

Are the Military Ideologically-Driven? Explicit and Implicit Political Biases Among Armed Forces in Colombia¹

ABSTRACT

What motivates the military to fight in contemporary wars? Literature tells us soldiers are typically willing to engage in risky military actions due to their interpersonal loyalty to their comrades, and the sense of fighting for a moral cause. By building up a novel database of a representative sample of members from Colombian Armed Forces who actually fought in the battlefield against Marxist guerrillas between 1990 and 2017, and relying on computer-based tests, here we systematically measure both explicit and implicit war motivations. Our results suggest that ideology remains a systematic stimulus in soldiers' minds, both at conscious and unconscious levels, therefore affecting key behavioral aspects such as cohesion, task performance, and adherence to specific tactic and strategic principles on the ground. Prevalence of such stimulus even after active confrontation has ended might also point at a potential explanatory factor to veterans' social and political behavior.

KEYWORDS: ideology, armed forces, motivation, cohesion, Colombia, armed conflict, post-conflict

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INTRODUCTION

Why do members of the military fight? In the aftermath of WWII, studies focusing in understanding inner motivations of combatants from Armed Forces in Europe and the U.S. stressed the particular importance of loyalty to the primary group as a determining factor that helps explain why an individual would put himself in harm's way (Shils 1950; Shils and Janowitz 1948; Stouffer 1949). Own survival, and that of their peers, was the most frequent response provided to the question by surveyed participants back then, and some studies with active soldiers and veterans from the 1960s and 1970s wars tended to corroborate and qualify the trend (Fowler 1979; Kaplan 1987; Knowlton 1986; Little 1964; Marshall 1964).

One important qualification to this assertion came from authors who claim that holding and actively defending abstract values such as a democracy or freedom was just as important to explain combatant's commitment to their military organization's practices, as it was their willingness to abide by tasks and norms set by their hierarchies. This body of literature ranged from assessing the intensity of these ideological motivations, to describing the primary group cohesion dynamics (Bartov 1991, 2001; Berns 2001; Chacho 2001; Fritz 1996; McPhersons 1997; Moskos 1970, 1975; Wong et.al 2003).

While the discussion between the relevance of primary group and ideological commitment as sources of cohesion, combat motivation and even battlefield performance has remained active in contemporary debates (see discussion in following section), there are few fresh works offering new insights beyond normative propositions based on anecdotal evidence.

This is not the case of studies on motivation among combatants from rebel armed groups. An important body of literature has emerged in the first quarter of this century to uncover the ways leading individuals to join armed groups, remain loyal to typically authoritarian hierarchies. Such literature also describe how the adherence to such hierarchy expose them to traumatic combat experiences, and center their life plans around the existence of the group (Cohen 2017; Gates 2017; Henriksen and Vinci 2007; Hoover Green 2017; Kenny 2010; Staniland 2010; Malesevic and Dochartaigh 2018; Nussio and Oppenheim 2014).

While acknowledging the importance of social bonding and inter-personal relations as a source of cohesion and motivation to fight, the most recent advances in this field have described ideology as a prominent factor explaining rebel combatants' logics of action. While ideology seems to fail to explain why most people join armed groups, it has become more evident that a shared understanding of a set of beliefs might not only galvanize rebel groups' internal cohesion, but also provide tangible tactical and strategic advantages on the battlefield (Balcells and Kalyvas 2015; Kalyvas and Balcells 2010; Moro 2017; Nussio 2017; Ortiz 2002; Sanin and Wood 2014; Schubiger and Zelina, 2017). The effects of ideological indoctrination on individuals remain evident even long after violent confrontations have ended (Ugarriza and Craig 2013).

Such detailed insights have not been publicly made for the case of members from official Armed Forces, as far as we know. The lack of understanding of their social and political psychology have prevented us not only from stress-testing questions on why soldiers fight, but also from providing explanations to their behavior once they leave their military institutions and integrate into civil society.

Nevertheless, analogous to what has been observed in the case of rebel groups, the amount of resources dedicated by military institutions to the ideological training of their members is far from negligible. During the Cold War, most Western armies adopted a strong and systematic anti-communist discourse that not only affected individuals' decision to join, stay and fight, but also provided a comprehensive blueprint on how to approach the adversary from a tactical and strategic viewpoint.

As explained in the following section, those Armies that abided by the anti-communist strategy typically attempted to replicate many key aspects of U.S. military doctrine and, in cases like Colombia, even also internal bureaucratic and command structures.

This article builds upon a novel, representative sample of rank-and-file members from the Colombian Army who fought Marxist guerrillas between 1993 and 2016 in order to explore the ideological motivations behind military action. Particularly, we aimed not only to discern whether ideological motivations were reflected on explicit attitudes, but also on logics of action at more profound and unconscious levels, by means of a contrast between explicit and implicit attitudes.

An analysis of the role of ideology in Western armies, such as the one here studied, should provide us a better picture of how we could potentially understand their logics of action both before and after war.

I. MILITARY MOTIVES, MOTIVATIONS AND IDEOLOGY

Following Atkinson's (1964) conceptual distinction, and its subsequent application to military contexts, we understand motivations as "elicitation and

control of an action to obtain a motive's satisfaction", while motive in turn refers to "an enduring tendency to seek a particular type of satisfaction" (Villegas 2009, 265).

Ideally, we should distinguish between the effects of primary group cohesion or ideological indoctrination on motives and motivations in a separate way. However, in practical terms our available social science tool-kit does not offer many options to guarantee distinguishable enough measures. When elicited, motives intertwine with observed immediate motivations. As a result, most studies do not make a clear conceptual distinction between the two, and refer broadly to 'motivations' without much clarification on whether they refer to immediate or more structural stimuli behind soldiers' actions.

But what specific actions? Military literature points out at three main domains of action: joining, staying, and fighting. Joining mainly refers to the motives and motivations behind an individual's participant in a recruitment process (Griffith and Perry 1993; Woodruff et.al 2006; Griffith 2008); staying relates directly to the individual's cohesion level, and desire to remain as part of a group or institution (Carron and Brawley 2000; Siebold 2007); and combat describes the willingness to engage in dangerous military operations (Van der Dennen, 2005; Wong et.al 2003; Wong 2006; Van den Aker, Duel and Soeters 2016).

Right after WWII, a series of studies with U.S. and German soldiers theorized mainly on sources of combat motivation, asserting the relative importance of primary group cohesion. According to this first body of literature, soldiers fought mainly for their peers (Shils and Janowitz 1948, Stouffer 1949;

Griffith 1989), as a mean to increase their possibilities to survive in extreme conditions (Elis 1980).

Later works on veterans from Vietnam and Cold War-related confrontations continue exploring the role of primary group (Kaplan 1987; Knowlton 1986) and survival motivations (Doubler 1994, McManus 1998). Van den Aker's study (2016) with 6,000 Dutch veterans who participated in military operations from the end of WWII to the start of the post-Cold War insists on the importance of the primary group as a factor that explains the motivation for combat, expressed in confidence levels toward partners and leaders.

Nevertheless, authors such as Moskos (1970, 1975) had previously championed a set of hypotheses on the existence of ideological motivations among soldiers, and right after Cold War ended a new stream of research attempted to revisit old conflicts in the light of this approach.

As a result, Bartov (1991), McPersons (1997), Ambrose (1997), and Chacho (2001) have re-installed ideology as a primary motivating factor, alongside primary group cohesion, to explain U.S. soldier's willingness to fight in their XIX Century civil war, Vietnam and WWII, respectively. Watson and Porter (2009), in turn, undertook an analogous effort for the case of early XX Century European wars. And in the case of soldiers fighting post-Cold War conflicts such of those in Afghanistan, Iraq and Israel, motivation hypotheses on both primary group and ideology still co-exist (Ben-Shalom et al. 2005; Rohall et al. 2006).

One of the most influential works in the field in recent times comes from Wong et al. (2003). By means of personal interviews with U.S. veterans from Afghanistan and Iraq wars, the authors found a prevalent voicing of reasons such

as 'freedom', 'liberation' and 'democracy' as a constitutive part of explicit discourses on why they fought, besides the emotional bonding with their comrades. They dubbed this pattern as evidence of a 'moral dimension' of combat motivation.

Following this work, McCoun et al. (2006) insisted in the importance of soldiers' shared commitments to their mission as an explanatory factor for their cohesion and even effectiveness in the battlefield, while Woodruff, Kelty and Segal (2006) reported evidence on the role of patriotic values in individuals' decision to enlist.

The main criticism to this body of literature comes from the fact that studies are typically based on surveys and interviews of members from specific military units, and not representative samples (Bartov 1991; McCoun et al. 2006).

A much more robust corpus of research has been gathered to answer the analogous question on what motivates individual to join non-state armed groups. Micro-level studies have shown that many rival hypotheses on why individuals choose to join an armed group are simultaneously supported by evidence, and therefore motivations of entry somehow intertwine elements such as social and political grievances, selective incentives such as greed (Keen 2000; Collier 2004; Ross 2006; De Soysa 2002; Malesevic and Dochartaigh 2018); social networks and effects of collective identities, peer pressure and social sanctions (Della Porta 1988; Bosi and Della Porta 2012); personality traits such as sensation-seeking (Nussio 2017; Ugarriza and Nussio 2016); personal agendas such as revenge (Gutierrez 2008; Picón and Plazas 2008; Moreno et ál. 2010); and coercion (Humphreys and Weinstein 2008).

In most studies, ideological commitment ranks low among explanatory factors for entry. But once in the group, indoctrination and socialization of commonly-shared set of beliefs becomes crucial to explain both individual-level and collective action in contexts of violent confrontation.

Particularly, ideology not only help to explain cohesion levels among members of the groups, but also contribute to solve coordination problems within the group and with external actors, to enable preference structuration and prioritization of goals, to constrain strategic choices made by combatants, to channel emotions for mobilization and risky behavior, to establish in-group/out-group mentalities, and to provide a tactical and strategic blueprint on how to conduct warfare (Balcells and Kalyvas 2015; Ugarriza and Craig 2013; Wood and Sanin 2014; Zelina and Schubiger 2017).

Is ideology relevant also as a motivating factor in the case of members of official Armed Forces? The following section explains the way U.S.-allied Armed Forces developed a specific ideological framework to coordinate a global-reach confrontation against Communism during the Cold War, and how such frame continues to inform the way wars were conducted against insurgencies in contemporary armed conflicts.

II. ANTI-COMUNIST FIGTHERS

For at least half a century, U.S.-led anti-Communist doctrine not only permeated the understandings of the nature of armed conflicts around the world, but it also translated into specific prognosis of how members of Armed Forces should be instructed in terms of values, tactics and strategy.

During the Cold War, the United States mobilized its resources to face the communist subversion, considered a threat to the socio-economic stability of many countries. The Armed Forces played a key role in that process by promoting counter-guerrilla training, assisting foreign armed forces, occupying unstable countries and providing material, money and aid to the nations that faced a potential communist threat (Birtle 2006).

Counter-insurgency manuals were handed down to allied military forces around the world. Field manuals from the 1960s described the Communist threat during the Cold War as “broad and diverse, and which is directed by a flexible and pragmatic strategy”. As an appropriate response, “and in pursuit of its national objectives, the United States has worldwide commitments to other nations”, which explicitly translated into “support to both military and non-military programs of the United States and its allies” (U.S. Department of the Army 1962, 6-7).

In Africa, the U.S. provided military aid to Renamo insurgency against communist government of Renamo (Isaacman 1975, Metz 1986). In the case of the civil war in Congo, the counterinsurgency strategy of the United States focused on the combination of the use of Military Forces and the intervention of the CIA to help install an allied government (Michaels 2012). In Asia, military and financial aid was provided to Afghan rebels against the Soviet occupation of 1978 (Kuperman 1969, Galen 1986), and to Indonesian rebels against communist-leaning government led by Sukarno (Scott 1985).

In Latin America, military support in internal conflicts was based on the construction of instruments of continental solidarity in defense of democratic values (Zuluaga and Stoller 2007). Spanish-translated manuals from by the U.S.

Army Counterinsurgency Forces described the Communist push “for world domination” and replacement of governments around the world by “totalitarian communist dictatorships” as the main threat for the post-WWII world. Not realizing “the nature and magnitude of such conflict”, the manual states, “has resulted in the defeat of indifferent governments, or protracted attrition wars that led to the collapse of civil administration and capture by insurgents”. In this context, merely military action “cannot make a longstanding contribution to prevention or defeat of insurgency”, and therefore counter-insurgency efforts needed to encompass also “a combination of political, psychological and economic actions” (U.S. Army 1963).

In El Salvador, Washington created a counterinsurgency plan for the civil war against leftist guerrillas, which focused on reforms and use of the U.S. military to professionalize the Salvadoran Army (D’Haeseleer 2017; Schwarz 1991). The U.S. also supported the counter-insurgent government efforts in Guatemala (Holden 1999) and Nicaragua (Galen 1986; Kruijt 2011).

After 1945, the Colombian Armed Forces were undertaking a slow but impactful process of internal re-engineering. That marked a final departure from XIX Century Prussian-inspired doctrine to fully organizational, administrative, and procedural structures that resembled those of the U.S. Army.

As it was the case around the world, U.S. military missions to the country in the coming decades were followed by technical and financial assistance that prolonged after the end of the Cold War (Otero 2019; Ramsey 1981; U.S. Government Accountability Office 2008). While anti-communist discourse was at first promoted mainly by the elites from major political parties, the Colombian

Armed Forces institutionally embraced it during the military junta regime that ruled the country between 1953 and 1958 (Ugarriza and Pabón 2017).

U.S.-allied Armed Forces, just as those in Colombia, adopted an understanding of a world-reaching conflict that surpassed merely military logics. Manuals of operation for the Colombian Armed Forces in the 1960s described the enemy as “organizations created by international revolutionary instances”, and the nature of the armed conflict as the manifestation of “internal political struggles being exploited by alien ideologies” (Colombia Army Command 1969, 9).

For decades, military doctrine continued to describe guerrilla warfare as just one modality within many through which insurgents attempted to “impose puppet governments” at the service of “totalitarian powers’ interests” (Colombian Army Command 1983, 6). Insurgent groups were systematically described as the “armed wing” of the insurgent forces, which also counted on “insurgent civil population” as the non-military wing (Colombian Army Command 1987, 20).

Military textbooks included “education for democracy” courses for soldiers as part of their basic training, aiming to “demonstrate and convince soldiers that solutions to the country’s problems is not Marxism but democracy” (Colombian Armed Forces 1988, 13).

The idea of fighting a “guerrilla revolutionary warfare” persisted in military manuals way beyond the XXI Century (Colombian Armed Forces 2010). Only by 2016, a major revision of doctrine documents re-assessed the post-Cold War main threats as terrorist, and drug-trafficking organizations, since “the fall of the Soviet bloc meant the end of political ideals for many communist guerrillas”, and therefore some of them “mutated into drug-financed terrorist organizations”

(Colombian Armed Forces 2016a, 66). This major revision, in the light of a signed peace process with the largest communist guerrilla (FARC) that year, dubbed the new national security concerns as “hybrid threats”, defined as “the dynamic and diverse combination of regular, irregular, terrorist, delinquent forces”. Behind those threats, rather than a world-reaching communist conspiracy, there would be either a “non-state entity in possession of destructive weapons” or “a State-nation with a great military power, even weapons of mass destruction, associated with one or more non-state actors by means of ideological, religious or political bonds” (Colombian Armed Forces 2016b, 7).

Right before such doctrine revision took place, the end of the Cold War and the post 9-11 world context permeated the military public discourse, which tended then to address challenges such as a trans-national mafias, terrorism, and drug-trafficking cartels (Buzan 1997; McSherry 2000; Metz 2017); but such postures did not reflect in drastic changes in military doctrine under which soldiers continued to be trained. The impacts of decades of anti-communist indoctrination resounded in various generations of soldiers, and might not wane until enforcing of the new doctrine could train new generations to come.

In absence of major doctrine shifts, we would expect anti-communist to permeate both elite and rank-and-file military in U.S. allied countries around the world in the first decades of the XXI Century. But a different thing is to expect this discourse to actually motivate soldiers to action in contemporary conflicts. In the following section we describe our methodological strategy to address this issue.

III. RESEARCH DESIGN

Between 2016 and 2017, the Colombian Armed Forces implemented a program of assisted retirement for about six thousand veteran soldiers, as part of a reduction plan of the troop strength, coinciding with the peace accord between the Colombian Government and the largest guerrilla group in the country (FARC) in 2016. Such program took place in military bases all over the country, where soldiers gathered and received educational, health and labor-related services in preparation for their return to civil life².

As part of this larger Army-sponsored program, we visited sixteen municipalities in order to invite the participants to answer questions about the potential psychological impacts of their war experience.

Participants

In all cases, we were dealing with rank-and-file professional soldiers with an average of 21 years of military service. Professional soldiers were typically drafted soldiers who decided to continue a paid military career, and were specifically trained to be part of the front-line forces against guerrillas. Among all strata from the Armed Forces, they represented the core of the actual battlefield combatants. This is to say, our sample does not represent the Army as a whole, but it does represent those soldiers who were offensively deployed in the battlefield between 1993 and 2016.

Between November 2016 and April 2017, we administered questionnaires

² In that period, the program assisted around 3,000 soldiers per year. In 2017, there were a total of 3,426 attendees, 98 per cent of whom came from the Army, and the rest from the Navy and Air Force. Such figures match those of the actual active military population in 2017, where about 83 percent of soldiers are enlisted in the Army, 12 per cent in the Navy, and five per cent in the Air Force.

to 374 soldiers who gathered in military bases, applying a clustering and randomization procedure. The first step consisted of identifying the eight major theaters of operation, called 'Divisions', in which the country has been historically divided by the Army. By making sure we covered every cluster, we could reasonably gather a proper representation of soldiers who were present in different geographical zones at the time of the survey. As a second step, in each of the clusters, we randomly chose to visit at least one urban and one rural-based military installation (two bases on average per Division). As a result, we were able to visit 16 installations from a total of 24 where the program was being held. In every location, the Army arranged a one-day session with all soldiers in process of retired assistance so they would participate in our survey. Such sampling strategy let us guarantee national geographic representativeness.

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One potential bias we had foreseen was the fact that soldier's deployment zones did not necessarily match those where they joined the retirement program. In order to control for this variation, we collected individual-level data on the main military unit they made part of during wartime, which in turn let us establish with precision the zone where they actually fought. An analysis of representativeness of deployment zones is presented below in the results section.

We are aware of potential sources of non-representativeness in our sample. Soldiers who died in the course of conflict, or those who deserted, are clearly not included in our study. We can only guess, at best, that represented soldiers were exposed more or less to the same kind of risks than those non-represented, and might account for them. Inevitably, interpretations of our results need to be assessed with these limitations in mind.

Measures

Explicit attitudes should inform about whether deliberate discourses defended by soldiers systematically reflect biases against leftist groups and ideas. We relied on an instrument that has been previously used in studies on ideological attitudes between of guerrilla and paramilitary combatants in Colombia (Ugarriza and Craig 2013). A total of six interspersed Likert-type items were used for measuring attitudes to ex-combatants, where individuals expressed their favorable or unfavorable opinions toward either leftist or rightist groups. In each case, half of the sentences were worded in positive terms and the other half in a more negative tone. Sentences aimed to capture biases in terms of who is to blame for political, economic, social, and security problems (leftists and/or rightists) and who is contributing to solving them. Items were aggregated in order to estimate scores on a scale from minus 6 to plus 6.

These explicit measures reveal conscious, rationally-controlled beliefs (Fazio and Towles-Schwen 1999; Fazio and Olso, 2003). On the contrary, implicit measures provide information as to what lies deep in the individual's mind, beyond the control of cognitive dispositions, affecting a person's judgments in a sustained, yet unnoticed, manner (Burdein, Lodge and Taber 2006). As a result, explicit and implicit measures actually provide information about complementary yet different dimensions of bias, and it is actually not uncommon for implicit attitudes to contradict one's self-reported view toward the same target³. In order to measure implicit attitudes, we relied on Implicit Association Tests (IATs), which

³ See Dovidio et al. 2001, Devos and Banaji (2005), and Arcuri et al. (2008).

are computer-based tasks that elicit rapid responses from individuals by exposure to stimuli.

In general terms, IATs are designed to capture people's automatic—involuntary—associations between concepts (Greenwald et al. 1998; Greenwald et al. 2009; Perez 2010)⁴. Social scientists have utilized IATs in order to measure implicit attitudes toward racial groups and social minorities (Gaba and Nosek 2010; Hurtado et al. 2009; Ibañez et al. 2010; Knowles, Lowery and Schaumberg 2010; Lyle 2008; Perez 2010; Todd, Boddenhausen and Galinski 2012); religious attitudes (Albertson 2011; Hartman et al 2012; MaCauley 2014; Rowatt et al. 2005); gender-related attitudes (Banse et al. 2001; Boysen et al. 2006; Jellison et al. 2004; Rudman and Kilianski 2000; Spisak et al. 2012; White and White 2006); and political sophistication (Choma and Hafer 2009). More recently, these tests have been also used to predict political behaviors like voting (Arcuri et al. 2008; Friese et al. 2012; Galdi, Arcuri and Gabronski 2008; Glaser and Finn 2010, 2013; Greenwald et al. 2009; Kam 2007; Lundberg and Payne 2014; Pasek et al. 2009; Payne 2010; Roccoato and Zogmaister 2010). In contexts of violent conflict, such as those of Northern Ireland, Côte D'Ivoire and Sudan, IATs have been used to measure the strength of group identities and prejudice, as well as attitudes toward human rights issues (Tam et al. 2008; MacCaulay 2014; Vogt et al. 2016).

⁴ There are at least four other ways in which IAT logics can be framed: (a) as a test of salience asymmetry, in which the familiarity of a concept makes it more or less salient (Rothermund and Wentura 2004; Kinoshita and Peek-O'Leary 2005); (b) as a test of association between concepts based on their relative salience for participants; (c) as a test of the general degree of similarity between attributes, as determined by salient factors (De Houwer et al. 2005); or (d) as a test of differential costs of task switching, where costs are smaller in prejudice-compatible blocks as compared to prejudice-incompatible blocks (Mierke and Klauer 2003).

The Implicit Association Tests identify the type of association between concepts (e.g. “man,” “woman,” “Latin,” “Arabic”) on the one hand, and reviews of valence (e.g. “good,” “bad,” “pleasant,” “unpleasant”) or stereotypes (e.g. “nerd,” “athlete,” “clumsy”) on the other. The main assumption behind the test is that participants answer more quickly when the elements are closely related in their mind and therefore can easily share the same response key.

The pairs of concepts whose mental association will be tested can be presented in several forms: IATs may make use of images, sounds, or simply words. For the purposes of our study, we ask participants to associate audio recordings of selected words with images presented on a computer screen. These words have been chosen from among a set of emotionally-charged terms that were submitted to a validation procedure⁵, ensuring that half of them actually trigger pleasant emotions, and the other half unpleasant ones, independently of their content meaning and potential cognitive associations. Since IATs measure response times below 3,000 milliseconds, our tests capture only the automatic emotional response to these words.

We use two sets of contrasting group categories in two separate IATs: “left” and “right” for the first IAT, and “military” and “guerrilla” for the second one. Participants are told to associate each of these groups with an image: for the first test, we use one image representing the extreme left wing political party (FARC) for the ‘left’ and another representing the extreme right wing political party (Centro Democrático) for ‘right’. For the second test, we use an image of a soldier and that of a guerrilla fighter. In both tests, we also use images associated with

⁵ Procedures for the validation and selection of these words can be found in the Supplementary Material (Annex A).

valence categories “pleasant” or “unpleasant:” smiley and sad faces, respectively. All participants are instructed in advance about which audio-recorded words correspond to which image. For instance, by means of practice tests, researchers reinforce the association between the smiley face with pleasant words—e.g. “peace”, “health”, “friend”, “victory”, “life”—and the sad face with unpleasant words—e.g. “enemy”, “anger”, “jail”, “horror”, “damage”⁶.

In each IAT task, after practice test trials, participants are shown blocks of trials with a four-element screen⁷. Every time participants listen to an audio-recorded word, be it pleasant or unpleasant, they must press an answer key corresponding to the side where the correct answer is located. When a correct association is provided, a green check mark appears. When association is incorrect, a red check mark is displayed instead. It is important to note that participants are not asked to answer according to their personal opinions, but rather according to the associations explained beforehand.

Combining practice and test blocks, each participant is exposed to a total of 152 one-word audio recordings during the 15-minute test, in each IAT task. Each episode in which participants are asked to match the audio stimulus with a given visual answer is called a trial. Table 1 shows the way in which the 152 trials are distributed during the test.

⁶ Association between concepts and images are presented in the Supplementary Material, Figure 2.

⁷ Screenshots are presented in the Supplementary Material, Figure 3.

TABLE 1. IAT- Left/Right
BLOCKS AND TRIALS

<i>Blocks</i>	<i>Number of trials</i>	<i>Function</i>	<i>Stimuli associated with left-side responses</i>	<i>Stimuli associated with right-side responses</i>
1	6	Practice	left	right
2	20	Practice	Pleasant words	Unpleasant words
3	20	Practice	Pleasant words + left	Unpleasant words + right
4	40	Test	Pleasant words + left	Unpleasant words + right
5	6	Practice	right	left
6	20	Practice	Pleasant words + right	Unpleasant words + left
7	40	Test	Pleasant words + right	Unpleasant words + left

As we see in Table 1, the first two blocks of trials correspond to practice. In Block One, participants reinforce the associations between the audio stimulus ‘left’ with the left wing party picture, and the audio stimulus ‘right’ with the right wing party picture. In Block Two, they reinforce the associations between pleasant words and the happy-face picture, and unpleasant words with the sad-face picture. Participants have less than 3,000 milliseconds to select either one of two response keys. Every time they take longer, or answer incorrectly, the trial is automatically retaken.

Blocks Three, Four, Six and Seven (shaded) are known as the test blocks. Here, participants are confronted with a four-element screen. Every time they listen to audio recordings of pleasant or unpleasant words, or audio recordings of the group-related words (‘left’ or ‘right’), they must make the correct associations in order to move ahead in the test. These same procedures were applied for the military vs guerrilla IAT.

Visual interference caused by having pleasant or unpleasant pictures on the same side as left-associated and right-associated pictures leads participants to take either a shorter or longer time to answer correctly. IAT design permits researchers to estimate which associations are harder for participants to make—e.g. left/pleasant or right/unpleasant—by looking at their reaction times. The shorter the reaction time, the easier the association is made in the participant’s mind.

Traditionally, IAT designs include only five blocks. Our current design is based on the improved scoring algorithm proposed by Greenwald, Nosek and Banaji (2003).

The resulting IAT scores indicate the magnitude and direction of prejudice for each individual. In the case of our first test, a negative IAT score signals a bias against leftists when compared to rightists, and vice versa: the lower the score, the stronger the prejudice⁸. It is important to note that by no means results from this test should serve to make moral judgments about the subjects: particular preferences, opinions and biases, ever-present in our daily lives, need to be judged as desirable or not by normative, not empirical standards.

One of the major complementarities of IAT measures to explicit attitude instruments is the elimination of major cognitive sources of bias, such as social desirability, as well as the minimization of self-selection effects: Since people’s responses reveal automatic biases, data is not affected with systematic differences in terms of subgroups’ response patterns.

⁸ Since the IAT algorithm subtracts reaction times in prejudice-incompatible blocks from reaction times in the prejudice-compatible ones, lower—and negative—differences reflect greater prejudice levels and vice versa. See Greenwald et al (2003)

IATs offer the possibility of observing an individual under two experimental conditions. That is, since participants are exposed to two types of stimuli in a repeated, sequenced and iterated way, we can obtain reliable measures of their responses under each condition. As a result, instead of relying on external control groups, individual's responses to each condition represent reciprocal control measures.

However, it is important to highlight that IAT measures are more reliable at a group level, and less at individual level. While participants' scores are estimated out of outcome responses to series of 152 repeated measures, the fact that they are subjected to time pressure in order to respond can produce variability in the score obtained, if the test were re-taken. In strict sense, each IAT trial can be understood as a sample of a given individual's distribution of potential responses, and systematic trial repetition helps to adjust for the correct measure. When individual measures are in turn aggregated at group level, IAT scores can be regarded as a much more precise statistic⁹.

Hypotheses

In terms of explicit measures, we expect, as our first set of hypotheses, that responses should go as follows:

H₁: Members of Armed Forces should systematically show an explicit negative explicit bias against leftists groups.

⁹ IAT's repeated measures, and further aggregation at group-level, also mitigates potential biases generated by emotions that specific verbal and visual pieces might evoke in a given individual. As a result, individual and group level measures represent not specific reactions, but trends of systematic behavior.

H₂: Members of Armed Forces should systematically show an explicit positive explicit bias against rightist groups.

After taking the written test, individuals were asked take the two different IATs: the first one confronted them with stimuli related to the left and right; and the second one presented them stimuli related to guerrillas and soldiers. Accordingly, we derived one main hypothesis from each task:

H₃: Members of Armed Forces should systematically show an implicit negative bias against the left.

H₄: Members of Armed Forces should systematically show an implicit negative bias against guerrillas.

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Procedures

Researchers asked participants for their consent to participate in the psychological evaluation, and then took them to classrooms where psychometric tests were administered. Participants were given a questionnaire of basic demographic information (e.g. age, gender, education level, military unit and specialty); also, some items explored whether they considered themselves conflict victims –and of whom-, whether they suffered physical injuries as a consequence of conflict exposure; and which war specialty they had. This latter measure let us classify soldiers who were more likely to be directly exposed to combat –first-

liners, and those less likely so¹⁰. We also collected information of their time of service, but about 84 per cent of the sample reported between 19 and 22 years, yielding not enough variation for the analysis.

Additionally, we applied our explicit attitudes instrument. Right after finishing the written test, through which we collected information on explicit attitudes, participants were invited to take our Implicit Association Tests (IATs), aimed to measure implicit ones.

Participants were placed in a separate room in front of a computer desk. Researchers then offered basic verbal instruction for what the test was about¹¹, helped them to put on earphones for the audio-recorded words, and let them take the test.

Once soldiers finished their IATs, they were offered the option to request personalized psychological attention, as offered by the Faculty of Public Health from Universidad de Antioquia, in case they reported to have felt distress after evaluation; then the session was put to an end.

IV. RESULTS

¹⁰ We consider first-liners those soldiers whose primary role is typically undertaken under threat of fire. A total of 22 roles fall under this definition, including machine gunner, deminer, pointer, tracker, shooter, etc. A full list of first- and second-line roles is provided in our Supplementary Material (Table 4).

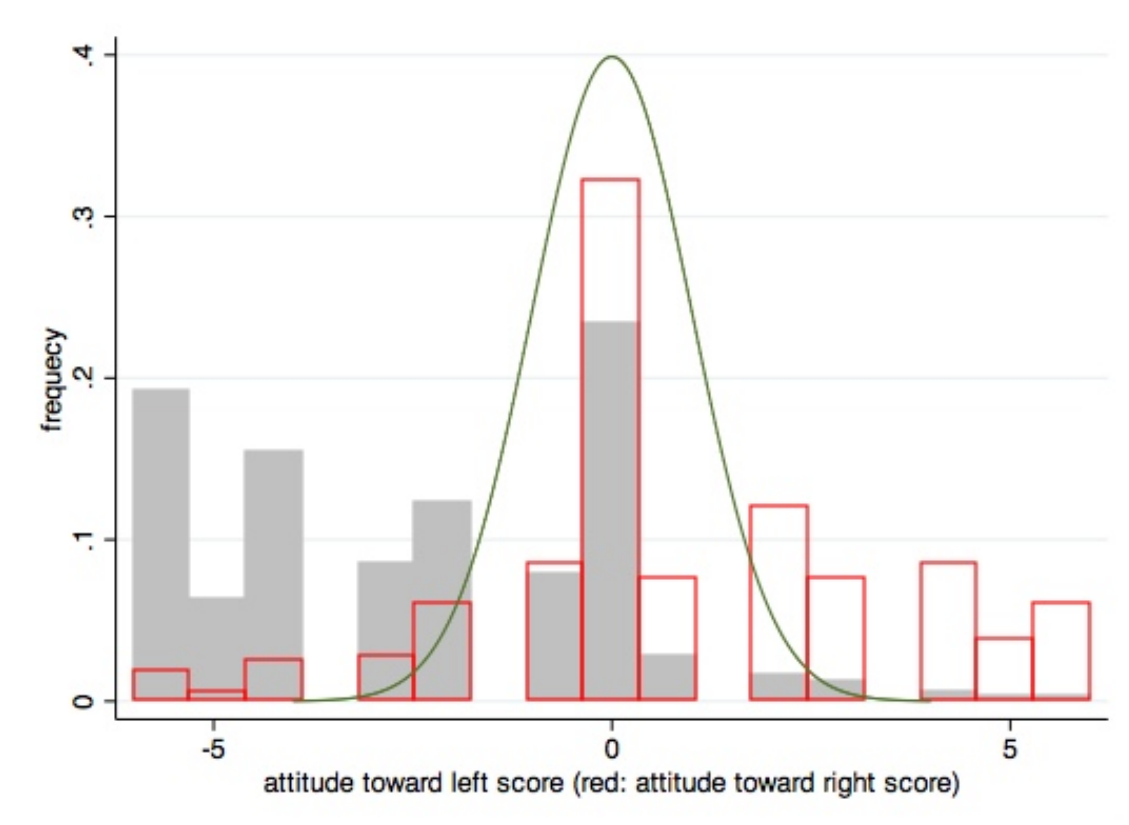
¹¹ Protocol instruction reads: "This test does not gauge your personal opinions. You just need to associate the words you will hear with images to be displayed on the screen. Whenever you answer correctly, you will see a right check mark. Whenever you answer incorrectly, you will see a wrong check mark. Please, try to answer quickly".

The full sample of participants consisted of male rank-and-file soldiers, between 36 and 48 years old (mean 39). A total of 54 per cent of the sample reported to have finished high school, and 17 percent more completed at least primary education. The remaining participants were illiterate. Only two participants reported to have been briefly enrolled in higher education. While years of recruitment range from 1976 to 1999, 47 per cent of them joined the army between 1996 and 1997, when the Ministry of Defense engaged in a major overhauling of the military troop after a string of impactful setbacks against the guerrillas. Consequently, 98 per cent of participants in our sample served between 18 and 22 years. As of their military specialty, 69 per cent reported to have performed activities directly related to combat, and 31 in less exposed activities. About 52 per cent declared to have been injured as a result of combat-related actions, in and when asked if they considered themselves to be victims of the armed conflict, 60 percent answered positively, blaming mostly guerrillas as perpetrators (86 per cent), and less so paramilitary groups (17 percent) or the Colombian State (15 per cent)¹².

Our first set of hypotheses states that soldier's explicit attitudes should systematically display a negative bias against leftist groups, and a positive one against rightists. Figure 1 shows the distribution of responses for both groups.

FIGURE 1. EXPLICIT ATTITUDES TOWARD LEFT AND RIGHT SCORES

¹² Participants could choose more than one option.



Note: Vertical axis represents the proportion of responses. Normal curve around zero is shown for comparison of both attitude scores.

The shaded bars show the distribution of explicit attitudes toward leftist groups. Most responses are distributed to the left of the horizontal axis (mean = minus 2.5) signaling a negative disposition. The outlined bars, in turn, show the distribution of explicit attitudes towards rightist groups (mean = 0.89), converging around the middle of the scale but with a slightly positive leaning. Explicit attitudes toward leftists and rightists go here in the expected, opposite directions ($T = -14.751, p = 0.000, df = 317$).

Our second set of hypotheses state that ideological indoctrination effects should be observed beyond explicit attitudes. This is revealed in the analysis of automatic response patterns. Negative IAT scores indicate the existence of a

negative implicit biases against the left, while positive scores indicate a positive one.

TABLE 2. IAT SCORES AND REACTION TIMES PER GROUP

	<i>IAT Effect*</i>	<i>Δ RT (ms) leftist positive minus negative**</i>	<i>Δ RT (ms) rightist positive minus negative**</i>
<i>All subjects (374)</i>	-0.362 (0.659)	1	-81
EXPOSURE TO CONFLICT¹³			
<i>High 1 (223)</i>	-0.343 (0.684)	-12	-77
<i>Low 2-5 (98)</i>	-0.401 (0.648)	61	-117
PSYCHOLOGICAL TRAUMA¹⁴			
<i>Victim (212)</i>	-0.445 (0.672)	41	-121
<i>Non-Victim (143)</i>	-0.242 (0.637)	-49	-30
<i>Victim of guerrillas (182)</i>	-0.462 (0.663)	47	-127
<i>Victim of paramilitaries (36)</i>	-0.490 (0.821)	169	-229
<i>Victim of State forces (31)</i>	-0.249 (0.838)	-73	-31
PHYSICAL TRAUMA			
<i>Injured (176)</i>	-0.364 (0.647)	-32	-51
<i>Not-injured (164)</i>	-0.358 (0.691)	42	-117

* Standard deviation in parentheses.

** Reaction times are reported as an average of practice and test blocks. For leftist/positive, and rightist/negative, the average is calculated from corresponding B3 and B4 trials. For leftist/negative, and rightist/positive, the average is calculated from corresponding B6 and B7 trials.

For the full sample of subjects (374)¹⁵, we report an average IAT effect of minus 0.362 in the left-right task¹⁶. The fact that the implicit attitudes score falls below zero means that, overall, our sample has a negative evaluation of leftist groups when compared to evaluation of rightist ones.

¹³ First-liners are considered here to be more likely to have had a high exposition, while second-liners are most likely to have had a low one.

¹⁴ We consider 'victim' those participants who answered "yes" to the item question 'Do you consider yourself a victim of guerrillas, paramilitaries or State forces?'

¹⁵ Two more participants left the exercise before completing this IAT.

¹⁶ Using the standard Greenwald (2003) algorithm, ignoring failed trials, score is minus 0.195. On the Supplementary Material (Table 5), we report scores estimated through the standard procedures, for the sake of comparison.

The third column from the left in Table 2 show the difference of average reaction times when the audio stimulus “left” was associated with a positive image minus the one obtained when it was associated with a negative image. For the total sample, participant took on average 0.001 seconds longer to answer correctly when left were associated with a positive image than when they were associated with a negative one. In the fourth column from the left, we observe exactly the opposite effect: figures are negative, indicating that reaction times when ‘right’ was associated with a positive image were on average shorter than when it was associated with a negative one. Every figure in the column is negative, telling us that participants, regardless of exposure levels, physical or psychological trauma, follow this pattern.

We also present average IAT effects for subsamples of soldiers who were most and least exposed to combat (*exposure to conflict*), according to their assignment to different specialized units (as first- or second-liners. See a description of these categories in footnote 19). Differences of scores among groups are not statistically significant ($F = 0.51$, $\rho = 0.476$). Also we disaggregate IAT scores for those participants who did and did not report having been direct victims of the armed conflict (*psychological trauma*). Differences among groups are statistically significant ($F = 4.31$, $\rho = 0.014$), but are not between those who reported a physical injury and those who did not (*physical trauma*; $F = 0.01$, $\rho = 0.934$). Data here suggests a relation between exposure victimization experiences and ideological scores: This might signal either an ideological effect of being exposed or traumatized, or that the most indoctrinated soldiers tend to go front-line and expose themselves to danger.

For the case of the military vs guerrilla IAT, we report an overall negative implicit bias against the former enemy, as shown on Table 3.

TABLE 3. IAT SCORES AND REACTION TIMES PER GROUP

	<i>IAT Effect*</i>	<i>Δ RT (ms) guerrilla positive minus negative**</i>	<i>Δ RT (ms) military positive minus negative**</i>
<i>All subjects (366)</i>	-0.651 (0.408)	168	-127
EXPOSURE TO CONFLICT†			
<i>High (223)</i>	-0.678 (0.405)	168	-138
<i>Low (98)</i>	-0.587 (0.408)	163	-88
PSYCHOLOGICAL TRAUMA†			
<i>Victim (212)</i>	-0.660 (0.432)	176	-128
<i>Non-Victim (143)</i>	-0.639 (0.380)	159	-127
<i>Victim of guerrillas (182)</i>	-0.660 (0.430)	170	-134
<i>Victim of paramilitaries (36)</i>	-0.687 (0.333)	137	-118
<i>Victim of State forces (31)</i>	-0.671 (0.541)	215	-132
PHYSICAL TRAUMA†			
<i>Injured (176)</i>	-0.659 (0.419)	163	-137
<i>Not-injured (164)</i>	-0.641 (0.407)	175	-120

† Some values of exposure to conflict, psychological and physical trauma are not available.

* Standard deviation in parentheses.

** Reaction times are estimated as an average of practice and test blocks. For ex-combatants/positive, and victim/negative, the average is calculated from corresponding B3 and B4 trials. For guerrilla/negative, and military/positive, the average is calculated from corresponding B6 and B7 trials.

For the full sample of subjects (366 observations)¹⁷, we report an average IAT effect of minus 0.678¹⁸. Differences among different exposure-to-conflict groups are not statistically significant ($F = 3.35$, $\rho = 0.068$), and neither are differences between victims and non-victims ($F = 0.44$, $\rho = 0.642$), and neither

¹⁷ Being the last test before adjourning the session, six more participants opted to abandon before completing this IAT.

¹⁸ As we show on the Supplementary Material, using Greenwald's (2003) standard algorithm the score is minus 0.276.

are those who reported physical injuries and those who did not ($F = 0.16$, $\rho = 0.689$).

As expected, we did not find any significant correlations between explicit and implicit measures, even when they go in the expected directions. This result once more reiterates how implicit and explicit measures need to be treated as complementary and not as interchangeable. But even more interestingly, we observe a rather significant correlation between both IATs: participants who tended to show a strong negative bias against the left are also the ones showing a strong bias against the guerrillas, after controlling for age and education ($r = 0.165$, $\rho = 0.001$). While these results could be expected in the explicit measures, evidence here presented suggests a strong non-conscious mental association between guerrillas, the left, and strong emotional negative responses, beyond mere discourse.

V. DISCUSSION AND IMPLICATIONS

Among ex-soldiers, previous exposure to traumatic war experiences such as combat reflects on the intensity of bias against the former enemy, and such inter-group biases in turn related directly to their ideological biases against the left.

Our results show that demographics fail to account for observed differences in terms of biases, suggesting that basic pre-existing conditions before joining the Army might not be strong determinants of the future observed behaviors here at measure. Our research design let us explore three blocks of potential explanatory variables that relate directly with the individuals' post-recruitment experiences, namely exposure to combat, physical and psychological trauma. In particular, we

found that a higher risk of exposure to combat, while not affecting ideological responses, seem to deepen inter-group biases.

As expected by literature, we do not find a correlation between explicit and implicit measures, even though they seem to point towards the same direction. More noticeable, however, is the fact the correlation between implicit biases against the left and those against guerrillas. In other words, both ideological biases and exposure to combat have both significant marginal effects on soldiers' social implicit biases against former war adversaries. These two variables alone, although insufficient to provide a comprehensive explanation for the observed biases against guerrillas, clearly go hand in hand with them.

Our study provides evidence that ideological confrontation constituted a systematic motivation to stay and fight for Army members educated under the anti-communist doctrine originated and established since the Cold War. Anti-communism, and an identification of the war adversary with leftist ideas, rises as a prominent factor potentially explaining military's logics of action.

While the scope of this study does not let us evaluate the relative importance of loyalty to primary group as motivating factors, its results suggest that explanations on why soldiers stay and fight and would remain incomplete without an account on the role of abstract values and ideological stances.

Precisely, our results enter in dialogue with those obtained in studies of former members of Marxist guerrillas, showing that ideology has continued to affect people's dispositions and attitudes long after they left armed confrontation, and even in spite of traumatic desertions from their former groups.

Even in absence of armed confrontation, we observe in the case of the military, non-conscious patterns of ideological and social adversarial logics remain to affect their information processing mechanisms. War, in other words, is not reduced in their minds to violent confrontation episodes, and its logics continue to affect their post-conflict mindset.

There is a serious limitation for studies on combatants' motivations referred to the impossibility of observing individuals before they take actions, so that we could attribute observed motivations a potentially causal effect. Although future studies may ask members of the military for the reasons to join, stay and fight in order to create a better picture of the different pathways leading to their observed behavior, problems derived from retrospective accounts will hardly be overcome.

This is not to say that researchers should inhibit themselves from describing soldiers' potential pathways of decision on the basis of their accounts. But efforts around potential explanations for the observed motivations might yield more robust and useful understandings of how war experiences, including ideological indoctrination, help to mold individual dispositions.

The use of appropriate controls, particularly combatants who had been subjected to a different set of training (i.e. former guerrillas) should provide an ideal contrast to better describe the effects of ideological education on motivation, and its interaction with varying levels of exposition to combat and victimization patterns.

In absence of major doctrine shifts, we would expect anti-communist to permeate both elite and rank-and-file military in U.S. allied countries around the

world in the first decades of the XXI Century, and we would expect a replication of our results around the world. On the contrary, countries where anti-communist doctrine was replaced in a more clear-cut manner in the post Cold War should raise military generations under distinct set of values and beliefs, and shall therefore display accordingly different patterns of biases. Understanding military logics, in any case, will remain a necessity either in times of war and peace.

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