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Beyond Keeping Peace: United Nations Effectiveness in the Midst of Fighting

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While United Nations peacekeeping missions were created to keep peace and perform post-conflict activities, since the end of the Cold War peacekeepers are more often deployed to active conflicts. Yet, we know little about their ability to manage ongoing violence. This article provides the first broad empirical examination of UN peacekeeping effectiveness in reducing battlefield violence in civil wars. We analyze how the number of UN peacekeeping personnel deployed influences the amount of battlefield deaths in all civil wars in Africa from 1992 to 2011. The analyses show that increasing numbers of armed military troops are associated with reduced battlefield deaths, while police and observers are not. Considering that the UN is often criticized for ineffectiveness, these results have important implications: if appropriately composed, UN peacekeeping missions reduce violent conflict.

The nature of United Nations (UN) peacekeeping has changed over the last two decades. While once intended primarily to bolster post-conflict peace processes, contemporary peacekeeping missions are commonly deployed to states in which the guns on the battlefield have not yet silenced. Since the end of the Cold War, the United Nations has deployed 28 peacekeeping operations (PKOs) to Africa, 21 of which served during an active civil conflict. Intervention into active conflict has dramatically changed the responsibilities of peacekeepers and the challenges they face. Peacekeepers are no longer meant simply to keep the peace. Modern operations must also reduce hostilities between conflicting parties and establish favorable conditions for a subsequent peace process.

As an illustration, consider the UN's 1992 mission to Mozambique (ONUMOZ) and its current mission to the Democratic Republic of Congo (MONUSCO). ONUMOZ was a fairly modest mission deployed to uphold an agreement ending Mozambique's civil war. ONUMOZ monitored the implementation of the peace agreement, facilitated elections, and coordinated humanitarian assistance—all tasks associated with keeping peace after conflict. In contrast, over 18,000 military troops serving with MONUSCO have been deployed to intercede between combatants, disarm and demobilize rebel and paramilitary factions, protect civilians, and at times, confront belligerents directly.

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The differences between missions to Mozambique and the Congo underscore a fundamental transformation in peacekeeping. The UN is increasingly asked to halt active conflict. Yet, we know little about the effectiveness of UN peacekeeping missions in reducing battlefield violence. Recognizing the traditional role of peacekeeping to prevent conflict recidivism, a number of studies examine the UN's efforts in post-conflict environments (e.g., Doyle and Sambanis 2000; Fortna 2004a; Fortna 2008). Popular accounts of UN efforts in active conflicts suggest that the UN is deficient in stopping ongoing hostilities (Boot 2000). Unfortunately, little research has used broad empirical analyses to understand the UN's ability to reduce battlefield hostilities.

This article explores how UN peacekeeping influences violence between civil war combatants.¹ We argue that UN PKOs reduce battlefield hostilities in two general ways. First, when UN forces are deployed to a civil conflict, they function to resolve the security dilemma that exists between the belligerents. By providing security guarantees, UN missions assist the combatants in overcoming commitment problems that would otherwise make peaceful forms of resolution difficult to pursue. Security guarantees allow the belligerents to pull back from battlefield hostilities as a means of achieving their goals. Second, PKOs seek to increase the costs borne by combatants in an effort to reduce their reliance on combat as a means of resolving the dispute. In satisfying these two mechanisms of violence reduction, PKOs commonly engage in two operational activities: separating and disarming the combatants.

Yet, not all PKOs are sufficiently outfitted to reduce battlefield violence. UN missions are not uniformly capable of halting hostilities, something that previous studies fail to recognize. As our analyses reveal, larger numbers of personnel improve a PKO's violence mitigation functions. Moreover, military troops are

¹ In this article, we use the terms "peacekeeping" and "peace operations" in line with the language used by the UN. We recognize the important differences between such efforts as peacekeeping and peace enforcement. However, for the sake of simplicity, we refer to UN operations more generally.

better equipped to reduce violence than other types of peacekeeping personnel, including police and observer contingents. Military troops are the most likely to prevent battlefield violence because they offer the strongest means by which the UN can guarantee security and increase the cost of fighting, by separating combatants on the frontlines and engaging in disarmament and demobilization activities. Police and unarmed observer personnel are less able to influence battlefield violence because they are more commonly deployed behind the frontlines, send a weaker signal of the UN's commitment, and are primarily tasked with providing security to civilians and monitoring peace processes.

In order to adequately examine the effectiveness of peacekeepers, it is necessary to capture the dynamic processes of troop deployment and conflict violence. Therefore, we use monthly data on the number and types of UN peacekeepers deployed, and the number of battlefield deaths produced by each active government-rebel dyad in African civil conflicts from 1992 to 2011.² Our results show that the deployment of military troops is effective in reducing violence on the battlefield. When more troops are deployed to a conflict, fewer people are killed in combat. This result is robust to multiple modeling specifications, including analyses that match comparable conflicts and account for ongoing battlefield violence dynamics. In comparison, increasing amounts of police and observers do not reduce the intensity of fighting.

More generally, our analyses show that skepticism towards the UN's ability to manage violence in ongoing civil wars is misdirected. The reality is more nuanced. Even if peacekeeping missions do not always end civil conflicts completely, PKOs can reduce violence. However, operations must be appropriately outfitted. To best mitigate battlefield violence, the UN should enhance the capacity of its missions with larger numbers of armed troops that can effectively increase the costs of fighting and address commitment problems that conflict parties face.

UN PEACEKEEPING AND VIOLENCE MITIGATION

UN peacekeeping was not initially designed to intervene in hot conflicts exhibiting significant battle violence. Instead, it was developed as a tool to bolster ongoing conflict resolution efforts, primarily between countries. Early missions such as UNEF in the Suez Crisis were deployed to uphold ceasefire agreements. UN personnel were used to promote the extension of ceasefires and support negotiations following the end of war. Given that the UN's efforts were directed toward ensuring stability in the aftermath of conflict, most analyses of UN effectiveness focus on its ability to ensure lasting post-conflict peace. To this end, the presence of a UN PKO has been shown to extend the length of ceasefires (Fortna 2004a), increase the likelihood

² By "civil conflict" we mean internal armed conflicts, including high intensity civil wars and low intensity armed conflicts. The terms "civil conflict" and "civil war" are used interchangeably throughout the article.

of successful post-conflict democratization (Doyle and Sambanis 2000), and reduce the probability of conflict recidivism (Fortna 2008; Gilligan and Sergenti 2008). These studies reveal a positive long-term influence of UN peacekeeping.

However, the more immediate influence of UN peacekeeping is unclear, and we know little about the effectiveness of PKOs in reducing violence when missions are deployed during ongoing civil conflict.³ Peacekeepers are increasingly tasked with reducing active civil war hostilities, as the UN has shifted from traditional peacekeeping operations to peace enforcement missions, more frequently invoking Chapter VII of the UN Charter (see Fortna and Howard 2008). Many current peace enforcement operations fall somewhere between traditional peacekeeping and enforcement missions; these operations are impartial and strive to have the consent of the warring actors, but they also authorize the use of force beyond self-defense (Boulden 2001, 2–3).⁴ As peacekeeping deployments to active conflicts have proliferated, violence abatement has become a central objective of peacekeeping (Diehl and Druckman 2010). For example, Resolution 1925 forming the latest mission to the Democratic Republic of Congo (MONUSCO) states that one out of three primary objectives by which the mission is to be evaluated is "the completion of the ongoing military operations in the Kivus and Orientale Province, resulting in minimizing the threat of armed groups and restoring stability in sensitive areas" (UN 2010:3).

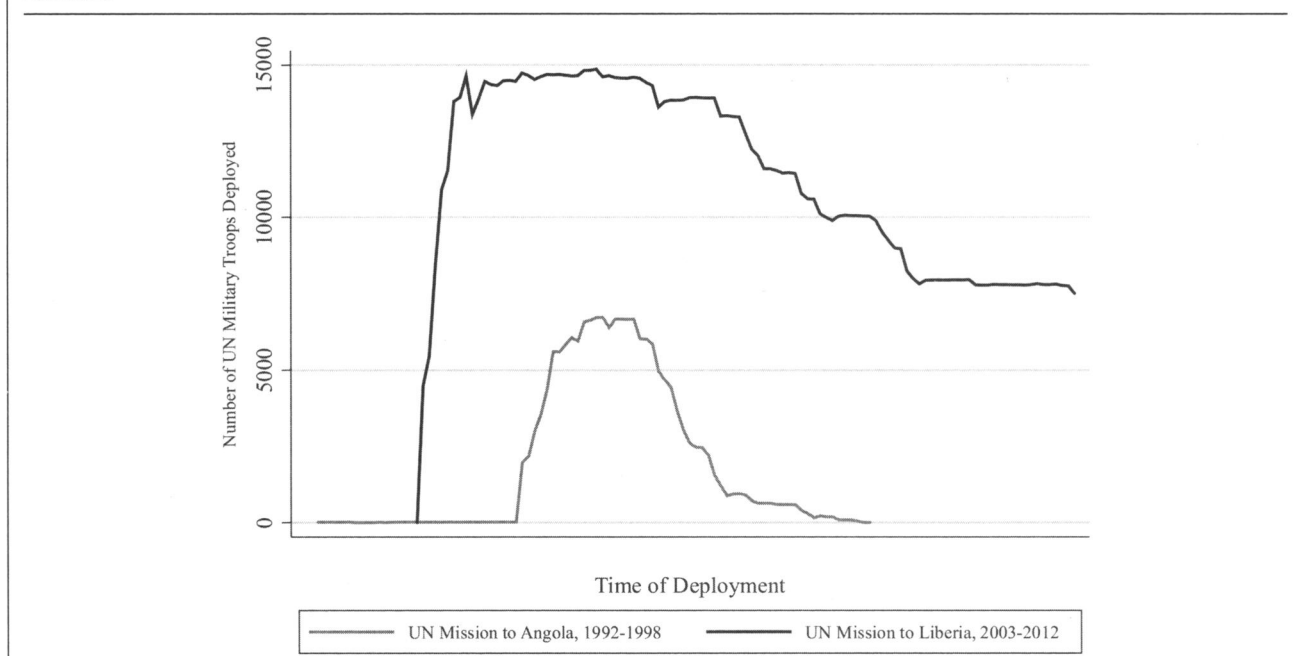
Post-conflict outcomes are important to our understanding of peacekeeping effectiveness, but when the UN intervenes in ongoing conflict, its primary role and mandate from the UNSC is to mitigate violence. There is a clear political expectation that violence must decline before the UN can pursue post-conflict goals such as the return of refugees, reintegration of combatants, political reform, societal reconciliation, and economic reconstruction.⁵ Moreover, fighting between factions has negative consequences that reach far beyond the belligerents. The civilian population is often caught in crossfire, combat damages public health and health systems, noncombatants flee, and violence threatens to spill into neighboring states (Ghobarah, Huth, and Russett 2003; Salehyan and Gleditch 2006). Even if the prospects of long-term conflict resolution are grim, the UN has great interest in reducing combat hostilities in the short term.

But how well do UN operations mitigate violence? Few studies have been able to address the influence of

³ Recent work explores the ability of UN peacekeepers to provide civilian protection (Hultman, Kathman, and Shannon 2013). However, UN peacekeepers can to some extent protect civilians without necessarily interfering between combatants. Thus, the question remains whether peacekeepers can alter core conflict behavior.

⁴ While these missions are impartial to the conflict issue, they are not necessarily neutral to the combat behavior of the warring actors. Whereas missions seek to impartially pursue the mandated goals, it is the (non)violent behavior of the factions that determines the neutrality of missions in seeking these goals.

⁵ Whether the reduction of violence is beneficial for a long-term solution to conflict is a different question that is beyond the scope of this article and is a topic of future research.

FIGURE 1. Longitudinal Variation in the Capacity of UN Mission Deployments to Angola and Liberia

UN peacekeeping on ongoing violence, and those that do suffer from two methodological limitations. First, they are unable to capture differences in the capacity and constitution of UN missions. Second, they are unable to explore the timely and relative influence of changing capacity and constitution on near-term violence. In the following section, we describe the concepts of capacity and constitution, and demonstrate how these qualities should affect active violence in civil wars.

Mission Composition and Peacekeeping Success

We make two contributions that change the way in which UN peacekeeping has been studied. First, we systematically capture differences in the capacity and constitution of UN missions. Capacity refers to the number of personnel deployed, and constitution refers to the type of personnel deployed. Both capacity and constitution can vary dramatically within and between PKOs over time (Heldt and Wallenstein 2004; Hultman, Kathman, and Shannon 2013). Previous studies treat UN missions as homogenous by dichotomizing whether or not the UN intervenes. This fails to capture variance in capacity and constitution, both important qualities of UN missions that influence their ability to subdue violence.

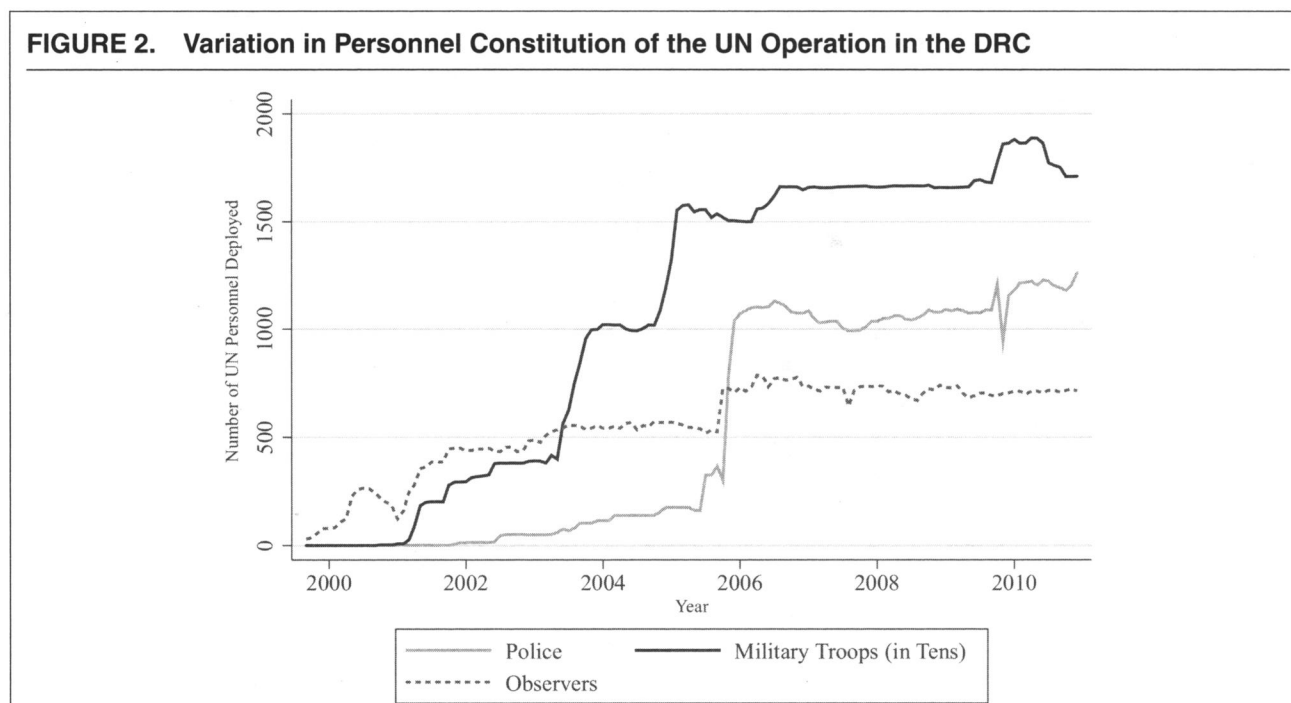
Consider Figure 1, which plots the total UN military troop commitments to operations in Angola and Liberia.⁶ The capacity of the Angola mission clearly

changed over the course of its deployment. The number of military troops committed to Angola rose from just 13 in April 1995 to over 6,700 in June 1996. Troop levels then declined gradually over the next two years to about 700 in June 1998. Most empirical renderings of PKOs would simply record that a mission was present in Angola each year, even though the mission's capacity changed substantially from 1995 to 1998. Compare the Angola operations to the UN Mission in Liberia (UNMIL). UNMIL began its deployment in 2003 with over 4,400 military troops. A year later, the troop commitment of UNMIL dramatically increased to over 14,000 and remained stable for another two years. Troop levels then declined gradually to the last recorded observation of about 7,500 troops in 2012. The differences in force capacities between and within the Angola and Liberia missions are clear. UNMIL began with a much larger troop deployment than the Angola mission, grew quickly to a deployment of over twice the size, and retained the highest level of troop deployment for a longer time period.⁷ Discrete treatments of UN interventions cannot account for variations in capacity such as those between and within the Angola and Liberia missions.

Not only does capacity vary between and within UN missions, but constitution does as well. UN operations are constituted with three types of personnel: armed military troops, police, and unarmed observers. These personnel serve in various numbers. Figure 2 plots the constitution of the UN missions to the Democratic

⁶ The UN Mission to Angola (UNAVEM I) began in 1988 and lasted until June 1991, when it became UNAVEM II. Military troop levels for UNAVEM II are not reported until August 1992. UNAVEM II was renamed UNAVEM III in 1995 and MONUA in 1997.

⁷ The differences in the peak capacities of the missions to Angola and Liberia are even starker when considering that Liberia has approximately one-third the population and one-tenth the geographic area of Angola.



Republic of the Congo (DRC).⁸ Notice that the mission begins primarily as an observer mission, but then becomes composed of more police and armed military troops. Again, a dichotomous measure of peacekeeping fails to consider the changing constitution of UN operations such as those deployed to the DRC.

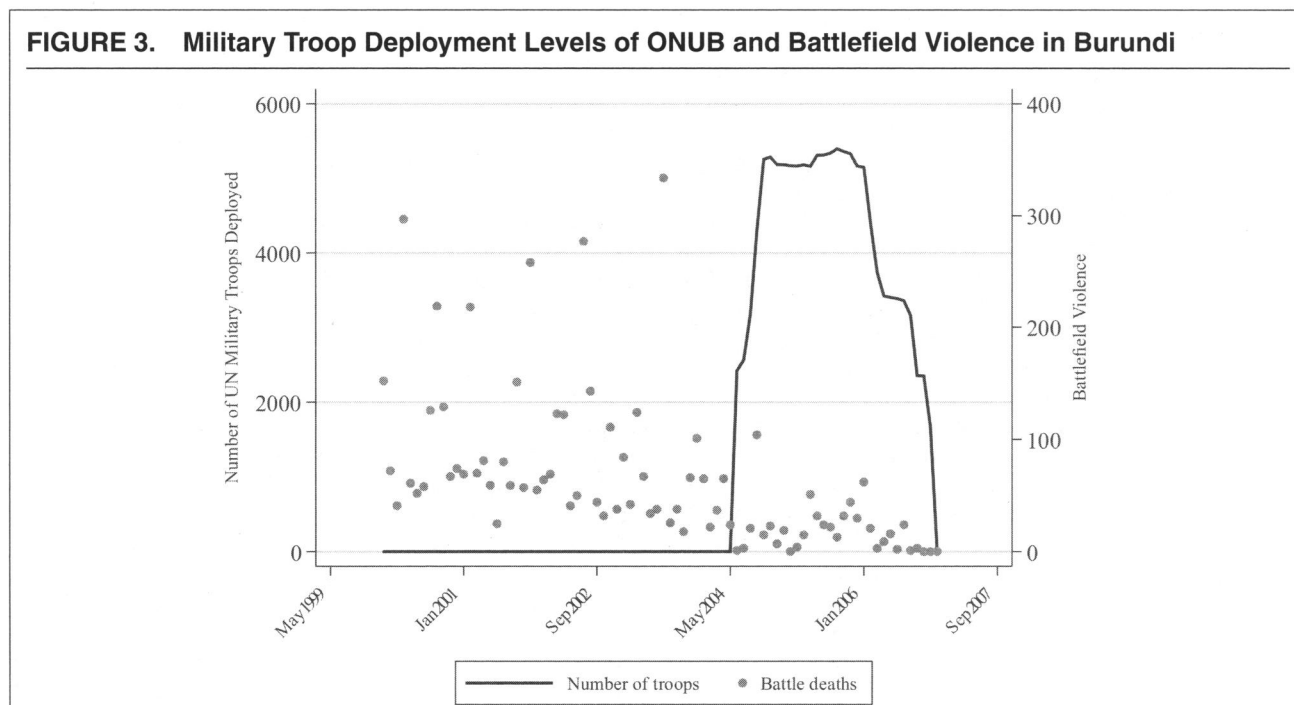
It is important to consider actual personnel deployments when measuring UN mission capacity, because mandated levels often do not reflect conditions on the ground. In the case of MONUC, the mission preceding MONUSCO, the UN Security Council (UNSC) expanded the mandate in February 2000 to 5,537 personnel. Yet by the end of 2001, military troop levels had only reached 2,294—well under the maximum allowed by the mandate. In December 2002, the UNSC authorized additional troops for a maximum of 8,700 personnel, but it took nine months for troop levels to come close to that mandate. This is because the UNSC actually specified a *phased* deployment, where additional troops were only to be deployed if existing personnel levels were not adequate to complete disarmament, demobilization, and repatriation (UNSC 1445, 2002). Thus, the best measure of capacity reflects actual, rather than mandated, deployments, as boots on the ground are reflective of a mission's ability to act in the conflict zone.

Recent studies of peacekeeping effectiveness demonstrate that UN mission capacity and constitution are critical for various aspects of operation success. For instance, as UN missions are outfitted with more capable forces, fewer civilians are targeted and killed by civil war factions (Hultman, Kathman, and Shannon

2013), cooperation among combatants and peacekeepers improves (Ruggeri, Gizelis, and Dorussen 2013), civil wars are less likely to spill into neighboring states (Beardsley 2011), and missions are more likely to achieve mandated goals (Pushkina 2006). Likewise, case-oriented qualitative work has found the ineffectiveness of missions to be associated with the deployment of deficient resources, such as limited personnel and inadequate equipment (Bratt 1997; Feil 1998; Findlay 2002; Holt, Taylor, and Kelly 2009; Jett 1999; Jones 1999, 2001; Kreps 2010; Skogmo 1989). Nevertheless, there is limited systematic evidence for the impact of capacity and constitution on the ability to end battlefield violence. Some peacekeeping studies compare different types of missions (e.g., Doyle and Sambanis 2000), including a delineation of observer missions, traditional peacekeeping, enforcement operations, etc. These types may crudely represent variation in capacity and constitution. However, it is important to examine the actual resources available on the ground, as a classification into such mission types masks important variation in the ability of peacekeepers to manage the warring parties' conflict behavior.

Our second contribution is to uncover the relative and timely influence of changing UN mission capacity and constitution on conflict processes. In previous research, the success and failure of missions are often defined in absolute terms, with categorical outcomes such as whether mission mandates were fulfilled, peace endured, democracy was achieved and consolidated, or economies and infrastructure were reconstituted. Success and failure are also assessed long after changes in UN capacity occur. But to evaluate the effectiveness of peacekeeping in a situation of ongoing violence, we need nuanced and time-proximate measures of conflict dynamics. Categorical treatments of complex processes

⁸ The initial mission to the DRC (MONUC) was deployed in 1999. MONUSCO replaced MONUC in July, 2010.



make it difficult to judge the relative and timely effectiveness of peacekeeping operations.

Figure 3 illustrates the usefulness of a relative and time-consistent approach by graphing the monthly number of troop deployments against the number of battlefield deaths per month in Burundi. The level of fighting was noticeably higher before the arrival of the UN mission (ONUB), but gradually declined following an escalation of UN troops. Still, the fighting did not stop completely. A categorical treatment of conflict would merely indicate that war continued beyond the arrival of ONUB. This ignores the notable decline in hostilities associated with ONUB's deployment. The complete termination of war is a rather strict standard by which to judge the success or failure of missions. A PKO's success should not be determined solely by war cessation but should also be judged by its ability to reduce ongoing violence.

These two improvements in measuring peacekeeping capacity and success are important for understanding the impact of peacekeepers on the ground. Conclusions that UN peacekeeping is unsuccessful at ending violence (Doyle and Sambanis 2006; Gilligan and Sergenti 2008) may be a consequence of rudimentary measures of peacekeeping and coarse temporal data on hostilities. To assess the effectiveness of UN peacekeepers when they intervene in ongoing conflict situations, it is necessary to account for the heterogeneity of missions and dynamic developments in violence.

Mechanisms of Reducing Battlefield Violence

While the UN commonly intervenes in civil wars where violence is ongoing, it does not often engage in conventional combat campaigns. One of the main pillars

of peacekeeping is impartiality (UN 2008), and though UN forces are often armed, their mandate is not commonly to punish warring parties with violence. Even the more robust UN missions primarily allow peacekeepers to use force to protect themselves and civilians. Moreover, outside actors have trouble stemming combat hostilities because violence is strongly driven by factors internal to the conflict, such as the combatants' relative strength, ability to mobilize, popular support, and access to natural resources (Eck 2009; Heger and Salehyan 2007; Lacina 2006; Lujala 2009). Given these restraints on UN peacekeepers, how might UN personnel reduce battlefield violence?

We propose that there are two main mechanisms by which UN peacekeeping reduces the opportunities and incentives of warring actors to pursue violence: by reducing the commitment problem between warring parties and increasing the costs of continued fighting. While these mechanisms are emphasized in the literature on post-conflict peacekeeping, they are critical in situations where the parties have not yet agreed to lay down their arms. A successful intervention must shift the preferences of the warring parties away from an armed solution to the conflict (cf. Fortna 2008; Regan 2000; Walter 2002).

First, UN peacekeeping mitigates commitment problems, or conditions where one or both sides believe that gains from fighting outweigh the benefits of a possible settlement (Powell 1999, 2012). Such problems loom large in ongoing civil wars, where rebel groups face a security dilemma. For civil war hostilities to end, both factions must pull back from the battlefield, and rebels must disarm and demobilize. But by disarming, rebels sacrifice their only means of protecting themselves from a government that may renege on its commitments. Under these commitment problems, third

parties such as the UN can provide security guarantees to improve the willingness of the parties to move toward peaceful resolution (Walter 1997, 2002). The success of third party intervention depends upon the credibility of the third party's commitment to the conflict (Kathman and Wood 2011; Thyne 2009). Having a credible security guarantee from UN peacekeepers in the form of troops on the ground allows belligerents to refrain from continued battlefield violence and initiate the process of demobilization. By signaling to the combatants that the UN mission has the capacity to protect the parties against attacks from their adversary, peacekeepers can reduce tensions and battlefield hostilities.

Next, peacekeeping operations deployed in the midst of conflict make violence more costly relative to other forms of resolution. Security guarantees may not always be enough, as some armed actors do not consent to the deployment of peacekeepers if they see potential gains to be made in combat. Thus, PKOs also often pursue strategies that limit the opportunities warring actors have for advancing militarily on one another. Doing so affects each faction's cost calculus of combat as a means of achieving political goals. Research has shown that the expected cost of continued fighting is central to an actor's decision to use force or agree to a settlement (e.g. Powell 2004). Limiting opportunities for battlefield engagement increases the costs of continued hostilities, causing the utility of continued violence to decline. In attempting to increase the cost of combat, the UN seeks to turn belligerents away from battle as a means by which to resolve the dispute.

Both of these mechanisms work through two main operational activities that UN peacekeepers typically use during ongoing conflict. Separating the combatants is an important method by which UN peacekeeping reduces security concerns and makes it more difficult for combatants to engage militarily. The UN frequently positions armed personnel on the frontlines of civil conflict to create a buffer zone between belligerents (Fortna 2008), even when it intervenes short of a ceasefire (Ruggeri, Dorussen, and Gizelis 2012) or without the combatants' consent. By interceding between factions and monitoring combat behavior on the frontlines, UN PKOs reduce battlefield violence by increasing the cost of fighting. The barrier provided by large numbers of blue helmets increases the costs that factions incur in any effort to make battlefield advances. International audience costs of circumventing UN barriers are severe, and combatants pay direct military costs for thwarting the UN's interposition. Large deployments also allow missions to reveal information about each faction's behavior, including the movement of troops and materiel. This reduces the element of surprise and serves as a means by which the combatants build trust in the fact that their security is more fully assured by the presence of UN forces. Hence, groups who thought they were in a good position to advance on the battlefield prior to UN deployment must recalculate the costs of such efforts following the interposition of blue helmets. The separation buffer provided by UN peacekeepers makes offensives more costly, regardless

of whether an armed actor consents to their presence, and helps to strengthen security guarantees made by the UN.

For example, the UN mission in the DRC (MONUC) deployed peacekeepers to the North and South Kivu provinces in 2004. While primarily engaged in separation tactics to help protect civilians, the peacekeeping brigade decreased the movement of the Democratic Forces for the Liberation of Rwanda (FDLR) rebel group operating in Eastern Congo (Holt and Berkman 2006, 165–6).⁹ By limiting the movement of war factions, the UN reduces the likelihood of accidental engagements that lead to inadvertent escalations of violence (Fortna 2008). Additionally, restricting movements through interposition decreases the likelihood that any one party can successfully ambush another, removing the element of surprise and eliminating an important battle tactic. Given the FDLR's prior hostilities in the region, it is likely that restricting its movement reduced the level of violence relative to what would have otherwise occurred.

Another operational activity by which UN forces provide security guarantees and increase the costs of fighting is disarming combatants. While disarmament is most often thought of as part of post-war demobilization programs, UN peacekeepers also disarm belligerents when intervening in ongoing conflicts. For example, carrying out and monitoring disarmament was an important part of the mandate for the mission deployed in the midst of armed conflict in Burundi in 2004 (ONUB). Several other UN operations have been tasked with disarming rebel groups, militias, and paramilitary organizations, including those in Angola, the DRC, and Sierra Leone. During its efforts in the Kivu provinces, MONUC disarmed 15,000 rebel fighters between 2004 and 2005 (Holt and Berkman 2006, 165). Even when disarmament mandates are ordered for civilian protection and are not directly intended to stop combat violence, by confiscating weapons from the conflict zone, peacekeepers reduce the capacity of the belligerents to engage one another in battle. Removing the tools of war increases the costs of violence, decreases the ability of the combatants to rely on open hostilities as a form of resolving political disputes, and decreases the likelihood that combatants will renege on their commitments to peace. Without engaging in direct hostilities, PKOs reduce the fighting capacity of armed actors through disarmament and demobilization, and these activities directly support security guarantees provided by the peacekeeping deployment.

The Importance of Mission Capacity and Constitution

As explained in the previous section, to reduce battlefield violence, UN missions can provide security and increase the cost of fighting through the operational activities of separating and disarming combatants. However, not all UN missions are appropriately outfitted to

⁹ However, MONUC did not completely disarm the FDLR.

perform these tasks. The capacity and constitution of UN missions are critical elements of successful violence mitigation, especially when the UN lacks the consent of all warring actors (Howard 2008). While deployments under weak or no consent may be more challenging and complex, violence can be mitigated if UN operations have the appropriate capacity and constitution.

Greater capacity allows UN missions to reduce battlefield violence because larger deployments increase the credibility of the UN's commitment. As missions increase in size, the costs of premature withdrawal increase, signaling a longer-term commitment by the UN. This extends the combatants' shadow of the future with respect to the security guarantees provided by the mission. As such, promises made by the UN with regard to the provision of greater security to combatants are likely to be seen as more credible as the size of the mission increases, thus increasing an operation's ability to fulfill these promises as conflict conditions require. Larger deployments should then reduce the combatants' incentives to use battle violence to achieve security. Additionally, large numbers of personnel offer better physical barriers to violence. They cover more geographic area, provide a larger buffer zone, and separate combatants on multiple fronts. The UN frequently seeks a larger number of troops so operations can mitigate hostilities.

The constitution of a UN mission also enhances its ability to reduce battlefield violence. UN missions are typically composed of armed military troops, police, and unarmed observers. Among these three personnel types, armed military troops have the strongest ability to subdue battlefield violence. This is because armed troops are directly tasked with serving on the frontlines and separating and disarming combatants, important activities for preventing combat hostilities. Police and unarmed observers are less able to affect battlefield violence because they commonly work behind the front, protecting civilians and monitoring political processes. Military troops are also the most fully equipped with the instruments necessary to deter hostilities, including weaponry, armored vehicles, and combat training.¹⁰ By contrast, police are only lightly armed, and observers carry no weapons. Thus, police and observers are not able to guarantee the safety of an armed faction during and after demobilization. Troops pose a greater barrier to battlefield hostilities than do police or observers, and their ability to fulfill these tasks increases as their numbers multiply.

By virtue of their capabilities and responsibilities in conflict zones, we expect increasing numbers of armed troops to be associated with reduced battlefield hostilities. We do not expect the same relationship between other personnel types and battle violence. Reducing violence between belligerents that have not yet chosen to lay down arms requires UN personnel to intercede

¹⁰ The type and quality of armament naturally varies across units—partly depending on the troop contributing country but mostly on the type of unit deployed, i.e., whether they are combat forces, combat support forces, or logistic and service support forces (see, e.g., UN 2003).

between warring factions. UN police may be important for strengthening the rule of law and protecting the civilian population by patrolling behind the frontlines (Hultman, Kathman, and Shannon 2013), but they do not separate and disarm combatants on the front. Neither do observers serve on the frontlines to reduce hostilities. To moderate the willingness and opportunity of warring actors to engage each other in combat, the UN needs to deploy troops.¹¹

The consequences of understaffed UN missions are made apparent by outcomes in the Democratic Republic of Congo. The UN made a number of appalling mistakes in the DRC and did not act sufficiently to prevent violence. For instance, a crisis in Bukavu in spring 2004 led to the deaths of hundreds of civilians. Only a small deployment of 800 UN troops was in Bukavu when the crisis happened (Holt and Berkman 2006:164), largely because the area had been fairly calm until the crisis. Failures resulted because MONUC was under-equipped with troops and hesitated to pursue active mechanisms of violence reduction. The Bukavu crisis spurred the UN to strengthen MONUC's mandate and increase its deployment to 15,000 troops. Approximately 3,700 of these troops were sent to South Kivu, where MONUC carried out a number of operations to prevent further violence (Holt and Berkman 2006, 165–6; Reynaert 2011, 16–17).

The UN improved security in the DRC in several ways, especially when it increased its troop commitments in areas of violence and when those personnel engaged in active separation efforts. For instance, Tull (2009) argues that internal displacement significantly declined from 2003 to 2006, a period during which the UN more than quadrupled its troop commitment. Not only did the UN build up forces, it changed tactics, and started to engage in "pursuit instead of reaction" (Reynaert 2011). It used more aggressive tactics to disarm 15,000 combatants during this period (Holt and Berkman 2006, 165). At the same time, it pursued several efforts that decreased violence in the Kivus (Holt and Berkman 2006, 166). The peacekeeping brigade in eastern Congo helped mitigate the Sake crisis in 2006, when it defended civilians from attacks by the CNDP rebels and prevented the CNDP from reaching Goma, the capital of North Kivu (Reynaert 2011; Terrie 2009). On the whole, MONUC fared better in ensuring security when personnel levels were increased and when it engaged in active separation efforts.

To summarize, UN missions make credible security guarantees to belligerents in civil wars and their presence increases the cost of continued fighting. Peacekeepers on the ground support this effort by separating

¹¹ Undoubtedly, there are many factors that could influence the effectiveness of peacekeeping troops in reducing combat violence. The environment into which troops are deployed may be an important component of their effectiveness. For instance, the urban or rural setting may differ between missions. However, our focus on interposition and disarmament as means of providing security guarantees and increasing the cost of combat is sufficiently general to apply to various settings. While such urban or rural differences may call for changes in tactics, the broader mission strategies outlined above hold.

and disarming the factions, tactics that should reduce battlefield activity. When missions work effectively, civil wars with UN interventions will exhibit lower levels of battle violence than civil wars without. However, not all UN PKOs are equally capable of engaging in these activities, because missions with larger numbers of military troops are better able to mitigate battle violence. This argument leads to the following hypothesis:

Hypothesis: As the UN commits more military troops to a conflict, battlefield violence decreases.

RESEARCH DESIGN

To explore the influence of UN PKO capacity on battlefield violence, we analyze all intrastate armed conflicts in Africa from 1992 to 2011. Not only does this sample include the vast majority of the UN missions deployed in ongoing civil wars over the last two decades, it includes several difficult cases of UN intervention.¹² The unit of analysis is the government/rebel group-dyad-month for all governments and rebel groups engaged in active combat. Since there are multiple rebel groups in some civil conflicts, we sometimes observe multiple government/rebel group dyads in a given conflict month. To assess how UN troops influence both active fighting and the de-escalation of conflict, we follow each dyad throughout the conflict and for 24 months after the end of conflict (cf. approach by Cunningham, Gleditsch, and Salehyan 2009). For robustness, we employ a range of alternative specifications of the post-conflict period. By using a dyadic setup, we are able to take into account the dynamic, time-varying levels of violence in each dyad, as well as various dyadic characteristics that may impact the ability of the UN to mitigate violence. Conflict dyads are identified using the Uppsala Conflict Data Program (UCDP) Dyadic Dataset v.1–2012 (Harbom, Melander, and Wallensteen 2008). At least 25 battle deaths must occur in a given year for a situation to be considered an intrastate conflict.

Battlefield Deaths

The dependent variable is the number of battlefield deaths produced by a government-rebel group dyad in a given month. The deaths include government soldiers and rebel fighters, as well as civilians and unknown victims killed in the crossfire by battle-related violence.¹³ We include civilian collateral deaths in our dependent variable since these fatalities are directly produced by combat between the warring actors.¹⁴ The

measure is therefore the total number of deaths resulting from combat in each government-rebel dyad. These data are provided by the UCDP GED Point Dataset v. 1.5–2011 (Melander and Sundberg 2013; Sundberg, Lindgren, and Padsokocimaite 2010), which records all events of battle-related killings by location and date. We have aggregated these events to the dyad-month. The average number of battle-deaths per dyad-month is 42, with the highest observed value being 9,793. The standard deviation of 313 indicates that this variable is overdispersed. We therefore use the negative binomial regression model.

Admittedly, by focusing on battlefield deaths, we exclude other persistent forms of violence in civil wars. Yet it remains important to explore battle deaths, because combat hostilities are at the core of the conflict and have an impact beyond the battlefield. As long as combatants are killing on the battlefield, the societal upheaval allows for other forms of violence to flourish, such as sexual violence, civilian targeting, and forced displacement—either in tandem with fighting or as a direct or indirect consequence of it. It is therefore important to understand whether UN peacekeepers are able to reduce the core conflict violence.

Peacekeeping Mission Capacity and Constitution

To measure UN mission capacity and constitution, we rely on a new collection of original data on the number of armed military, police, and observer personnel deployed to each UN mission for every month during which the mission was deployed to each conflict (Kathman 2013). The data on personnel deployments were taken from monthly mission summary reports provided by the UN Department of Peacekeeping Operations (DPKO). We include three independent variables of interest that count the monthly number of each personnel type deployed to each conflict. *UN Troops* captures the number of armed military troops, *UN Police* measures the number of police units, and *UN Observers* is a count of unarmed observers. The three personnel variables are measured in thousands. To ensure temporal order, we lag each personnel count one month.

Notably, as displayed by Figures 1–3, UN missions can be rather dynamic in their size and the type of personnel deployed. Even though the UNSC typically reviews and determines the number of personnel to be deployed to peacekeeping operations in six-month intervals, actual personnel deployments can vary from month to month for several reasons. First, peacekeepers are contributed by member-countries, not by the UN itself. Depending on how contributing countries respond, peacekeepers may be deployed from their home countries to the host state at varying speeds. Second, while the Security Council mandates a particular

¹² The most relevant missions deployed in conflict situations not covered by the analysis are UNPROFOR (Bosnia 1992), MINUSTAH (Haiti 2004), and UNIFIL (Lebanon 2006).

¹³ We also use a more restrictive version of our dependent variable, coding only government and rebel soldiers killed. Results from an analysis of this dependent variable are reported in the Supplementary Appendix and are very similar to those reported below.

¹⁴ We note, however, that we do not include the direct and purposeful targeting of civilians in our coding of the dependent variable, as

violence deliberately perpetrated against civilians by the combatants and violence between the combatants are conceptually distinct (see Eck and Hultman 2007).

number of troops, it cannot force countries to contribute, so actual deployments often do not meet the mandated size. If deployment levels do meet the mandate, this may take several months to occur. Third, conflict conditions often compel the UNSC to reconsider deployments outside of the usual six-month schedule and revise mandates as conditions change. Finally, the UNSC occasionally specifies phased rather than immediate deployments.¹⁵ All of these factors lead to monthly variation in personnel levels, making a monthly measure of peacekeeping capacity appropriate.¹⁶

Control Variables

In our base model we include several control variables that are likely to influence battlefield violence. First, we control for whether there is a ceasefire agreement reached in the conflict. While one of the contributions of our study is the inclusion of cases where the UN intervenes short of a peace to keep, there may be a systematic difference between conflicts where a ceasefire has been agreed upon and conflicts where the parties have not displayed any such willingness. Moreover, if the UN only intervenes when the warring actors have demonstrated a willingness to lay down their arms, the effect of peacekeeping may simply be reflective of a reduction in violence produced by an accord between the parties. We thus code a dichotomous indicator for the presence of a ceasefire agreement, which captures whether there is an agreement that includes provisions for a ceasefire or the cessation of hostilities. The data for the variable *Ceasefire* come from the UCDP Peace Agreement Dataset (Harbom, Högbladh, and Wallensteen 2006). This dataset codes all peace agreements that are “signed by at least two opposing primary warring parties and concern the incompatibility: in effect solving, regulating, or outlining a process for how to solve it” (Högbladh 2012, 2).¹⁷ Next, we account for the strength of the rebel group relative to the government, as the power balance between the two is likely to affect how much violence is produced in the dyad. According to Fortna (2008), UN peacekeeping is more likely in conflicts where the rebels are relatively strong. The variable *Rebel Strength* is a five-point ordinal scale ranging from rebels being much weaker to much stronger than the government. These data

¹⁵ For example, resolution 1445, passed in 2002, asked for an expansion and deployment of MONUC forces to occur in two phases; the second force was to be deployed only if DDR could not be accomplished by the first deployment.

¹⁶ Note that we do not directly measure or test the operational activities employed for violence mitigation (separation of combatants and disarmament). The number of personnel is a reasonable proxy, because larger missions are tasked with and capable of performing these activities. Future work might seek to test the effect of these activities by gathering information on mission functions.

¹⁷ We note, however, that the simple presence of a signed ceasefire does not mean that peace has been achieved. Indeed, many ceasefires fail soon after the parties have agreed to terms. Rather, in our data, the active or inactive nature of conflict is determined by the continued presence of battle violence relative to the 25 deaths threshold.

are taken from the NSA dataset (Cunningham et al. 2009).

Additionally, conflict dynamics are likely to be influenced by armed interventions by third party states. Such interventions, often by neighboring countries, have variously been found to exacerbate or ameliorate fighting in civil wars (Regan 2000; Thyne 2009; Walter 2002). If state interventions affect violence and are correlated with the involvement of the UN, it is important to account for the presence of third parties to avoid spurious conclusions of the UN's influence. The variable *Biased Intervention* is a dummy for whether at least one state intervened with troops in support of the government or the rebels, based on data from the UCDP Dyadic Dataset v.1–2012 (Harbom, Melander, and Wallensteen, 2008). We also control for population. Models of civil war processes often reveal that population size has a positive effect on the likelihood of conflict and the amount of battle deaths (e.g., Fearon and Laitin 2003). Therefore, we include *Population*, coded as the log of the conflict country's population size. This variable is taken from the disaggregated Composite Index of National Capabilities data (Singer et al. 1972).

Last, we include two variables to account for dependency across dyads and over time. Since we have dyadic data, and since some conflicts have multiple active rebel organizations, we include a control for the *Number of Rebel Groups* that are concurrently active in the conflict. We also include a one-month lag of the dependent variable, as combat hostilities at time t are likely to be positively associated with the occurrence and magnitude of hostilities at $t-1$.

RESULTS AND ANALYSIS

Table 1 reports the results of the statistical analyses. The effect of *UN Troops* is consistently negative and statistically significant across each model. Model 1 is the base model, teaming the peacekeeping variables with several controls shown to affect the magnitude of civil war hostilities. The negative and significant effect of *UN Troops* indicates that as the number of peacekeeping troops deployed to a civil conflict increases, violence on the battlefield declines. Given their armed and capable nature, peacekeeping operations that employ increasingly large numbers of troops increase the costs of continued fighting to the belligerents and decrease their willingness to pursue combat as a means of resolving their dispute. UN troops do this by making security guarantees and increasing the cost of continued fighting by interceding between the factions and engaging in disarmament and demobilization processes. Peacekeeping troops thus reduce both the incentives for and capacity of the belligerents to engage in combat.

According to these results, if the UN seeks to reduce conflict violence in ongoing civil wars, the emphasis in personnel deployments to its peacekeeping missions should be on the provision of sufficient troops. To this end, Figure 4 reports the substantive effect of *UN*

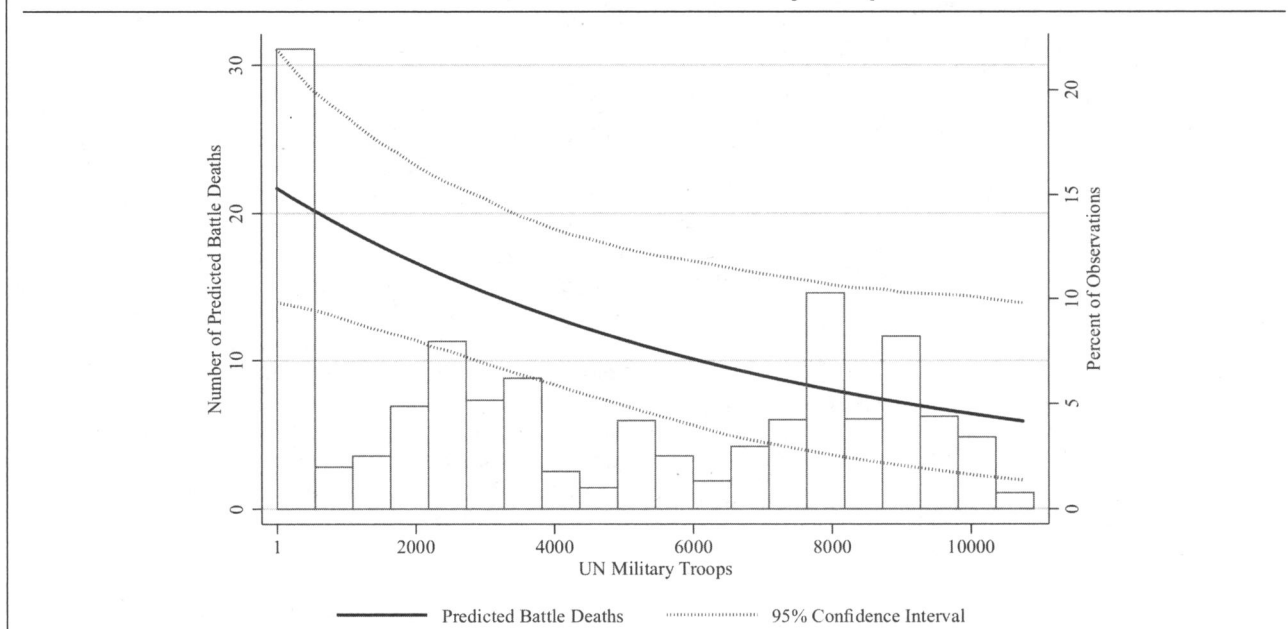
TABLE 1. Effect of UN Peacekeeping Personnel on Battlefield Deaths in Civil Wars in Africa, 1992–2011

Variables	Model 1: Base	Model 2: Matching	Model 3: Fixed Effects	Model 4: Fixed Effects and Cubic Time Trend
UN Troops _(t-1)	-0.130* (0.051)	-0.14** (0.021)	-0.040* (0.016)	-0.040* (0.016)
UN Police _(t-1)	0.227 (0.195)	0.196 (0.13)	-0.006 (0.079)	-0.011 (0.079)
UN Observers _(t-1)	2.732* (1.344)	2.08** (0.78)	-1.358** (0.440)	-1.330** (0.443)
Ceasefire	-0.075 (0.389)		-0.387** (0.074)	-0.390** (0.074)
Rebel Strength	0.385 (0.303)		0.093 (0.048)	0.092 (0.048)
No. of Rebel Groups	0.009 (0.063)		-0.009 (0.009)	-0.009 (0.010)
Population _(ln)	0.063 (0.188)		0.050 (0.030)	0.055 (0.030)
Biased Intervention	1.413** (0.420)		0.681** (0.069)	0.680** (0.070)
Battle Deaths _(t-1)	0.009** (0.002)		0.0002** (0.00003)	0.0002** (0.00003)
Conflict Duration ³				-2.24-08 (2.86e-08)
Constant	1.151 (2.130)	3.23** (0.13)	-3.250** (0.333)	-3.288** (0.336)
Observations	5,861	2,143	5,773	5,773
Conflict Dyads	145	90	138	138
Wald χ^2	62.90**		324.27**	324.89**
LR χ^2		29.02**		

Notes: Model 1 estimated with robust standard errors clustered on conflict dyad.

** Significant at $p < .01$; * = $p < .05$, two-tailed.

FIGURE 4. Predicted Number of Battle Deaths as UN Military Troops Increase



Troops on the level of battlefield violence.¹⁸ The negative impact of escalating troop deployments on battlefield hostilities is impressive. With zero PKO troops deployed, civil wars produce an average of almost 22 combat deaths per dyad-month. However, as the number of blue helmets deployed to a conflict zone increases, the predicted number of battle deaths drops precipitously. With a 10,000 troop deployment, casualty rates drop to approximately six combat deaths per month. This represents an approximately 73% reduction in battlefield violence, as the provision of 10,000 troops severely reduces the level of battle hostilities. This is an important finding. Given that the average rebel-government conflict dyad in the sample persists for approximately 72 months, and given that the average conflict month in which a UN mission is present includes approximately five active rebel groups, the reduction per dyad noted in Figure 4 amounts to the prevention of substantial combat hostilities. At the same time, this speaks to skeptical accounts that equate peacekeeping effectiveness with the complete cessation of conflict. We suggest that this standard for success sets the bar too high, as many factors other than peacekeeping affect the intensity of civil war hostilities. When peacekeepers arrive in the midst of fighting, our results show that military troops reduce violence quite substantially. In this sense, peacekeeping operations are effective tools of violence reduction, even when intervening in complex environments where conflict is ongoing.

By contrast, *UN Police* and *UN Observers* report statistical results very different from those reported for *UN Troops* across the models. Police units are often tasked with monitoring and enforcing stability behind the frontlines and thus have little impact on battlefield developments, which may help to explain the insignificant effect of *UN Police*. In some respects, the result for *UN Observers* is surprising. This variable reports a positive and significant coefficient, indicating that an increasing number of deployed observers is associated with an increase in the intensity of battlefield hostilities. This may seem to be counterintuitive behavior for belligerents if the factions seek to be recognized by the international community as legitimate political actors. If this is the case for most civil war factions, we would expect combatants to engage in less battlefield violence when the UN is watching. Since the UN's ability to observe violence or atrocious behavior increases with the number of observers deployed, and since the UN is less willing to condone a political role for factions that continue to perpetuate violence, one might expect a negative effect of *UN Observers*.

However, we suggest that the result for this variable may be the product of challenges that observers face in providing security guarantees and affecting the costs of combat. First, observers have little ability to increase the cost of continued fighting. Unlike troops,

observers have no capacity or mandate for physically interceding between combatants. Second, observers may paradoxically increase the short-term willingness of combatants to escalate battlefield hostilities. Observers are deployed to conflict states on average five months prior to the arrival of police and troop forces. Yet, unarmed observers alone cannot credibly commit to guarantee the security of combatants. As the number of observers deployed to the conflict state increases and signal the UNSC's growing interest in the conflict, belligerents expect that a more potent mission outfitted with armed forces is to follow. Since more forceful missions better intercede between combatants and solidify the battlefield status quo power balance, belligerents have a short-term incentive to increase battlefield activities to improve their relative strength and gain bargaining leverage for future peace negotiations. In an effort to negotiate from strength, the arrival of larger numbers of observers may perversely incentivize an escalation of violence, as factions attempt to weaken their adversaries on the battlefield. The rise in violence in Syria following the deployment of observers is reflective of this process (McEvers, Marrouch, and Selo 2012). Nevertheless, further research is needed in order to fully understand the role of observers in affecting conflict behavior.

In order to assess the robustness of the main results, we conduct a matching analysis using propensity score one-to-one matching without replacement (Guo and Fraser 2009). Matching analysis creates a data set of conflicts that are similar on a number of dimensions, which allows us to assess the effect of UN personnel on conflicts where it intervenes relative to comparable conflicts where it does not. Every rebel-government observation for which a peacekeeping mission was present (the treatment) was matched with an observation without a mission (the control group). The two groups are matched to have similar values of the control variables in Model 1. Upon generating the matched dataset, we reanalyze the influence of the three UN personnel types on battlefield deaths. The results are presented in Model 2. Even after matching observations with PKOs to similar observations without peacekeeping, the negative effect of *UN Troops* on battlefield violence remains robust. These results provide confidence that the effect of troops holds when analyzing conflicts that are similar on a number of dimensions.

Furthermore, it is possible that the effect of UN operations is due to unobserved heterogeneity, or differences across civil conflicts that are correlated with peacekeeping. To explore this possibility, Model 3 shows a reanalysis of the main results in model 1 using conflict-level fixed effects. *UN Troops* continues to report a negative and significant effect, indicating that increasing troop personnel decreases violence. This provides confidence that the results are not driven by unobserved factors particular to each conflict, but that the increase in troops is indeed an important factor for reducing battle violence. In Model 4, we also report a fixed-effect analysis that includes a cubic time trend, and *UN Troops* shows a negative and significant effect. This indicates that the influence of troops is consistent

¹⁸ The estimations reported in Figure 4 were generated from Model 1 using Clarify (King, Tomz, and Wittenberg 2002). In this estimation, all continuous variables were held at their means, whereas the ordinal and categorical variables were held at their median and modal values, respectively.

when accounting for the passage of time, and that the effect of the UN is not due to decaying violence or other battlefield dynamics.

As an additional check, we explore how sensitive the results are to the specification of including 24 months after each conflict has ended. In doing so, we consider both longer and shorter post-conflict periods. We replicate Model 1, using observations of 48, 36, and 12 post-conflict months. Additionally, we replicated this model with a sample that only includes months of active combat (i.e., zero post-conflict months). Across each of the specifications, the primary finding remains robust: *UN Troops* reports a negative and statistically significant coefficient.¹⁹

We include a number of control variables that report some interesting findings. Referring to Model 1, we note that if the UN systematically selects cases in which ceasefires are in place, reductions in violence associated with troop commitments may simply reflect the combatants' *ex ante* efforts toward peace. Although the *Ceasefire* variable is negatively signed, it is not significant. Thus, the presence of a ceasefire does not necessarily lead to less violence on the battlefield, as these agreements may break down soon after signing.²⁰

One might expect strong rebel groups to produce more violence, but the *Rebel Strength* variable is not significant. However, it is important to note that troops have a negative and significant effect when taking relative strength into account. Fortna (2008) indicates that the UN is more likely to deploy peacekeepers as rebels become more capable of posing a robust challenge to the government. This increases the complexity of intervention, because the challenges that confront peacekeepers increase when rebels become stronger. Yet we find evidence that peacekeeping is just as effective, and perhaps even more so, when rebels become stronger relative to the government. The predicted battle deaths presented in Figure 4 are based on a simulation where the rebel strength variable is set at its median value of 2, indicating that the rebels are weaker than the regime. If predicted deaths are calculated with the rebel strength variable set to a value of 3, indicating the rebels are equally as powerful as the government, we observe a much larger predicted reduction in battle deaths (although the confidence interval surrounding the prediction becomes larger, due to the lower number of observed rebel groups that are equal in power to the government). These predictions indicate that peacekeeping is able to reduce battlefield violence even in difficult scenarios where rebels are strong.

We also control for the number of active rebel groups in each conflict. This does not seem to affect the intensity of fighting, as the variable reports an insignificant coefficient in Model 1. *Biased Intervention* captures the presence of a state intervening in the conflict with

troops in support of one side. If third party states seek to end conflict violence (Regan 2002), and if their interventions occur concurrently with UN-sponsored PKOs, other third parties may be doing the heavy lifting of conflict management. This variable reports a positive and significant coefficient. State intervention appears to intensify hostilities and increase the intractability of civil wars (Cunningham 2006, 2011). Also, note that the practical consequence of third party state interventions is to contribute additional troops to conflict and enhance the capacity of combatants to engage in violence. UN troops, on the other hand, are associated with reduced violence even when taking these dynamics into account. Last, there appears to be a temporal correlation in violence, as the lagged dependent variable reports a positive coefficient.

Accounting for Alternative Explanations

We have provided evidence that UN peacekeeping troops are effective in reducing violence on the battlefield. We argue that they do so by engaging in useful activities such as separating combatants and aiding disarmament. These activities obstruct the opportunity for belligerents to engage in combat and lower their willingness to pursue their goals through military means. While the empirical results are in line with the theoretical expectations, there is still a possibility that other mechanisms account for the observed patterns. In this section, we discuss potential objections and alternative explanations. In Table 2, we provide a number of empirical checks that address these alternative explanations and test the robustness of the theorized relationship.

The first alternative explanation is that the UN chooses to intervene in "easy" cases. This is a concern that previous studies have addressed and have largely rejected. If anything, existing scholarship indicates that the UN intervenes in the most difficult cases with strong rebels or high levels of battle deaths (Fortna 2008; Gilligan and Stedman 2003). However, even if the UN does tend to intervene in difficult cases, the UNSC may be reluctant to deploy missions to conflicts when the prospects for producing positive developments are poor. One concern about our findings may be that UN peacekeepers enter at a time when violence is on the decline and would have decreased irrespective of a PKO's arrival. If this is the case, the negative effect of troops could simply pick up a trend that would also occur in the absence of troops, and we might wrongly draw conclusions about a causal effect of troops on battle deaths. We thus need to account for trends in battlefield violence and signals that the belligerents are willing to lay down their arms, which could potentially affect decision-making by the UNSC in either deploying a mission or increasing troop levels.

We tackle the possibility that the UN intervenes when there is already a declining trend in violence by introducing a measure for previous changes in battle intensity. Since the month-to-month changes in battle violence are sometimes large, we smooth these

¹⁹ These results are reported in the Supplementary Appendix.

²⁰ We note, however, that this variable reports a significant coefficient in the fixed effects models. Future research may consider more complex measures of ceasefires to include the mechanisms incorporated into the design of agreements that are meant to reduce conflict recidivism (Fortna 2004b; Mattes and Savun 2010).

TABLE 2. Accounting for Alternative Explanations

Variables	Model 5: Violence Trend	Model 6: PKOs Only	Model 7: Regional PKOs	Model 8: Resolution Timing
UN Troops _(t-1)	-0.128* (0.051)	-0.100* (0.048)	-0.134** (0.051)	-0.130* (0.051)
UN Police _(t-1)	0.216 (0.195)	0.180 (0.193)	0.366 (0.200)	0.223 (0.196)
UN Observers _(t-1)	2.755* (1.395)	0.683 (1.271)	2.978* (1.353)	2.758* (1.346)
Ceasefire	-0.135 (0.370)	-0.651 (0.608)	-0.083 (0.366)	-0.078 (0.393)
Rebel Strength	0.358 (0.300)	-0.164 (0.448)	0.485 (0.623)	0.382 (0.303)
No. of Rebel Groups	0.008 (0.062)	-0.255** (0.073)	0.016 (0.063)	0.009 (0.063)
Population _(ln)	0.054 (0.189)	-0.159 (0.381)	0.062 (0.183)	0.075 (0.195)
Biased Intervention	1.427** (0.421)	0.475 (0.703)	1.392** (0.400)	1.423** (0.428)
Battle Deaths _(t-1)	0.009** (0.002)	0.003 (0.002)	0.009** (0.003)	0.009** (0.002)
Battle Violence Δ	-0.001* (0.000)			
Regional PKO _(t-1)			-0.601* (0.287)	
UNSC Resolution _(t-1)				0.377 (0.470)
Constant	1.307 (2.137)	6.275 (3.715)	1.011 (2.104)	1.035 (2.199)
Observations	5,725	1,113	5,827	5,827
Conflict Dyads	145	44	145	145
Wald χ^2	136.78**	139.49**	85.12**	61.80**

Notes: Estimated with robust standard errors clustered on conflict dyad.
 ** Significant at $p < .01$; * = $p < .05$, two-tailed.

changes to capture more general trends in violence over time. We code a variable *Battle Violence Change* as the change in a three-month moving average of battle deaths, comparing the most recent three-month period to the period between $t-3$ and $t-5$. Including this variable in tandem with the single-month lag of the dependent variable controls for long- and short-term developments in combat hostilities. The results are reported in Model 5. *Battle Violence Change* is negative and significant, meaning longer-term cycles of elevated violence are likely to be followed by lower levels of battlefield fighting. Importantly, the main variable, *UN Troops*, continues to display a significant, negative effect on battle deaths, even when controlling for trends in violence. Hence, the effect of armed troops in reducing combat hostilities is not notably affected by short- or long-term violence cycles. Note also that we have controlled for ceasefires as a possible signal of the combatants' commitment to reduce combat hostilities in our main model. This strengthens confidence that peacekeeping is increasingly effective in reducing violence as troop capacity increases and that blue helmets are not simply deployed by the UNSC at propitious moments in conflict.

Another way we control for the possibility that the UN sends troops to "easy" cases is by limiting the sample to dyad-month observations in which a PKO was deployed to a conflict state. By using a restricted PKO-only sample in Model 6, we compare like cases of peacekeeping which helps in assuring that the results in Model 1 do not stem from some unrecognized factor that distinguishes conflicts to which the UN sends a PKO. Again, *UN Troops* reports a negative and significant effect on battlefield hostilities. Thus, among PKOs, larger troop deployments are more capable of reducing belligerent hostilities relative to those with smaller troop deployments.

A second possible alternative explanation is that other actors are operating alongside the UN. The UN is sometimes a plodding organization where political discussions and difficulties of reaching compromises in the UNSC may delay attempts to respond to ongoing civil wars. In such situations there may be a pressure on other institutions, such as regional organizations, to take responsibility and intervene, as regional operations can often deploy more quickly (Bellamy and Williams 2005). If the UN tends to intervene when other actors are present, an observed

correlation between UN peacekeepers and battle deaths may in fact be the spurious result of progress made by actors other than the UN. To address this concern, we control for peacekeeping efforts of regional organizations using data from the Dynamic Analysis of Dispute Management Project's Third Party Peacekeeping Missions Data Set v.3.0 (Mullenbach 2013). *Regional PKO* is coded as a dichotomous indicator for the presence or absence of peacekeepers deployed by a regional intergovernmental organization (IGO) to the conflict state in a given month. Model 7 reports a negative and significant effect of this variable. Notably, the coefficient for *UN Troops* remains negative and significant.²¹

Skeptics may contend that the UN does not need to deploy troops to ameliorate the commitment problem between the combatants. Rather, the UN's initial signal of a coming intervention is sent in the passage of a resolution that authorizes a PKO's deployment. The decision of the UNSC to intervene and offer security guarantees may be sufficient for the actors to move towards more peaceful behavior. Violence may simply decline once it is clear that a PKO will soon arrive, and this may account for the reduction in violence that is picked up by *UN Troops*. On the other hand, the positive effect of *UN Observers* may be more the consequence of resolution passage than the arrival of observers, as factions may escalate their battlefield efforts upon resolution passage to gain an upper hand prior to the arrival of a powerfully outfitted PKO.

Model 8 tests the robustness of *UN Troops* by controlling for the passage of UNSC resolutions that initiate each PKO. *Resolution Passed* is a dichotomous variable that takes a value of 1 for every conflict month from the point at which a resolution establishing a mission was passed until the first PKO personnel arrive. The results reveal that this variable does not have a significant effect on the intensity of fighting. However, the negative and significant result for *UN Troops* is unaffected. This means it is not sufficient for the UNSC to signal its intention to provide security guarantees or to increase the costs of fighting in the future. To reduce battle violence, the UN must put boots on the ground. Moreover, *UN Observers* continues to have a positive and significant effect.²²

The robustness of the results with regard to the capacity and constitution of PKOs points to the importance of accounting for the heterogeneity within and across peace missions. Past research has been unable to broadly address such important components of peacekeeping efforts, as most work uses simple dichotomous

indicators of the presence or absence of a deployed UN operation. This limits the ability to assess how heterogeneous PKOs affect conflict and peace dynamics during and after civil war. In fact, this limitation can be seen in the analyses reporting the main results and when accounting for alternative explanations. We replicated Models 1, 5, 7, and 8 by replacing the three peacekeeping personnel type variables with a single dichotomous indicator of the presence (1) or absence (0) of a peacekeeping mission. Across the models, this variable reported variously negative and positive coefficients that were consistently insignificant. Furthermore, judging the effect of PKOs in relation to each other, as we do in Model 6, is impossible with such simple indicators of the presence or absence of a mission. These results indicate that the effect of PKOs on conflict violence depends upon their force capacities and the responsibilities that the various deployed personnel types fulfill.

CONCLUSION

We began by noting that the changed character of UN peace operations involves managing ongoing violence between warring actors. Yet, our understanding of the UN's ability to reduce violence on the battlefield is limited. Most quantitative studies focus on the effectiveness of peacekeepers in keeping peace when there is already an established peace to defend. Hence, the answer to the central question of whether peacekeepers can stop the killings remains open.

To address this crucial aspect of peacekeeping effectiveness, we examine the impact of peacekeeping capacity and constitution on the behavior of warring actors when violence is ongoing. We argue that even though peacekeepers rarely engage in direct combat with the warring parties, UN missions are capable of inhibiting violence on the battlefield by providing security guarantees and increasing the cost of continued conflict. Through such activities as separating combatants and demobilizing armed groups, peacekeepers reduce battlefield hostilities. To effectively engage in these actions requires stronger mission capacity—specifically, large numbers of armed troops able to perform these tasks.

Previous studies have been unable to reveal the importance of mission capacity and constitution because the literature has relied on dichotomous measures of peacekeeping deployments. As a result, previous work may unfairly judge the progress achieved by UN operations. Additionally, many case-oriented and quantitative analyses assess mission success and failure by stringent standards and broad outcomes: war resumed or peace endured, the mandate was realized or unfulfilled, democracy consolidated or failed. Such all-or-nothing assessments paint a simplistic picture of peacekeeping. As we note in our discussion of the results above, the commitment of 10,000 peacekeeping troops has the effect of reducing battlefield violence by over 70%. This is a substantial decrease in hostilities. However, it is important to stress that violence, at least as a general

²¹ We coded various forms of other peacekeeping efforts. A second and third version included coding a dichotomous variable for (a) unilateral state peacekeeping interventions and (b) a combination of regional IGOs and/or unilateral state peacekeeping. We then coded three additional variants in which we demarcated those regional IGO, unilateral state, or a combination of the two that were supported by a UN resolution. Only the *Regional PKO* variable in Model 7 produced a significant coefficient. Regardless of the variable employed, the results for *UN Troops* were robust.

²² We also note that including all of the variables from Models 1, 5, 7, and 8 into a single model yields results that are consistent with those reported for our peacekeeping variables.

phenomenon across cases, is not fully eliminated. In fact, at six battlefield deaths per month, the dispute between rebel and government forces would still be coded as an active conflict in our data.²³ If the standard by which PKOs are judged is the ability to end war, a study relying on binary outcomes would conclude that the deployment of 10,000 troops makes no appreciable difference in pursuit of desired outcomes. Such an assessment would be unfortunate. By substantially decreasing the intensity of ongoing conflict, a mission that deployed 10,000 troops would dramatically reduce tensions between the parties. Relying on blunt indicators of peacekeeping success makes it more difficult to assess the effectiveness of missions relative to the conflict context in which they are deployed.

While previous research expresses concerns about the ability of the UN to reduce violence and end conflicts (Doyle and Sambanis 2006), our analyses provide a more nuanced picture of UN peacekeeping, and, in some respects, a more optimistic outlook on its efficacy. Even if peacekeepers encounter difficulties in managing complex security situations, the UN can improve hostile environments and reduce the killings when supplied with sufficient troop capacity. Hence, we expect that as the UN commits greater numbers of troops to its missions, fewer people will die as a result of military confrontations in civil conflicts. Such a reduction of violence has positive consequences that go beyond the lives directly saved on the battlefield. High-intensity conflicts have such detrimental effects as increasing the threat of war contagion to neighboring states (Kathman 2011), reversing development through higher levels of infant mortality and undernourishment (Gates et al. 2012), increasing the potential for civil war recurrence (Fortna 2004a), and exacerbating the plight of civilians in conflict (Eck and Hultman 2007; Wood forthcoming). From this point of view, our findings should encourage policymakers to consider the gains to be made by deploying peacekeeping troops to ongoing conflicts.

At the same time, this study contributes to the complex debate on a potential peacekeeping-peacemaking dilemma (Greig and Diehl 2005). Our findings show that peace operations produce a positive short-term effect of reducing hostilities between the belligerents. Yet, a question remains with regard to whether this is necessarily a desired outcome from a policy perspective. The literature is somewhat divided on this issue. Skeptics argue that peacekeepers may actually inhibit the prospects for a stable and durable solution to conflict, as the parties are not able to fully solve the information problem and consequently prefer continued fighting over a negotiated settlement (e.g., Greig and Diehl 2005; Luttwak 1999; Werner and Yuen 2005). The more optimistic outlook is that the reduction in violence engendered by peacekeeping can establish conditions that are favorable for peace negotiations, and thus a resolution to the conflict. Powell (2012,

630–31) shows that as fluctuations in the power balance between combatant parties begin to stabilize, the prospect for a negotiated settlement increases. If UN peacekeeping can reduce changes in the power balance between civil war factions, it may thus facilitate negotiated agreements between the factions. These competing arguments show that the relationship between short- and long-term consequences of UN intervention deserves more scholarly attention. Still, the international community often expresses the ambition to reduce the hostility and instability of ongoing conflict, while there is uncertainty about the most effective means for achieving such goals. To this end, our study shows that the UN indeed has the ability to reduce the severity of civil conflict through peacekeeping operations.

Supplementary materials

To view supplementary material for this article, please visit <http://dx.doi.org/10.1017/S0003055414000446>

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²³ Using the UCDP standard of 25 battle deaths per year as the threshold for defining active versus inactive conflict, six deaths per month clears this level.

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