitment within the militia.

The analyses reveal that armed groups do indeed use HRM practices to gain their individual members to commit themselves to the armed group. However, these practices do not have a very straightforward effect in armed groups as they might have in public or private organizations. Nevertheless, understanding the causal link between management and the creation of commitment and as such between the received orders and the faithful execution of them shed light on not only the persistence of these groups but also their behaviour. Further research should be focused on two important elements; the relative importance of these strategies, i.e. whether the level of commitment depends on what other combatants receive or do. In addition, upcoming research should be focused on gathering of data that allows us to test for possible curvilinear relationships between the strategies and the level of affective organizational commitment.

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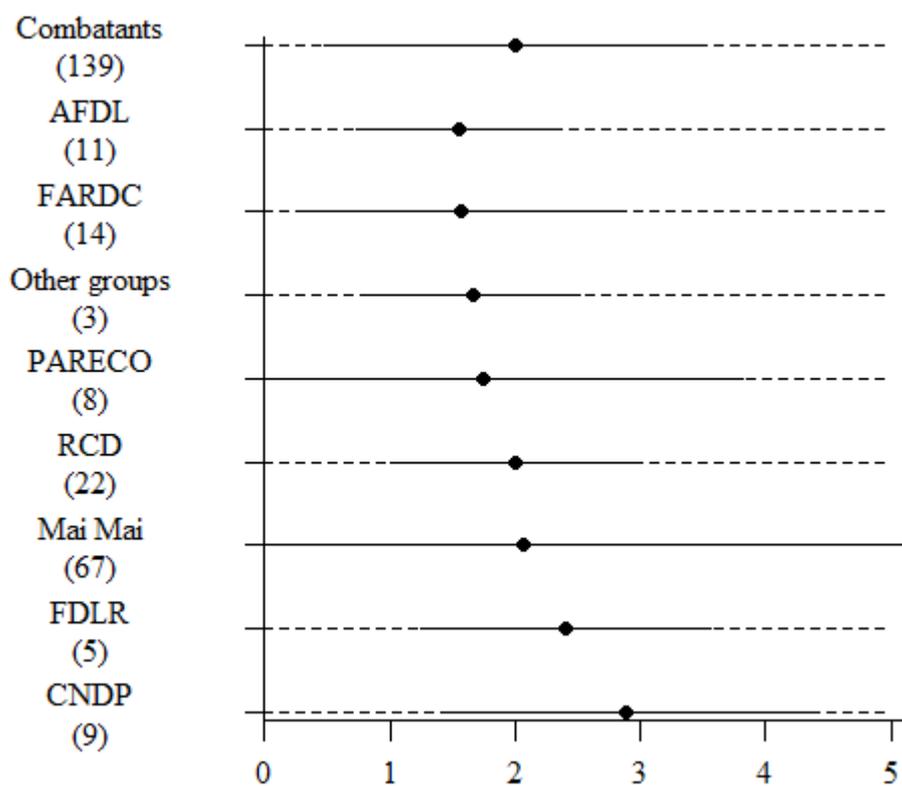
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## Appendix 1: Variables and survey questions

Variable	Component of Survey Questions
Commitment	<ul style="list-style-type: none"> <li>I will now ask you some questions about your relationship with different people. Just imagine you are at the very beginning (position 0) of the line, can you show me on this line how close you feel to the following people. The closer you put a cross to your position, the more close you feel to that person.               <ol style="list-style-type: none"> <li>How close did you felt to your friends in the bush?</li> <li>How close did you felt to the organization as a group?</li> <li>How close did you felt to your commander?</li> </ol> </li> <li>I am proud to tell others that I was part of the organization. <i>Strongly agree/ Agree/ Neither agree nor disagree/ Disagree/ Strongly disagree/ Dk-Na</i></li> <li>I really care about the fate of the organization. <i>Strongly agree/ Agree/ Neither agree nor disagree/ Disagree/ Strongly disagree/ Dk-Na</i></li> <li>I feel very little loyalty to the organization. <i>Strongly agree/ Agree/ Neither agree nor disagree/ Disagree/ Strongly disagree/ Dk-Na</i></li> <li>I would go back to the organization when my comrades ask for my help. <i>Strongly agree/ Agree/ Neither agree nor disagree/ Disagree/ Strongly disagree/ Dk-Na</i></li> <li>I still feel close to my friends in the group. <i>Strongly agree/ Agree/ Neither agree nor disagree/ Disagree/ Strongly disagree/ Dk-Na</i></li> </ul>
Age	<ul style="list-style-type: none"> <li>How old were you when you joined the armed group?</li> <li>How old where you, at the time of abduction?</li> </ul>
Abduction	<ul style="list-style-type: none"> <li>How did you become part of the armed group in question? <i>I was abducted/ I joined voluntarily the organization</i></li> </ul>
Training:	<ul style="list-style-type: none"> <li>Did you participate in training before fighting? If yes, what type of training did you undergo and for how long? <i>No, I did not have had any training/ Yes, I have had military training for ____ days/months/years/ Yes, I have had political/ideological training for ____ days/months/years/ Yes, I have had spiritual training for ____ days/months/years/ Other, please specify ____/ Dk-Na</i></li> </ul>
Duration	<ul style="list-style-type: none"> <li>What was the longest period you have stayed in the organization? If you do not know the exact period, please tell me your best guess.</li> <li>How long were you abducted? If you do not know the exact time, please indicate your best guess.</li> </ul>
Punishment	<ul style="list-style-type: none"> <li>Were people from your group punished for disobedience? <i>Yes, often/ Yes, sometimes/ No, never/ Dk-Na.</i></li> </ul>
Promotion	<ul style="list-style-type: none"> <li>If you think back to your unit, can you tell me how people were promoted? And how important the following reasons were for their promotion?               <ol style="list-style-type: none"> <li>The person was promoted because he was a friend/relative of the commander. <i>Very important/ Important/ Not important/ Dk-Na.</i></li> <li>The person was promoted because he was a good fighter during attacks. <i>Very important/ Important/ Not important/ Dk-Na.</i></li> <li>The person was promoted because he was intelligent or educated. <i>Very important/ Important/ Not important/ Dk-Na.</i></li> <li>The person was promoted because he was popular in the group. <i>Very important/ Important/ Not important/ Dk-Na.</i></li> <li>The person was promoted because he was rich, and able to buy a promotion. <i>Very important/ Important/ Not important/ Dk-Na.</i></li> <li>The person was promoted because he was especially cruel in injuring and killing people. <i>Very important/ Important/ Not important/ Dk-Na.</i></li> </ol> </li> </ul>
Rewards	<ul style="list-style-type: none"> <li>Were you ever given the following things for participating in your unit's operations? And did you receive them before or after a fight?               <ol style="list-style-type: none"> <li>Extra food. <i>Most likely before/ Most likely after/ Whenever available, it did not depend on an action/ Not at all/ Depend upon yourself/ Dk-Na.</i></li> </ol> </li> </ul>

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2. Money. *Most likely before/ Most likely after/ Whenever available, it did not depend on an action/ Not at all/ Depend upon yourself/ Dk-Na.*
  3. Non-medical drugs (like cocaine, marihuana). *Most likely before/ Most likely after/ Whenever available, it did not depend on an action/ Not at all/ Depend upon yourself/ Dk-Na.*
  4. Woman/Man/Boy/Girl. *Most likely before/ Most likely after/ Whenever available, it did not depend on an action/ Not at all/ Depend upon yourself/ Dk-Na.*
  5. Spiritual objects (e.g. holy water). *Most likely before/ Most likely after/ Whenever available, it did not depend on an action/ Not at all/ Depend upon yourself/ Dk-Na.*
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**Figure 1:** Descriptive statistics for the level of commitment per armed group

**Table 1.** Summary statistics of variables

Variable	Obs.	Min	Max	Mean	Std. Dev.
Commitment	139	0	5	2	1.268
Age	131	6	38	15.603	5.097
Abduction	139	0	1	0.640	0.482
Training total	139	0	12.3287	0.7027	1.5538
Military training	129	0	3	0.2836	0.4779
Spiritual training	101	0	12	0.3851	1.4768
Political training	99	0	8	0.2614	0.9565
Duration	137	0	12	2.5887	2.1957
Punishment	133	0	2	1.759	0.463
Rewards	139	0	4	0.935	0.972
Promotion	139	0	1	0.086	0.282

**Table II.** Results from the Bayesian Ordered Probit (BOP) analyzes

Variable	Recruitment Strategy	Training Strategy (1)	Training Strategy (2)	Rewards Strategy	Promotion Strategy
Constant	2.8970 (0.4096)	0.5664 (0.5360)	3.1327 (0.5488)	2.62950 (0.4059)	3.0260 (0.4365)
Abduction	-0.4072*** (0.1987)				
Training		-0.1470** (0.0891)			
Military training			-0.5959*** (0.2862)		
Political training			0.0374 (0.1110)		
Spiritual training			-0.1901*** (0.0934)		
Punishment		0.1494 (0.2191)			
Rewards				0.0867 (0.1052)	
Promotion					-1.0745** (0.3602)
Age	-0.0372** (0.0194)	-0.0337* (0.0220)		-0.0426*** (0.0192)	-0.0406*** (0.0194)
Duration	-0.0515 (0.0449)	-0.0367 (0.0542)		-0.0350 (0.0449)	-0.0635 (0.0458)
Gamma2	1.8797 (0.2245)	0.5762 (0.1006)	2.8652 (0.5384)	1.9174 (0.2271)	2.1280 (0.2718)
Gamma3	2.4355 (0.2349)	1.1390 (0.1394)	3.4243 (0.5407)	2.4690 (0.2373)	2.6821 (0.2789)
Gamma4	2.9992 (0.2469)	1.9139 (0.2092)	4.0052 (0.5495)	3.0127 (0.2524)	3.2187 (0.2891)
Gamma5	3.7952 (0.2932)		4.9420 (0.5981)	3.7683 (0.2907)	3.9422 (0.3217)

Estimations are performed by using R version 2.12. The first coefficient is the mean of the parameter. The standard deviations are in parentheses. \* the credible interval of 85% does not include a 0; \*\* the credible interval of 90% does not include a 0; \*\*\* the credible interval of 95% does not include a 0.