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Market-based Social Networks among Former Combatants: A New Framework of explaining Post-Conflict Re-Integration

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Research Article

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Market-based Social Networks among Former Combatants: A New Framework of explaining Post-Conflict Re-Integration

Abstract: Social networks, as presented through horizontal and vertical ties have been found to foster former combatants' (FCs) sense of belonging, acceptance and trust. Hence, increasing their ability to reintegrate back in the society. However, it remains unclear how the different categories of FCs' (within or without networks) respond to different environmental stimuli created by this web of networks as a path way to social connectedness. We use core-periphery categorical model to establish the *strength* of ties between FCs. Overall, the result reveals that membership in associational networks is significantly (Chi-square = 13.509, p = 0.001) associated with enhanced community connectedness. Specifically, a higher number of network members (FCN) reported "Easy" adjustment (36%) compared to non-members (FCW) (16%). However, the relationship is nuanced, with border market-based network membership influencing different dimensions of connectedness in distinct ways. The regression analysis further revealed that network membership was a significant predictor across all four adjustment indicators. Specifically, FCs within networks reported higher levels of Belongingness, Attachment, and Togetherness, but lower levels of Relatedness. This suggests that while networks foster a sense of group cohesion, they may not always translate to deeper individual connective bonding.

Keywords: Former combatant, interethnic border markets, social connectedness, social networks, Mt. Elgon, Kenya

Introduction

Social (dis)connectedness, as it relates to social network theory of connectivity (Peng et al., 2022; Dunn, 1983; Laumann et al., 1978), remains a subject of inquiry among sociologists, organizational behaviorists, social psychologists, anthropologists and peace and conflict researchers interested in understanding the structural processes by which individuals or groups get '*integrated'* or '*isolated'* in post-conflict societies (Graupensperger et al., 2020; Clifton and Webster, 2017; Bakouri and Staerkle, 2015). Of particular importance to peace and conflict researchers is how identical groups such as former combatants' ties with victims of past conflict experience are strengthened or weakened (Humphreys and Weinstein, 2007). Building on the work of Allport (1954) on intergroup contact, on one hand, and on the other, social connectedness scholarship (Hoffman et al., 2023; Spini and Widmer, 2022; Ehsan et al., 2019; Santini et al., 2015), we contrast two group formations- *former combatants* who have joined local associational networks (FCN) and those without (FCW). In this context, FCs who have joined associations are more likely to exhibit resilience, and bonding with the local community, hence, integrated in the socio-economic, cultural, technological and political fabrics of the society. However, FCs in the periphery or have never joined any association, will experience dejection or isolation, due to weak social relations and negative identities (Hoffman et al., 2023).

Despite the existence of numerous studies on social connectedness, a systematic examination of how the associational social networks influence individuals' (in)ability to

integrate, particularly, among former combatants (FCs) in the context of post-conflict setting, are rare. The question of how social network structures enhance or inhibit social connection among individuals after conflict and hence, fostering peaceful co-existence, is crucial to the current study. This study intends to fill this lacuna by investigating the role of social networks in the evolution of *integrative* or *isolatory* identities among FCs in a post-conflict community in Mt. Elgon in Kenya. We use the phrase 'former combatant' as outlined in the Paris Principles defining former combatant/ex-combatant as individuals associated with armed forces and militia groups, recruited (voluntarily or forcefully) to perform various tasks, including, but not limited to, engage in hostilities as fighters, cooks, porters, messengers, spies or for sexual exploitation (UNICEF, 2007).

Understanding social connectedness vs. vulnerabilities of FCs as they evolve and coevolve into new identities is one of the themes of greatest interest to peace and conflict researchers (van den Berg, 2023; Bussmann, 2020). In this study, we utilize Haim-Letvsky et al.'s (2023: 1) notion of "sense of belonging" to define social connectedness as a feeling of belonging to a larger group in the society. This connectedness is crucial for FCs in forming bonds with the society for survival, continuity and more importantly their transition from militancy to a civilian mind set. In literature social connectedness has been identified with two outcomes- integration vs. isolation. First, social connectedness has been associated with human-to-human '*integration'*- bonding, mutual trust, integration and well-being of FCs (Hoffman et al., 2023). When individuals are connected to each other, they develop resilience, control hostilities, improves mental health and generally experience satisfaction in life (Briggs, 1998). Groups or individuals are likely to sustain networks of relations that enables them access resources through social ties or bonds (Ferlander, 2007). One of the important determinants of social networks is formation bonds. Bonds are social forces that binds relationship in family, friends and colleagues (Cornwell, 2011). Understanding patterns of bonding in a social system helps researchers discern the structural positioning of individuals or groups in the community. In addition, bonding can enable groups or individuals to see themselves in terms of shared identity (Widmer et al., 2018; Szreter and Woolcock, 2004). Recent studies have shown that social identification helps groups or individuals to cope with a wide range of life challenges including, rejection, isolation, violence and stigmatization (Frimpong-Manso and Bosomprah, 2025). However, for social connectedness to yield optimum integration, it must be mediated by self-esteem, mutual trust, social support, need satisfaction and reciprocity (Vacchiano and Spini, 2021).

The second possible scenario emerging from human-human intergroup contact literature is '*isolation'*. Under some circumstances, social connectedness weakens the bonds and might reinforce individual or group vulnerabilities (Trifiletti et al., 2024; Schafer et al., 2021; Paolini et al., 2010). When bonds between individuals are weakened, trust shift to "us" vs. "them" or "victims" vs. "perpetrators"-a precursor for stigmatized social identity formations, constrained relations and structural inequalities begin to emerge (Baleyte et al., 2020; Houle et al., 2019; Archibong, 2018). These elements in turn contribute to the formation of system of devaluation and vulnerability of individuals and groups. Vulnerability occurs when one or more life domains are deprived of resources and acceptance (Peltonen, 2024; Ostergaard et al., 2021; Spini et al., 2017; Shultz et al., 2014). This is more pronounced in post-conflict situations, in which risk of former combatants being stigmatized translates into discrimination and dejection (Unfried et al., 2022). However, these risk factors can also evolve and coevolve into patterns of adaptation and resilience among FCs. In this context, it is not the lack of resources that leads to vulnerability or inequality, rather, it occurs when resources and opportunities cannot be optimally taken advantage of within a given context. A sustained identification of individuals or a section of the society with low status may exert negative impact on individuals' ability of belong, attach, get together, relate or entrenched. In some

circumstances, while existing social structures may support individuals or groups to cope with the challenges of acceptance, these same structures might also be a source of disconnection and cause for rejection of a section of FCs. Social scientists refer to this condition as, '*ambivalence*' (Olsen, 2022; Rudolph, 2011). In the current study, as individual FCs join groups, coupled with prolonged exposure to cultural differences, it can attract ingroup discordance emanating from power asymmetry, i.e., the "have" and "the have not" syndrome kicks in as a source of conflict. In closed network systems, *belonging* to a group does not necessarily translate into being connected to the community, it must be accompanied by a psychological sense of belonging (Mojzisch et al., 2021). There is therefore, an urgent need for more knowledge on understanding the role of social interworks in the formation of *integrative* and *isolatory* identities; thus, does the interethnic border market-mediated social networks inhibit or enhance sense of social connectedness among former combatants in a post-conflict setting?

As seen from the preceding discussions, intergenerational memories of armed violence and the need to foster relationship between the FCs and victims of armed conflict, has received significant attention in the policy and scholarly literature (Feron, 2024; Svob et al., 2016). However, the study of social connectedness and psychosocial well-being of ex-combatants often become conflated as if mirror images of each other. To this end, there is a growing recognition that the domination of individualized study of ex-combatants limits how former violent societies are conceptualized and reconstructed. This mis-conceptualization coupled with politicization of memory formality and informality may have perverse implications for intergenerational integration and healing of such societies, as well as formation of new identities (Parish and Rugo, 2021). This is not to say psychosocial well-being of FCs and their families, as a scientific approach to the study of post-conflict societies, should be discarded. Rather, the scope of post-conflict reconstruction should be broadened and understood comprehensively, focusing on how *connectedness (experiences: belonginess, attachment, relatedness, togetherness or entrenchment in one's social relationships)* (Spini et al., 2017) of FCs can be achieved through individualized and group networks in the context of interethnic border market spaces. Interethnic border markets, refer to both tangible and intangible expression to principles of social structure binding communities to a holistic system through human relations (Gell, 1982). A market, therefore, represents, both spatial space and a set of norms, institutions and value system upon which individuals, or groups transact economic resources and non-material social capital. This conception aligns with structural theorists, who argue that social life is shaped and shapes both material and semiotic structures (Sewell, 1992; Azar and Farah, 1981). The interethnic border markets, therefore, reflect power distribution (semiotic) and human enterprises (material) in a social system. Both of which, have implication on how societies recover and heal from wars and conflict.

In this context, this study aims to establish relationship between social network and connectedness of individuals and groups, comparing the two typologies of FCs as well as group dynamics. More specifically, the study buttressed on four interrelated set of propositions: first, we demonstrate that FCs in associational networks display some level of "adaptability" as they transition to civilian life. Second, we show that FCs in associational networks exhibit greater sense of "belonging" to community. Third, we demonstrate that FCs "attachment" to the community is determined by their associational networking capabilities. Finally, we show that "togetherness" is key to FCs' integration with the society. We explore these propositions through cross-comparative analysis of two set of FCs in Mt. Elgon region of Kenya. In addition, we draw on extant literature concerning social network theory and social connectedness, in order to characterize experiences of FCs in terms of integration (Parry and Aymerich, 2023; Suarez and Baines, 2022; McMullin, 2013) and isolation (Guthrie-Gower and Wilson-Menfeld, 2022; Unfried et al., 2022; Schmitt et al., 2021). The

evidence derived from this work could help to explain structural connectedness of individuals and groups in a community emerging from conflict and what factors account for associational networks' role either as enablers or inhibitors of reconnection. The following section theorizes the two possible outcomes of social connectedness- a) isolation and b) integration.

Social (Dis)Connectedness: A theoretical framing

As societies emerge from war and conflict, several transformations occur (positive or negative), one among them is that, former combatants (FC) can either be "isolated" from the core of the society or "integrated" back into the community. In this section I theorize the tensions between the two possible scenarios and offer some hypothetical *expectations* regarding their application as a function of social connectedness in the context of interethnic border market networking structures.

Literature is replete with psychosocial success factors for '*reintegration'* of FCs (commonly known as, ex-combatants) in post and/ or active conflict societies, such as, Burundi, Rwanda, Uganda, Sierra Leone, Liberia and South Sudan (Kiefer, 2025; Ayissi, 2021; Jordans et al. 2012; Jennings, 2008; Stark, 2006). There are also instances of *isolation*, *rejection*, where communities threaten FC by perpetuating discriminatory tactics and victimize them via exploitative labour schemes and extortionist rackets (Munive, 2014; McMullin, 2013). These studies apply a combination of methods and approaches- observational studies, cross-sectional, as well as, tracer studies, to measure the determinants of reintegration, highlighting the several success factors including, community sensitization, cleansing rituals, religious support, counselling, family mediation and vocational training (Parry and Aymerich, 2023; Suarez and Baines, 2022; McMullin, 2013; Torjesen, 2013). Building on these interventional schemes, scholars have developed theoretical frameworks accounting for social connectedness based on identity, social networks, social capital and kinship (Haslam et al., 2018; Smith and Christakis, 2008; Ehsan et al., 2019). But the plight of FCs is not limited to these post-conflict socio-economic processes, the tensions between the civilian communities and FCs have been linked to the recruitment-reintegration dynamics (McMullin, 2013). These dynamics comes with the understanding that the social (dis)connectedness evolves across societal spectrum and that the propensity of FCs to remain reconnect or remain connected is determined by whether social structures *isolate* or *integrate* them.

First, the community can hutch schemes that '*isolate'* former combatants. Scholarly discourses on FC are dominated by the narratives of conflict recurrence if FCs are dissatisfied, hence, the sporadic number of intellectual and interventional efforts directed towards the management and mitigation of threats that threatens FCs well-being (Kaplan, 2001; Richards, 1996). Jaremey McMullin identifies two *explanatory* perspectives on the origin of threat narrative and the subsequent '*isolationary'* tendencies towards FCs- New Barbarism and Governmentalism (McMullin, 2004). The new Barbarism constructs the African conflict as acts of "anger" and "irrational violent adventure" (Richards, 1996). The depiction of FCs as patrons of war and agents of transnational small arms networks, is an irrational reflection of them. Advocates of this perspective feel that conflict, in the first place is unnecessary and unjustifiable, objectifying FCs as the sole authors of conflict (Sharif, 2018; McMullin, 2004). The conscious isolation of FC is therefore, a coevolutionary process through which the community try to "punish" the war perpetrators and prevent resumption to conflict. Accordingly, it is expected that if there are no mechanisms for allowing FCs to reconnect with the rest of the society, they can resume armed conflict, through events such as, small arms and light weapons laundering, criminal banditry or cattle rustling.

The attitude of feeling isolated by FC is deeply associated with their intimacy with reparation, norms of socialization since end of conflict and the vulnerability to retribution (Pena and Dorussen, 2020; Daly, 2018). In this regard, it is expected that, the likelihood of rejecting FC by the community is higher for those who chose to reside among their war victims. Scholars attribute this phenomenon to the act of recognizing them and eliciting emotions of the past 'wounds' and grievances (Daly, 2016). In Liberia, communities were most likely to reject FCs who were embedded in homogenous ethnic groups that participated in violence- a recipe for reprisal and resumption of conflict. On their side, FCs may develop 'cold feet' against their victims for fear of revenge mission (Aguilar et al, 2011). Lack of change mechanism or medium of prolonged interaction among FCs might make it difficult to transition from perpetrator to civilian mind set (Daly et al., 2014). Although the FCs in Mt. Elgon reside in their original birth place where the military operation occurred, their differential exposition to social networking activities may cause variations in their response to connectedness. The uncertainty among FCs of what their victims perceive them, may reduce the propensity for connectedness (Weintraub et al., 2015).

The other framing of former combatants through governmentalist logic of securitization, which creates threat narrative (Williams, 2007; Abrahamsen, 2004; Duffiled, 2004; Tilly, 1985). This takes the shape of officialdom by government agents of peacebuilding development. As the state actors' initiate post-conflict reconstruction and development, it becomes integral to present post-conflict transition as a potential threat to stability and recovery of a developmental state. In this grand scheme of things, FCs are viewed as potential agents in terrorism, organized criminal networks and disruptors of peace. In this sense, threat narrative is reproduced, whereby the FC become agents of interest to the state, all their activities are put under surveillance and control over their territory for fear of conflict recurrence. This state security environment compels the FCs to live in constant fear for their lives and safety under the aegis of "govern"-"mentality". This trend undermines community's ability to offer support to the FCs to engage in civilian livelihoods and integration. This skewed government mentality influences societal framing of FCs as "others". Accordingly, in the "othering" process of "hierarchiafication", the differentiated FCs are expected to coevolve into either, core or periphery structures.

In some context, identity formation of FCs goes beyond "othering" to criminality, triggered by unemployment, proliferation of arms and failure to allow equal participation reinforcing the new identity- criminality (McMullin, 2004). In connection to this theorization, a study in Mozambique found that, although FCs had established their own association, they still experienced frustrations relating to the local community (Wiegink and Sprenkels, 2022). Rather than promoting well-being and resilience among FCs, the militants' association embodied a new identity- that of "violence urgency". Other studies have constructed new identities of FCs- "sensory order" on the basis of marginalization resulting from a complex practice revolving around the idea of national unity in post-war societies. In other contexts, such as Liberia, politicization of reintegration has led to ethnic polarization (Jennings, 2008). On the other hand, several post-conflict researchers have revealed that despite the formation of hostile identities among FCs, rebel networks remain central to their connection with the local community through formations such as friendship, marriage, patronage, football clubs, sense of belonging and social safety nets leading to identification with so called "big men" of the society (Wiegink and Sprenkels, 2022).

Secondly, '*integration'* as opposed to "reintegration", reflects both vertical and horizontal bonding relationship ties. In this sense, integration, away from the traditional definition of reintegration, depicting ex-combatants as structures or agents carrying on with every day social, economic and political life (McMullin, 2013), refers to horizontal relationships that binds family, relatives, friends and neighbours for the purpose of co-

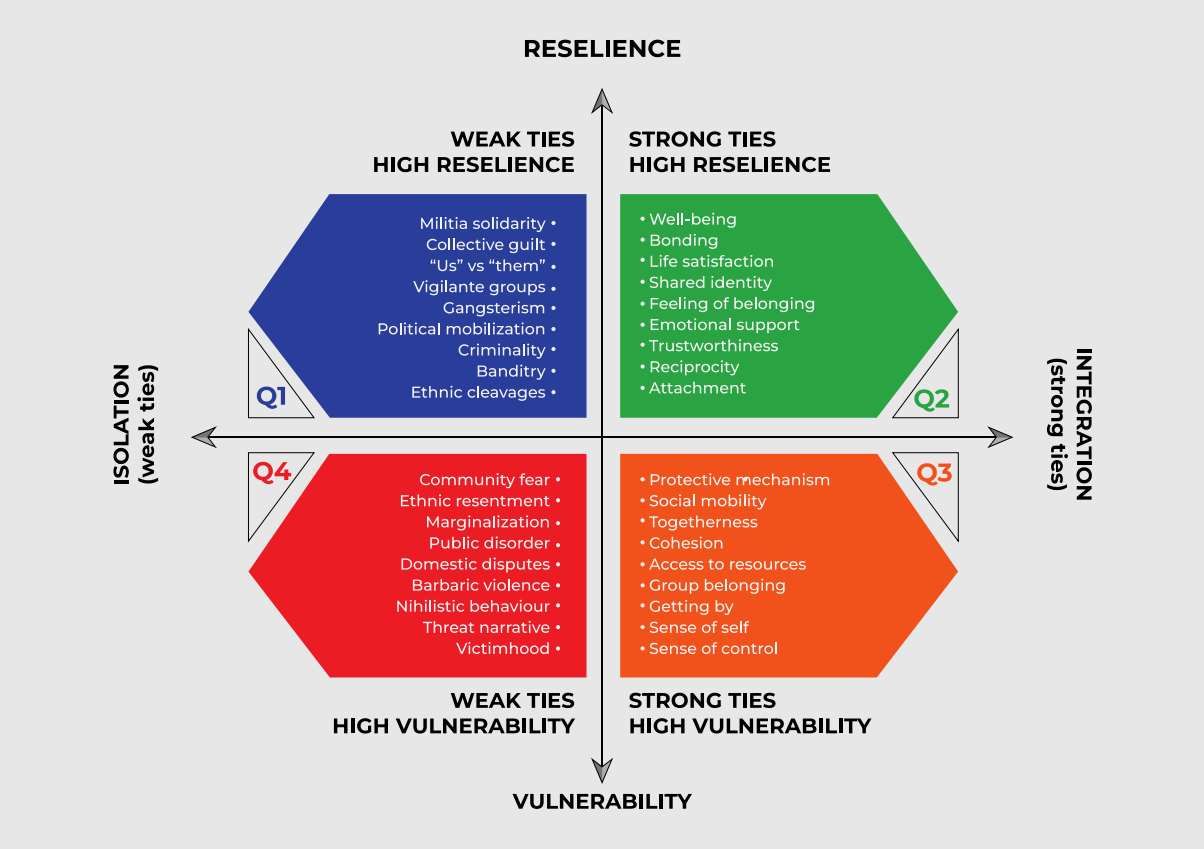
existence across conflict spectrum- prevention, management, mitigation and post-conflict reconstruction and development (Ferlander, 2007). In both post-conflict environment and peaceful situations, human bonding, plays crucial role (Girardin and Widmer, 2015) in enabling people connect with others and access resources and information. Bonding through social networks have been associated to diverse outcomes (Widmer, 2016), including, flow of resources through the social system and strengthening ties with the communities. Strengthening ties between the FCs and the victim community is expected to promote emotional support and reparation for ex-combatants (Dixon and Firchow, 2022; Kaplan and Nussion, 2018; Kilroy, 2011), vital for them to get along with the rest of the community. In other words, there must be a deliberate effort for FC and the community to "bond."

Bonding through social networks may help to strengthen relationship between individuals who otherwise would perceive each as "enemies" or "different". However, as demonstrated by McMullin (2013) the perpetrators *vs*. victims narrative more often produces and reproduces FCs identities into "othering", leading to new identities- with the FCs being labeled as out-group and the community as in-group. The extant literature has shown that well organized communities can diffuse threats and risks associated with FCs, increase rate of connectedness through enhanced contact and participation. It is therefore, expected that where shared social identity is entrenched through associational networks, FCs develop a sense of belonging, attachment, togetherness and relatedness, and that variations in the structure (core vs. periphery) to be associated with the differences as to whether a former combatant belongs to association or not. In a recent study, social network properties (density and centrality), have been found to predict individuals' well-being (Graupensperger et al., 2020). In Widmer et al.'s (2018) conceptualization, social networks are classified as resources, resulting from people's interaction. The semiotic (soft power) value for networking takes the form of ties, reciprocity and trustworthiness (Lin, 2002). However, in a system where agency (people) is linked to structures (associational networks), differentials in the distribution of power can create a force of isolation and polarization (Vacchiano and Spini, 2021). Indeed, Jennings's (2007) work in Liberia show that politicization of reintegration entrenches ethnic polarization. As illustrated in the foregoing discussion, the literature provides an in-depth understanding of the factors inhibiting or promoting inclusive reintegration or isolation of FCs in post-conflict societies.

These studies provide clues on the associational formations-social connectedness linkage. Such studies demonstrate how ties between individuals can be explained by a number of mechanisms, including belongingness, attachment, togetherness and relatedness. For instance, belonging to the same social space can significantly improve individual's' attitudes towards those they share membership in the association (Rivera et al., 2010). Clearly, from literature, there are efforts to examine the societal structures in reintegration processes and the psycho-social well-being of FCs. However, none of these studies locates the centrality of market-based social networks as a form of '*structural justicisation*' influencing changes in the FCs identities.

In the current study, we expect higher degree of network coreness and density to yield greater connectedness (integrated) among former combatants associated with market-based associations. Likewise, FCs who are '*isolated'* through power distribution structures are likely to experience social disconnectedness (isolation) from the rest of the community as illustrated in Figure 1.

Figure 1: A Conceptual Illustration of the Proposed Model of Social (Dis)Connectedness in a Post-Conflict Ecosystem



Source: Conflictology Lab, February 2025. Formulation for determining social (dis)connectedness is as follows # Quadrant Q1~ (-1) +1=0, Q2~ (+1) +1=2, Q3~ (+1) +(-1) =0, Q~ (-1) +(-1) =-2. Where, each variable is represented by either positive or negative valence depending on whether it leads to connectedness (+ve) or isolation (-v): Therefore, strong ties is represented by (+1), weak ties (-1), vulnerability (-1), and resilience (+1). The value of social connectedness (SC) is wherefore, the sum of the quadrants: SC=Q1+Q2+Q3+Q4, from the above Figure 1, thus, 0+2+0+-2= 0. In this formulation therefore, the SC is neutral (0), i.e., the value of negative valence is same as the value of positive valence. It means the social system represented by this formulation is at equilibrium.

In view of the above illustration of isolation (-ve valence) and integration (+ve valence), we establish the network structures between the FCs affiliated to associational network (FCN) and those without any affiliation (FCW) as a function of (dis) connectedness of a social system, explaining the density and coreness indices. By explaining network structures, we are able to investigate the effect of belonging to an association on connectedness determining under which conditions membership to association might have a significant influence on integration or isolation.

Purpose of the Study and Hypothesis

The aim of this study is to compare the degree of social connectedness (belonginess, attachment, relatedness, togetherness or entrenchment in one's social relationships) among two sets of former combatants and how the outcome of this relationship creates and recreates patterns of new identities in post-conflict societies. To achieve this aim, four hypotheses are formulated:

Hypothesis 1: *Former combatants who have attained associational membership coreness in the evaluated networks will present greater adaptability to new life compared to FCs without membership, with the difference between those with and without being statistically significant.*

Hypothesis 2: *Former combatants who have attained membership into associational market-based networks will present greater sense of 'belonging' to community compared to FC without membership.*

Hypothesis 3: *Former combatants who have attained membership into associational market-based networks will present greater sense of 'attachment' to family compared to FC without membership.*

Hypothesis 4: *Former combatants who have attained membership into associational market-based networks will present greater sense of 'togetherness' with community compared to FC without membership.*

Methods

Study area and context

The research was conducted among the Sabaot community in Mt. Elgon subcounty of Bungoma county. The area is mainly occupied by the Mosop (Ndorobo) and the Soy sub-clans of the Sabaot community. The subcounty borders Trans Nzoia (East), and Teso subcounty (Southwest) and the Mbale (West) and Kapchorwa (North) districts of Uganda. The Bukusus and the Tesos form significant minority of the population in Mt. Elgon. The main towns and/ or market centres in the area include, Cheptais, Kapsiro, Kapsokwony and Kaptama. The subcounty's administrative headquarters are located in Kapsokwony, however, Cheptais forms the area's nerve centre of economic activities. Given the robustiness of Cheptais as economic hub of the area, during a market day, Cheptais market attracts people from the entire subcounty and other neighbouring counties. The choice of Cheptais as the focal point for this study was established on the premise that it bore the memories of how the youth would utilize the centre as base for inscription and recruitment into the militia group-Sabaot Land Defence Force (SLDF). Moreover, the formation of networks and hence, social connectedness were generally pronounced within local social infrastructures such as periodic markets located on borders separating different ethnic groups.

Owing to the favourable geographical and ecological condition of the area, with an altitude of 2,700 to 3,300 metres above sea level, it was designed as "white settler" under the British colonial condominium policy (Petursson et al., 2013). The condominium policy not only took away the arable land from the Sabaot community, but lead to intra-ethnic differentiation and rivalry between the Ndorobos and the Soys. The ethnic differentiation created ethnic geographies with the Ndorobos residing on the top of the mountain characterized by inhabitable conditions with bare land to cultivate, while the Soy ethnic group settled on the lower slopes of the mountain with rich ecological system that allowed agricultural activities to thrive. The height of the conflict between the Ndorobos and Soys occurred in 2006 when the clan clashes evolved into the formation of militia armed group-Sabaot Land Defence Force (SLDF). The SLDF was dominated by mainly youth from the Soy clan targeting the Ndorobo, whom they perceived as government agents. However, the conflict evolved and engulfed the entire Mt. Elgon and Trans-Nzoia area with the community fighters seeking to forcefully recover their land from the colonialists and communities they perceived to be "outsiders" (Lynch, 2011). The reintegration process begun immediately after the Kenya Defense Force (KDF) neutralized the militia group and pacified the area. Several

non-state actors and state agencies, within the framework of alternative violence programme (AVP) begun to tackle the various aspects of reintegration of former combatants with the aim of preventing resumption to aggressive behaviour and violence. The AVP included array of initiatives to respond to various issues- injustices, prejudices, frustration and so on.

Participants' timelines

Before the start of the main study, we conducted identification of former combatants (FCs) and mapping of social networks and members of the associations. This phase of study was conducted between April to October 2024. The total number of social associations operating in the study area were 27. Membership in the established associations ranged between 8 (lowest) to 16 (highest). Social network mapping was instrumental in understanding the spatial distribution and the general population of the FCs across the region, to help in determining sample size for the main study and to estimate the response rate. The data for the main study was collected between October and December 2024. Confirmation and checking robustness of the data on associations and membership was conducted in January 2025. Socio-demographic data were collected during the main study phase only.

Participants and sample size calculation

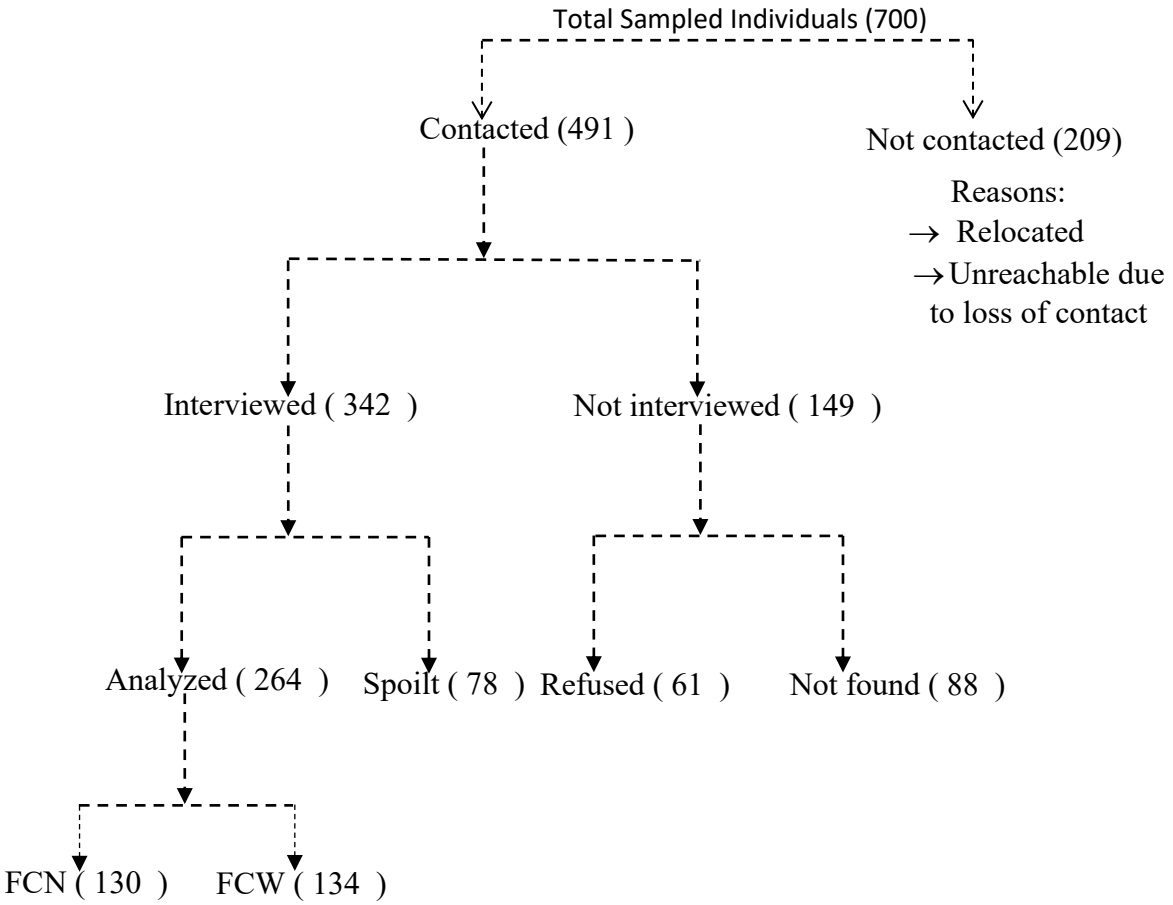
The overall number of former combatants who participated in the alternative violence programme (AVP) and were accessible and eligible for the study was estimated 700. There was a total of 421 FCs registered as members in the 27 mapped networks. FCs *without* membership in networks was estimated 279. We were able to distinguish between members of the association and non-members from the membership list registered with the county ministry of social well-fare. This data was further authenticated through confirmation by the association's leadership as well market authorities. Cheptais market was then divided into 10 major zones (based on the commodities sold in the market) with roughly similar population. List of governmental registered associations from each zone was obtained. Using the association's leadership, we used exponential non-discriminative snowball sampling to reach membership of each group. This technique has been strongly recommended fro social scientists because it is ideal when researching on hard-to-reach individuals or groups who share certain features, such as membership in association or having similar identity (Gierczyk et al., 2024). Julien Audemard has specifically recommended the technique as ideal for researchers studying social networks where contextual factors might have influence on behaviours of participants (Audemard, 2020).

The leaders for each association provided the referrals, and based on this information, we were able to recruit former combatants belonging to a social network (FCN). In order to obtain sample for the FCW, we used multistage sampling, in which case, individuals were randomly selected from the target groups (from the list of FCs), carefully, disentangling the FCN to make a total of estimated 700 to participate in the study.

After finalizing the list of accessible and eligible participants (FCN) and the FCW for which simple random sampling was applied, actual tracing was commenced to locate target respondents for the interviews. We used different strategies in tracing both FCN and FCW: a) liaison with the local authorities identify associations' leadership; b) local research assistants were hired to contact the identified members of association; c) snowball sampling applied on associations' leadership to make referrals; and d) collaboration with the local ministry of social well-fare to authenticate individuals' membership in the identified associations. There were attritions on the eligible and accessible participants due to various factors, including,

loss of contact, absence during fieldwork and refusal to give consent during interviews. As a result, we were able to trace and interview 130 FCNs and 134 FCWs (see Figure 1).

Figure 1: Questionnaire Response Rate for the study



Source: Conflictology lab, 2025

Data collection

Data was collected using a self-reported questionnaire to assess the perceived level of '*connectedness'* of former combatants (FC) and affected families within their community following the conflict. The questionnaire focused on the primary outcome variables of belongingness, attachment, relatedness, and togetherness. The study categorized former combatants into two groups: those *with membership* in market-based networks (FCN) and those *without* (FCW). The instrument aimed to evaluate how local market infrastructure, along with socio-demographic factors, influences the 'connectedness' of FCs within the context of post-conflict reconstruction and development (PCRD) in Mt. Elgon, Western Kenya.

Independent variable- market-mediated social networks

Detailed analysis of social networks is necessary for our measure of social connectedness among the former combatants (FCs). Respondents are asked to state whether they belong to any registered association, thereby increasing their level of social connectedness relative to

transition from militancy to civilian mind set. The periodic markets form the basis for the formation of associations among the FCs. The markets can be viewed, in some sense, a '*meshlike web'* of social relations and interaction between individuals and groups. In this web of relationships, markets are meso-level structures that link individuals that eventually builds desirable values (belongingness, attachment, togetherness etc.) among ex-combatants in order to integrate in the community effectively. Interethnic border markets are spaces between micro (individuals' relationship in the market) and macro (broader society) levels of analysis from which both opportunities and inhibitors of social connectedness a rise (Vacchiano and Spini, 2021). Therefore, we rely on the government registered associational database to develop a cross-sectionally and longitudinally comparable associational taxonomy. We identify individuals registered as members of association as a function of social networking. Associations form a complex web of interethnic and intra-ethnic relations that can lead to negative outcome (isolation, frustration, regrouping for violence) or positive outcome (well-being, trust, acceptance). The associations are formed along the lines of merchandise sectors, ethnic affiliation and fictive/brotherhood kinship, i.e., individuals who were recruited and served in the militant group are more likely to be found connected through associations. The network system of associations in the market under investigation- Cheptais- operate under a *closed system*- they have set of rules as to who can access the groups and join.

We measure the efficacy of markets as mediators of networks using the internal properties of social networks- density and coreness. Social network density is measured as the effectiveness of individuals or groups to belong, remain attached to the community and entrenched in the community. The denser a network is the more is likely that individuals or groups will know each other through functional connections. It should also be born in our mind that increased associational connection can lead to negative connectedness, when such connections are exploited to recruit more people into gangs or cartels that disrupt peace. Social groups present an ideal method of measuring network density because members of each group know each other and therefore easier to establish the degree to which an individual experiences belongingness, attachment, relatedness, togetherness or entrenchment in one's community (Santini et al., 2015). The other property of social network useful in determining the level of social connectedness is coreness. Coreness, helps us to establish the degree to which each market actor is close to the core of the network and therefore how densely connected they are. We utilize the coreness indicator measure. The network structure is divided into core and periphery, depending on the participants proximity to the network core. Based on this categorization, we apply Borgatti et al., (1999) techniques to distinguish between the core and periphery structures. The continuous model is used to construct the structure and calculate the value of the coreness parameter for each market participant. The clustering analysis is performed by the UCINET software (Borgatti et la., 1999) to generate coreness parameters (see Figure 1).

It is important to note that the use of social network properties (density and coreness) provide a conservative test of our hypothesis, as we specifically investigate FCs that have joined associations and are actively involved in groups' activities. In these cases, we expect associational membership to have promotive effect on social connectedness.

Dependent variable- social connectedness

In this study, our dependent variable is social connectedness as a measure of belonginess, attachment, relatedness, togetherness or entrenchment in one's community. We evaluate the construct social connectedness as the extent to which an individual experiences meaningful, close and constructive relationships with other individuals, groups and society (Haim-Letvsky et al., 2023). Social connectedness includes internal self-factors such as attitude and perception

as well macro-factors- belongingness, integration, isolationism, power dynamics, resource endowment and status). We apply these attributes as descriptors for assessing the degree of social connectedness in the context of interethnic border marketplaces. The basis of our measure is based on Santini et al.,'s (2015), theoretical model of social connectedness operationalized on the basis of four dimensions (belonging, attachment, relatedness, and togetherness). Santini et al. (2015) defines connectedness as follows, "the *degree to which a person experiences belonginess, attachment, relatedness, togetherness or entrenchment in one's social relationships. It refers to subjective and attitudes towards oneself in relation to the social context, rather than to specific relationships."* This construct is a two-way traffic-measuring the individual's attitude towards and the community and vice versa. The approach identifies episodes for each one of the building blocks of social connectedness. The Likert scale is used to evaluate 3-5 items that are known to be indicative of the building blocks of social connectedness. We match this database to membership status of FCs to identify features that are only accrued to FCs that have membership in association. This discrimination helps to fully understand how well the FCs are or are not connected to the community. We expect that the denser the network of association among FCs, the greater the level of social connectedness with the community. Dense social networks are associated with positive social connectedness, such as integration and cohesion (Gallagher et al., 2021).

Analysis strategy

Two procedures were developed to group former combatants according to membership in associational networks and the degree of social connectedness as per the membership profile. All the relevant statistical tests were performed using the 5% significance. Given the low number of observations in comparing the FCs *within* groups and FCs *without* groups, we set our threshold at 95% confidence interval. Similarly, to test for membership/non-membership effect, comparisons at each time point was considered as primary outcome and measurement at endline2 as secondary outcome.

We began the analysis by applying Borgatti and Everrett's (1999) core-periphery categorical model. To establish variation in the adaptation of FCs, the degree of adaptability for each set of groups was calculated. To classify FCs according to the degree of centrality in the market networks, cluster analysis was performed with the UCINET software (Boyd et al., 2006). In this analysis, actors (FCs) occupying the centre maintain multiple connections with each other and some links with peripheral actors, but peripheral actors are usually not connected to each other. In this case therefore, the process of social connection is that, connectedness is intensified in the core of the networks compared to the periphery. The current study uses the Borgatti and Everrett's model (cited in Sohn et al. (2020) to differentiate the core and peripheral actors. In this regard, social connectedness is higher in the core compared to the periphery (Figure 1). The categorical algorithm identified 85 FCs (20.19%) (Number of individuals out of the total in the network) in the core and 336 FCs (79.81%) in the periphery recognition network system.

To test hypotheses 1, 2, 3, and 4, The mean score for each index was used because this is a straightforward and easily interpretable method. It assumes that each item contributes equally to the overall "adjustment indicator like Belongingness" construct. The resulting score will be on the same scale as the original items (1 to 5), representing the average level of agreement across the 7 statements. This is because the indicator was generated from conceptually related items and there was no strong theoretical reason to weight them differently.

After generating each score, we tested for reliability using (Cronbach's Alpha). This was to assess the internal consistency reliability of the "Belongingness" scale using Cronbach's alpha. This showed how well the items hanged together to measure a single construct. Noting

that a generally accepted threshold for Cronbach's alpha is 0.7 or higher. Further, a Cronbach's alpha of 0.6 and above would still be accepted if the variables used to construct it are less than 10, like in our case where the variables ranged from 4 to 7. If this was lower, we would have resulted to Exploratory Factor Analysis (EFA) approaches to generate an index/ score using like Principal Component Analysis (PCA) or factor analysis.

To assess whether the four indicators of adjustment and connectedness post-conflict were normally distributed, we applied the Shapiro-Francia test, along with skewness and kurtosis tests. The results indicated that only Belongingness was normally distributed ($p \geq 0.05$), while the other three indicators (Attachment, Relatedness, and Togetherness) were not normally distributed ($p < 0.05$).

For all the 3 indicators (Attachment, Relatedness, and Togetherness) that were not normally distributed, we used the Wilcoxon rank-sum test — a non-parametric method for drawing inferential conclusions. This test assessed whether the distributions (typically interpreted as medians) differed significantly between two independent groups: those in networks versus those not in networks. For the 1 indicator that followed a normal distribution (Belongingness), we used the t-test — a parametric approach — to determine whether the means of the two groups were significantly different.

To create adjustment indicators, mean scores were calculated for each construct (e.g., Belongingness). This approach assumes each item contributes equally to the overall score and provides scores on the original 1 to 5 scale (1 = strongly disagree to 5 = strongly agree), representing the average level of agreement with the items. This was deemed appropriate because items within each indicator were conceptually related, and there was no strong theoretical justification for differential weighting.

The internal consistency reliability of each scale was assessed using Cronbach's alpha. A Cronbach's alpha of 0.7 or higher is generally considered acceptable, and a threshold of 0.6 was deemed acceptable given the small number of items (4 to 7) in each scale. If reliability had been lower, Exploratory Factor Analysis (EFA) techniques, such as Principal Component Analysis (PCA) or factor analysis, would have been considered.

The normality of the indicator score distributions was examined using the Shapiro-Francia test, along with skewness and kurtosis tests. Belongingness scores were normally distributed ($p \geq 0.05$), while Attachment, Relatedness, and Togetherness scores were not ($p < 0.05$).

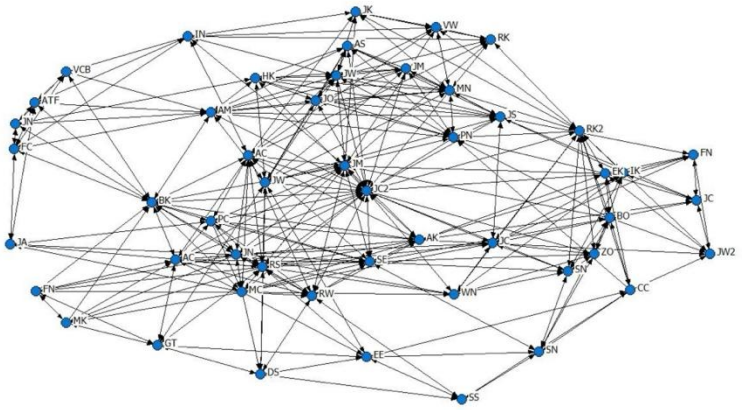
Results

Testing Closeness Centrality, Core-Periphery Structure and Network Density

We began by gauging the level of closeness centrality observable in the area under investigation. The overall range of closeness values (0.386 - 0.690) suggests a fairly connected network, but with some nodes significantly more central than others.

The similarity in OutClo and InClo values for many nodes suggests that the network has a balanced structure, where nodes can both send and receive information efficiently. In regards to influence of various actors, the study established that some of the participants, notably, JC2, AC, BK, JM, RS, are central, hence, can form a bridge for the flow of information, as they can quickly reach the majority of the network- ideal for spreading information or resources. In the same network system, we established that actors coded, JA, MK, and FN are less central and hence less integrated in the entire social ecosystem of Mt. Elgon.

Figure 1: Coreness-Periphery Network Calculations Results of the Former Combatants Network



		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
		AC	JM	AK	SN	SS	RK	RK2	JK	MN	FN	IK	WN	JC	FC	ATF	VCB	IN	JW	VW	JS	JC
1	AC	0	1	1	0	0	1	0	1	0	0	0	0	0	0	0	0	1	1	1	0	0
2	JM	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	1	1	1	0	0
3	AK	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4	SN	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	SS	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	RK	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	1	1	0	0
7	RK2	0	0	0	0	0	1	0	1	1	0	1	1	1	0	0	0	0	0	1	0	0
8	JK	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	1	1	1	0	0
9	MN	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1	0
10	FN	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1
11	IK	0	0	0	0	0	0	1	0	0	1	0	1	1	0	0	0	0	0	0	1	1
12	WN	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0
13	JC	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	1	1
14	FC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0
15	ATF	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0
16	VCB	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
17	IN	1	1	0	0	0	1	0	1	0	0	0	0	0	1	1	1	0	1	1	0	0
18	JW	1	1	0	0	0	1	0	1	1	0	0	0	0	0	0	0	1	0	1	1	0
19	VW	1	1	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	1	0	0	0
20	JS	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	0	1	0	0	1
21	JC	0	0	1	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	1	0

Coreness values for each node

		1
		K-Coreness
1	AC	11
2	JM	11
3	AK	11
4	SN	6
5	SS	5
6	RK	7
7	RK2	7
8	JK	7
9	MN	10
10	FN	6
11	IK	7
12	WN	7
13	JC	7
14	FC	6
15	ATF	6
16	VCB	6
17	IN	6
18	JW	10
19	VW	7
20	JS	10
21	JC	6

Source: Conflictology Lab, 2025

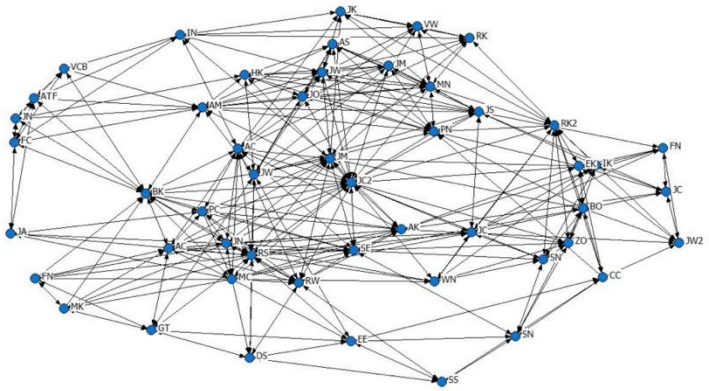
Figure 1 above imply that, strengthening the less integrated actors can improve their accessibility and participation in the day-to-day activities of the community under investigation. Closeness centrality is limited to understanding the shortest distance between actors. In order to establish how well each former combatant (FC) was connected to each other, we undertook to measure coreness index. This is more so, because of the variations in the strength of relationships. In this study, coreness is interpreted as a measure of the proximity of former combatants to each other. With this measure, we are able to gain insight into the network core-periphery structure, with well-connected core actors and some isolated peripheral actors (see Figure 1).

Result shows that the network system is divided into cores with increasing connectivity (k = 1 to k = 11). Actors with higher k-core values are more centrally embedded in the network, meaning they are part of tightly connected groups. The coreness value of each actor represents the highest k-core it belongs to. Actors AC, JM, AK, SE, RW, JC2, AC, BK, PC, JN, MC, RS have the highest coreness value (11), meaning they are the most central and well-connected actors in the network system. Actors with lower coreness values (e.g., 6 or 7) are in the peripheral areas of the network, having fewer connections to the highly connected core. The warning about symmetrization means that the network was converted into an undirected form, ensuring that connections are bidirectional. The social system represented by the network structure in Figure 1 reveals the presence of a clear hierarchical structure,

with a dense core (k = 11) and a sparser periphery (k = 6-7). The core group (coreness = 11) likely represents key influencers or highly engaged actors in the network. In regards to the connectivity strength of the system, the result shows that actors in the core (k = 11) are highly *interconnected*, meaning they play an essential role in network cohesion. However, actors with k-values of 6 or 7 are less connected, suggesting they may have weaker ties or be on the network's periphery.

The core-periphery analytics helped us to identify the actors that occupy central positions in the social system under investigation. However, this study was also designed to assess the degree to which each actor is actually connected to the other actors and how these linkages influence the flow of information and access to resources. Isolated actors and those delinked from the rest of the system would require strengthening their ties with highly connected individuals. Density represents the proportion of actual ties (connections) in the network relative to the maximum possible ties. In assessing the network density, we applied undirected network represented as D=2E/ N(N-1), where N and E refer to the number of actors and edges in the network, respectively. The outcome is represented in Figure 2.

Figure 2: Undirected Density Network Calculations Results of the Former Combatants Network



		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
		AC	JM	AK	SN	SS	RK	RK2	JK	MN	FN	IK	WN	JC	FC	ATF	VCB	IN	JW	VW	JS
1	AC	0	1	1	0	0	1	0	1	0	0	0	0	0	0	0	0	1	1	1	0
2	JM	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	1	1	1	0
3	AK	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
4	SN	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	SS	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	RK	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	1	1	0
7	RK2	0	0	0	0	0	1	0	1	1	0	1	1	1	0	0	0	0	0	1	0
8	JK	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	1	1	1	0
9	MN	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1
10	FN	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
11	IK	0	0	0	0	0	0	1	0	0	1	0	1	1	0	0	0	0	0	0	1
12	WN	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0
13	JC	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	1
14	FC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
15	ATF	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0
16	VCB	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
17	IN	1	1	0	0	0	1	0	1	0	0	0	0	0	1	1	1	0	1	1	0
18	JW	1	1	0	0	0	1	0	1	1	0	0	0	0	0	0	0	1	0	1	1
19	VW	1	1	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	1	0	0
20	JS	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	0	1	0	0

Density	No. of Ties	Std Dev	Avg Degree
0.207	506	0.405	10.120

Source: Conflictology Lab, 2025

In Figure 2, a density of 0.207 (or 20.7%) suggests that the network is relatively sparse, meaning only about 21% of the possible connections between actors exist. The total number of direct connections (edges) present in the network is 506. This implies, there are 506 ties among the actors. The measure of variability in the number of ties among actors yielded

standard deviation of 0.405, suggesting that there is some variation in how connected different actors are. This level of disparity indicates that there are actors that are more connected than others. Further, the result show that, on average, each actor in the network has about 10 connections, indicating a moderate level of connectivity. The social system represented by this network density structure has a moderate level of connectivity, but it is not highly dense, meaning many possible connections are missing. The average degree of 10.120 suggests that actors interact with a reasonable number of other actors but do not form a dense web of network.

The density recorded was low (21%). Low density provides clues to the functioning of the social networks. The low density is a possible indication of minimal collaboration and sluggish flow of information through the networks since there are limited avenues for information sharing. Our data further show that this network structure can capture important and unique elements of trust. With the low density, it seems there are higher incidences of mistrust between the FCs and the rest of the community. In some instances, the mistrust penetrates the groups and that among the members of FC, they believed that the associations were no longer representing their interest. This indicated that among the FCs did not trust their association. In social networking, trust is one of the factors that facilitate adaptive management. It is uncertain if low network density affected access to integration resources such as vocational training. However, this may be attributed to the distance related challenges of accessing administrative structures and not necessarily the connectivity index.

The aim of this study is to compare the degree of social connectedness among the former combatants with varying characteristics (belonging to a network and those without), and explore ways of fostering more connections as a path way to recovery and stabilization of post conflict societies. The four hypotheses were tested and the result is as follows:

Descriptive Statistics

We apply the Chi-square to examine the relationship between ability to adjust and being a member of a network for former combats (FCs). The results, as shown in Table 1, indicate a statistically significant association between network membership and the ability to adjust (Chi-square = 13.509, p = 0.001). Specifically, a higher number of network members reported "Easy" adjustment (36%) compared to non-members (16%), while a higher number of non-members reported "Difficult" adjustment (80%) compared to FCs who were members of networks (64%). This suggests that former combatants who are members of a network are more likely to report an easier adjustment. The result also reveal that there are significant differences between former combatants in network (FCN) and those that are not members of any netwrk association (FCW) on adjustment. FCN were significantly more likely to develop connective bonds with the victims of conflict than the FCW.

Table 1: Association between network membership and ability to adjust

	Member network (n=129)	Not a member network (n=128)	Pooled (n=257)	Chi-value	P- value
				13.509***	0.001
Easy	36	16	26		
Difficult	64	80	72		
Not at all	1	3	2		

*Note: these asterisks (*) represent significance levels as follows *** p<0.01*
Source: Conflictology Lab, 2025

A non-parametric method (Wilcoxon rank-sum test) was used to compare the main indicators- Attachment, Relatedness, and Togetherness between the FCN and FCW. Consequently, a t-test, a parametric method was used to compare means between the two groups. The choice between t-test and Wilcoxon rank-sum test for testing the four hypotheses depended on whether the adjustment indicator was normally distributed.

Table 2: Significance of differences in adjustment indicators between network members and non-members

	Not a member network (FCW) (n=128)		Member network (FCN) (n=129)		Pooled (n=257)		T-test or Wilcoxon rank-sum test	
	Mean	Median	Mean	Median	Mean	Median	t-value or Z-value	P-value
Relatedness (used Wilcoxon test)	3.8	4.0	4.1	4.3	3.9	4.0	-5.392***	0.000
Belongingness (used t-test)	3.7	3.7	4.3	4.3	4.0	4.0	-8.553***	0.000
Attachment (used Wilcoxon test)	3.6	3.6	4.2	4.2	3.9	4.0	-7.903***	0.000
Togetherness (used Wilcoxon test)	3.5	3.4	4.3	4.4	3.9	4.0	-8.507***	0.000

*Note: these asterisks (*) represent significance levels as follows *** p<0.01*
Source: Conflictology Lab, 2025

Table 2 presents a comparison of adjustment indicators between FCN and FCW using either a t-test (for Belongingness) or Wilcoxon rank-sum test (for Relatedness, Attachment, and Togetherness) depending on the normality of the data distribution. The results indicate a statistically significant difference ($p < 0.001$) between FCN and FCW across all four adjustment indicators. Specifically, FCN reported higher mean and median scores for Relatedness (mean 4.1 vs. 3.8; median 4.3 vs. 4.0), Belongingness (mean 4.3 vs. 3.7; median 4.3 vs. 3.7), Attachment (mean 4.2 vs. 3.6; median 4.2 vs. 3.6), and Togetherness (mean 4.3 vs. 3.5; median 4.4 vs. 3.4) compared to FCW. These findings suggest that network membership is associated with a greater sense of connectedness and adjustment among former combatants. The same trend was observed for socio-cultural adaptation (Hypothesis 1); however, the result does not necessarily support the isolation proposition for the FCW.

Regression

An OLS regression model was used to analyse factors influencing each of the four adjustment indicators (Belongingness, Attachment, Relatedness, and Togetherness) for former combatants (FCs). The use of cluster robust standard errors [in Stata: vce(robust)] adjusted the standard errors to account for potential heteroskedasticity, ensuring that inference (e.g., p-values and confidence intervals) remains valid even when error variance is not constant

across observations. This makes the results more robust by providing unbiased standard errors and leading to more reliable hypothesis testing, particularly in real-world datasets, like in our case of self-reported data from FC, where ideal model assumptions are often violated.

Model diagnostics further reinforce the robustness of the regression results (**Table 3**). The R-squared values, which measure the proportion of variance in each dependent variable explained by the model, were relatively high (61.3%) for Belongingness, 68.8% for Attachment, 61.9% for Relatedness, and 74.4% for Togetherness. These values indicate that the models explain a substantial share of variation in the outcomes. In addition, the Bayesian Information Criterion (BIC) and Akaike Information Criterion (AIC) were used to compare model fit, with lower values generally indicating better model performance. The Togetherness model had the lowest BIC (350.510) and AIC (290.782), suggesting it is the best-fitting model of the four. Furthermore, all models had statistically significant F-statistics ($p < 0.001$), confirming that the models overall significantly explain variation in the outcome variables.

The regression results shown in Table 3 provide several insights into the drivers of connectedness and psychosocial adjustment among former combatants. Being an FCN was a significant predictor across all four adjustment indicators. Respondents who were members of a network reported significantly higher levels of Belongingness (coef. = +0.205; $p = 0.007$), Attachment (coef. = +0.130; $p = 0.066$), and Togetherness (coef. = +0.188; $p = 0.012$). However, they reported significantly lower levels of Relatedness (coef. = –0.267; $p < 0.001$). This suggests that while being part of a network enhances a sense of group belonging and cohesion, it may not necessarily translate to closer personal connections or one-on-one relational depth. Age of FC was positively associated with Togetherness (coef. = +0.056; $p = 0.008$) but negatively associated with Attachment (coef. = –0.056; $p = 0.002$), indicating that older individuals may experience a stronger sense of collective integration but potentially lower emotional closeness. As an FC, being male relative to being a female was marginally associated with lower Belongingness (coef. = –0.138; $p = 0.074$) and higher Togetherness (coef. = +0.173; $p = 0.058$), suggesting possible gendered experiences in the reintegration process; where males might experience more collective cohesion but less emotional connection compared to females.

The ability to adjust to a new non-conflict life (as measured through, life without guns, fights and struggle for liberating one's community, measured on a scale of 1,2,3 - 3 being highest) was positively associated with Belongingness (coef. = +0.160; $p = 0.039$), highlighting that better individual adaptation to post-conflict realities plays a significant role in feeling emotionally part of the community.

An FC's education level had opposing effects across indicators. It was positively associated with Togetherness (coef. = +0.075; $p = 0.067$) and negatively with Relatedness (coef. = –0.132; $p < 0.001$), suggesting that education may promote broader social unity but could reduce the formation of close, interpersonal connections, possibly due to shifting social dynamics or expectations. This means that formation of elites resulting from attainment of educational status among FCs explains "isolation" within the community.

Ethnic identity (one's group) also played a role in shaping the isolation-reintegration spectrum. Respondents from the Bukusu group, who comprised a small portion of the sample (2%), reported significantly higher Belongingness (coef. = +0.469; $p = 0.001$) but significantly lower Togetherness (coef. = –0.413; $p = 0.004$) compared to the Sabaot group, which served as the reference category and constituted the majority (88%) of respondents. Additionally, respondents from Other tribes - including Kamba, Teso, and Nandi, who collectively made up approximately 1% of the sample - reported significantly higher Togetherness (coef. = +0.395; $p < 0.001$). These findings suggest that ethnic background may influence both emotional and collective dimensions of community adjustment after conflict.

It is not surprising the Bukusu ethnic group showed lower tendenices of Togetherness, within an esepcially Sabaot-dominated area, the former are usually perceived as “strangers” in foreign land by the so called “sons of the soil”- Sabaot.

Effective training for economic recovery for former combats, measured on a scale of 1,2,3 - 3 being highest, was positively associated with Belongingness (coef. = +0.126; p = 0.005) and marginally associated with Relatedness (coef. = +0.124; p = 0.078), indicating that livelihood training supports both emotional and interpersonal integration. Effective coaching and mentorship was positively associated with Togetherness (coef. = +0.098; p = 0.041) but negatively with Belongingness (coef. = –0.145; p = 0.003), suggesting that while these programs enhance a collective sense of unity, they may not always foster emotional belonging. When comparing the socio-economic recovery initiatives for both FCs seperately, we found significant negative coefficient of -0.145 for belonging (with a p-value of 0.003), suggesting that higher levels of coaching and mentorship may reduce the sense of belonging to a group that is associated with past violence. This could reflect a shift in identity, as mentorship in asociations may help former combatants detach from past conflicts and foster more independent, peaceful self-conceptions. On the other hand, the positive coefficient of 0.098 for togetherness (with a p-value of 0.041) highlights that effective coaching and mentorship can also enhance FCs ability to connect with others in a supportive, non-violent activities. This suggests that mentorship programs facilitate the reintegration process, helping former combatants build trust, cooperation, and a sense of community with others who were once seen as adversaries, promoting a feeling of togetherness in post-conflict society.

The mutual influence of adjustment indicators was also evident. Belongingness predicted Attachment (coef. = +0.328; $p < 0.001$), while Togetherness significantly predicted both Attachment (coef. = +0.340; $p < 0.001$) and Relatedness (coef. = +0.529; $p < 0.001$). Additionally, Relatedness was a strong predictor of Togetherness (coef. = +0.517; $p < 0.001$). These interrelationships underscore the multidimensional and interconnected nature of post-conflict adjustment, suggesting that progress in one diemnsion of connectedness can catalyse improvements in others.

Table 3: Regression results for factors influencing adjustment for former combats (FCs)

	Belongingness		Attachment		Relatedness		Togetherness	
	Coef.	p-value	Coef.	p-value	Coef.	p-value	Coef.	p-value
Being a network member: Yes (base. No)	0.205***	0.007	0.130*	0.066	-0.267***	0.000	0.188**	0.012
Age of respondent	-0.017	0.319	0.056***	0.008	0.005	0.761	-0.056***	0.002
Respondent: Male (base. Female)	-0.138*	0.074	0.173*	0.058	0.095	0.289	-0.082	0.376
Feeling accepted by community after conflict	0.052	0.359	0.062	0.279	-0.010	0.881	0.026	0.667
Ability to adjust to non-conflict life	0.160**	0.039	-0.030	0.694	0.105	0.174	0.034	0.623
Education level respondent	0.033	0.376	0.075*	0.067	-0.132***	0.000	0.035	0.266
Tribe (base.								

Sabaot)								
Dorobo	-0.108	0.164	0.118	0.269	-0.072	0.453	-0.073	0.453
Bukusu	0.469***	0.001	0.059	0.720	-0.053	0.775	-0.413***	0.004
Other tribes	-0.090	0.583	0.395***	0.000	-0.040	0.686	-0.354	0.139
Effective training for economic recovery	0.126***	0.005	-0.013	0.791	0.124*	0.078	-0.068	0.159
Effective coaching and mentorship	-0.145***	0.003	0.098**	0.041	-0.072	0.248	0.047	0.380
Effective life skills and training	0.066	0.155	-0.023	0.659	0.108	0.111	0.013	0.815
Effective self-employment support	0.057	0.304	0.005	0.923	0.005	0.940	0.039	0.397
Sence of belongingness			0.374***	0.000	-0.055	0.531	0.162	0.103
Sence of attachment	0.328***	0.000			0.181**	0.013	0.360***	0.000
Sence of relatedness	-0.045	0.542	0.167**	0.012			0.517***	0.000
Sence of togetherness	0.134	0.108	0.340***	0.000	0.529***	0.000		
Constant	1.815***	0.000	-0.579**	0.049	1.291***	0.000	-0.094	0.748
Mean dependent var		4.021		3.895		3.943		3.875
R-squared		0.613		0.688		0.619		0.744
F-test		24.303		35.289		22.676		45.076
Akaike crit. (AIC)		243.997		276.825		296.428		290.782
SD dependent var		0.595		0.708		0.667		0.805
Number of obs		248		248		248		248
Prob > F		0.000		0.000		0.000		0.000
Bayesian crit. (BIC)		303.725		336.553		356.157		350.510

*Note: these asterisks (*) represent significance levels as follows *** p<0.01, ** p<0.05, * p<0.1*
Source: Conflictology Lab, 2025

Overall, the result reveal that membership in associational networks is strongly associated with enhanced community connectedness and adjustment among FCs in the post-conflict setting; however, the relationship is nuanced, with network membership influencing different dimensions of connectedness in distinct ways. The regression analysis further revealed that network membership was a significant predictor across all four adjustment indicators. Specifically, FCN reported higher levels of Belongingness, Attachment, and Togetherness, but lower levels of Relatedness. This suggests that while networks foster a sense of group cohesion, they may not always translate to deeper individual connective bonding.

Discussion and Conclusion

The present study demonstrates that four of the five personal connectedness experiences are significantly related to post-conflict adjustment of the former combatants. Social connectedness is associated with Belongingness, Attachment, Relatedness, and Togetherness. Overall, the results illustrates that former combatants who have joined social networks (FCN) reported "ease" of adjustment (36%) compared to those without membership (FCW) in any association (16%) in Mt. Elgon, Kenya. Former combatants (FC) without association find it "difficult" adjusting (80%) to post-conflict environment compared to their counterparts who have joined groups (64%). There are significant differences between FCN and FCW, when it comes to "adjustment", with FCN more likely to develop connective bonds with the victims of past conflict than the FCW. There was no support for the "isolation" proposition; social connectedness was largely unrelated to former combatants' isolation. Our findings concerning the role of social network in shaping the connectedness of former combatants in post-conflict setting compliment previous research revealing that, with increased community trust and acceptance, former combatants showed signficiant connectedness through 'prestige' and 'appreciation' (Kilroy and Basini, 2018; Kaplan and Nussio, 2016; Podder, 2012; Stark, 2006; McMullin, 2013; Suarez and Baines, 2022). Suarez and Baines (2022), conducted participatory research to understand the role familial networks play in reintegration of ex-combatants, and found out that family relations can shape reintegration process through defections, demobilisation and reunionisation- drawing attention to the criticality of peer-relations as an important social capital in shaping reintegration process. However, social networks, as an important component of social capital was also found to be both transformational and disruptive mediating how relationship between former combatants and victims of previous conflict recreates identities in societies emerging from conflict.

This study has three major implications. First, the social capital emerging from the interethnic border market-based social networks deterrmines the rate of "connectedness" or "isolation" among FCs. Our data shows that FCs in the core (k = 11) play an essential role in network cohesion and de-stigmatization. However, FCs with k-values of 6 or 7 are sparsely connected, suggesting they may have weaker ties or are surviving on the network's periphery with limited access to interactive opportunities and resources. This variation in the connectivity index of FCs reveals an important unique dimension of connectedness. Although the result shows low network density (20.7%)- implying the network of FCs is relatively sparse, there was a considerable variation in the number of ties among actors yielding standard deviation of 0.405, which means, even though there are indicators of connectedness, not all FCs are linked to each other. This phenomenon implies that FCs, when exposed to the same social environment (post-conflict), end up emitting different responses to the same environmental stimuli. Although the data reveals, the FCs, in several occasions, still associate with each other, this constitutes a major source of social heterogeneity. In the present study, we applied the notion of social connectedness, measured as personal experiences of Belonging, Attachment, Relatedness, Togetherness and Entrenchment (Santini et al., 2015) that allowed us to evaluate FCs experiences in the structures of relationships with the victims of past conflict. Most of the connectedness experiences were significant correlates of psychological adjustment among FCs. Belonginess (coef. = +0.205; p = 0.007), attachment (coef. = +0.130; p = 0.066) and togetherness (coef. = +0.188; p = 0.012) among FCs in associational membership were similarly associated with dimensions of trust, however, Relatedness, yielded significantly lower coefficient (coef. = –0.267; p < 0.001), suggesting that while social network enhances a sense of group belonging, it does not necessarily translate to in-depth people-people bonding, as early reported in a study by Suarez and Baines (2022). In this regard, our findings on social connectedness of FCs are consistent with the dual role of social networks in shaping "reintegration" and or "isolation" of former combatants and support our theoretical formulation, that "adjustment" of FCs can be

enhanced through interethnic border market-based social network ecosystem previously applied mainly by sociologists in understanding rural development dynamics (Leff, 2008; Micolta, 2008). This body of knowledge help us to delve deeper into understanding the extent to which reintegration of FCs is affected by factors such as age in the post-conflict era, gender, education of FCs as well as ethnic identity that influence interaction. Ethnic identity is particularly an important alteration in the community's configuration.

The second implication of this study is that ethnic identity as interpreted within the framework of (un)belonging can be a predictor of "integration" or "isolation". Despite identifying other drivers that shape the FCs' connectedness, our study revealed that respondents from the Bukusu group, who comprised a minority (2%) in Mt. Elgon region, reported significantly higher Belongingness (coef. = +0.469; p = 0.001) but significantly lower Togetherness (coef. = –0.413; p = 0.004) compared to the Sabaot group, which served as the reference category and constituted the majority (88%) of respondents. Given the substantive amount of data supporting differetiated response to reintegration on the basis of ethnic identity, this suggest multiple path way by which different ethnic groups diverge to modulate this facet of the integration- isolation system of recovery from armed conflict. The political manipulatability of ethnic groups ("the sons of the soil" (Sabaot) vs. " strangers" (Bukusus) identified in this study, notably the *autochthony*, provides an opportunity to gain deeper understanding of the notion of *belonging* as relates to struggle for land and other resources. In this sense, the enactment of *autochthony* can be ambivalent i.e., individuals who are not necessarily born in an area but who have invested in it can become "autochthonised", yet the so called indigenous but yields less socio-economic and political power can be labeled "strangers" (allochthonous) in the same territory (Wilks, 2024; Elfversson and Hoglund, 2018). This illogical classification of who should be considered autochthonous and allochthonous puts into question the current anthropological conceptual framework of "(un)belonging." Yet, in post-colonial Africa, it is difficult to find pure identity groups owing to ethno-ecological changes, irregular migration, interethnic marriages and boundary changes, it is the case that the community under investigation in Mt. Elgon have instrumentalized the binary notion belonging, leading to ethnic hierarchies, marginalization, exclusion, more often creating and recreating multiple identities of those who "belong" and the "others" (Shacklock and Steiner, 2024). Togetherness as a diemsnion of connectedness transcends Belonging, to encompass strong ties, familial peers and conducting joint activities that strengthen the bond between individuals who trust each other share common linguistic ancestry. Whereas the Bukusus, who are considered "strangers" in Mt. Elgon, is an offsshoot of the larger Luhya ethnic group, the Sabaot draw its ancetry from the Kalenjin group. The various clans of the Sabaot are believed to have settled in Mt. Elgon much earlier than other ethnic groups (Petursson et al., 2013). In the post-colonial African context, the so called "sons of the soil" or the "owners" of land tend exhibit exclusionary attitude against those perceived "strangers", hence, leading to "cold" relationship among the neighbouring ethnic groups. This understanding may provide a clue as to why the relationship between connecctedness and the psychological adjustmnet among the Bukusu FCs was found to be significant only with one demenion of connectendess- Belonging (coef. = +0.469; p = 0.001).

Third, as the field of peace and conflict research moves from a mere observational studies to hypothesis- testing field-based cases, there is a growing need transition to quasi-expereimental approaches where groups of with opposing values and interests are identified and their behaviour monitored within a controlled environment such as interethnic border market (IEBM) spaces, as "infrasstuctures" for peace and "factories" of conflict. In this study we have adopted IEBM social networks for systematically identifying strength of ties among individuals and groups drawn from different ethnic groups with different values and interests operating under the market conditions. In Mt. Elgon, we identified 27 groups with more than

421 possible membership. Using core-periphery network analytic, we are able to establish characteristics of those groups in line with the basic properties of social network- coreness, density, centrality and betweeness. This represents micro-level understanding of human behaviour with higher level precision compared to what would be the case when studying same characteristsics subjectively using themes or discourses. By testing human behaviour in group dynamics in a controlled market set up rather than in traditional household level, we are able to overcome what would have been an insurmountable logitsical barrier to conducting these studies across the entire community. A study of one single market represents a wider geographical scope. This feature suggests that our microcosmic approach to the study of peace and conflict should be accessible to many researchers because of the minimal logistical arrangement required with IEB markets spread across regions.

Although examining properties of social networks in a market set up represents a critical step in microcosmic analysis of how conflict evolve in community structures, once such structures are identified and connectivity of actors established, it is not clear whether people's behaviour within these micro-structures is a replica of what happens in the wider society. We are of cognisant of the fact that numerous other important enivornmental factors of the social system may also affect individuals' behaviour in and out of the groups, including, geographical locations, cultural practices, migratory activities and political inclinations. Another important goal is to use the various properties of social networks to examine how social and geographical distance (closeness centrality) affect conflictuability of individuals in the market as a representation of the larger society. An understanding of "contact" between indivduals gives an insight of how trust is built over time by reducing stereotypes and negative attituides. Although this mechanistic approach has proved valid in previous studies evaluating Allport's (1954) contact thesis (Shamoa-Nir, 2024; Imperato et al., 2021), the short duration that IEBM operates may not allow for an in-depth "bonding" between individuals. In principle therefore, the generalizability of results from our proposed platform of using IEBM to study conflict evolution need to be taken with care. Finally, our approach has a policy implications because the IEBM represents a fucntional infrastructure for peace (I4P) that can provide a covnergence zone for different ethnic groups (including those with opposing ideologies and competing interests), ideal for conflict transformational mediation and dialogue.

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