

# Research

## Peacebuilding Through Yoga? Qualitative Assessment of a Yoga Program in a Social Housing Complex in Santa Marta, Colombia

Laura Liévano-Karim, MPP<sup>1</sup>

1. University of the Andes, Bogotá, Colombia.

Correspondence: l.lievano10@uniandes.edu.co

### Abstract

The goal of the study was to assess perceived mental and physical health benefits of a yoga intervention for people living in Ciudad Equidad, a social housing complex in Colombia. The study participants voluntarily enrolled to complete two yoga sessions per week, each lasting 1.5 hours, during a 3-month period. Additionally, they participated in baseline and postintervention focus groups. This qualitative assessment was intended to identify perceived changes in aggressiveness, interpersonal relationships, and stress after participating in the yoga sessions. Data analysis revealed that participants perceived changes over time in relation to when they began the intervention. *Liévano-Karim. Int J Yoga Therapy 2019(29). doi: 10.17761/2019-00033.*

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Violence has been shown to negatively affect individual and collective functioning, and the psychological and physical health and well-being of adults and children.<sup>1,2</sup> In Colombia, millions of civilians have experienced severe human rights violations, and a substantial number of victims suffer from psychological distress and mental health issues, including posttraumatic stress disorder (PTSD), depression, and anxiety.<sup>3-5</sup> These problems are compounded for some Colombians by the effects of poverty: Individuals living in extreme poverty are disproportionately more likely to have been affected by violence and internal displacement.<sup>6</sup> Additionally, studies have shown that low-income neighborhoods tend to be exposed to chronic violence, and members of such communities report feelings of hopelessness and despair about the future.<sup>7</sup>

Given the emotional burden associated with violence, displacement, and poverty, there is considerable need for safe, nonpharmacological, accessible, and effective pro-

grams to enhance general well-being and address related mental health concerns. Practicing yoga has been shown to reduce stress, anger, depression, and anxiety and to enhance individuals' emotional and mental health in a variety of different contexts.<sup>8-11</sup>

This study examines a program in Colombia that offered yoga classes to residents of government-provided housing for low-income people, some of whom had been displaced by the country's internal armed conflict.<sup>12-14</sup> The study explored the perceived effect of the yoga intervention through focus groups, in which participants reported improvements in aggression, stress, and interpersonal relationships.

### Context: Ciudad Equidad

This study focuses on the social housing complex of Ciudad Equidad, located in the city of Santa Marta, on the Caribbean coast of Colombia. Ciudad Equidad, and Colombia in general, are important settings for exploring interventions to improve individuals' social relationships and mental health, as Colombia represents an important and challenging context: The country has experienced internal armed conflict for more than 5 decades, and approximately 10% of its population has been internally displaced due to violence.<sup>4,5,15</sup>

Reparation mechanisms have been implemented by the Colombian government to indemnify victims. These mechanisms, established by Law 1537, 2012, Article 12, include free housing for the most vulnerable individuals, including people living in extreme poverty or who have been forcefully displaced from their homes. Ciudad Equidad was created to meet the housing needs of 4,000 families under the provisions of Law 1537. Therefore, all residents in Ciudad Equidad had either lived previously in extreme poverty or suffered forced displacement within the country. Although the exact number of victims of the armed conflict living in Ciudad Equidad is unknown, the construction company

that built the complex estimates that around 85% of the inhabitants are registered with Unidad para la Atención y Reparación Integral a las Víctimas as victims of the armed conflict.<sup>13</sup> The other residents eligible for housing in Ciudad Equidad meet the official threshold for extreme poverty, living on less than \$97,790 COP (\$30.62 USD) per month, or approximately \$3,206 COP (\$1 USD) per day.<sup>16</sup> Both groups suffer from the physical and psychological consequences of violence and poverty.

Conditions within the housing complex are sometimes difficult given the cumulative stress and trauma of Ciudad Equidad's residents as well as the fact that people from many backgrounds share relatively cramped quarters.<sup>12–14</sup> Moreover, incoming residents need to adapt to the rules and norms for living in a housing complex.<sup>12–14</sup> This adjustment sometimes causes conflicts, with some residents resorting to violence. Conflicts in Ciudad Equidad and other social housing projects arise over pets, use of parking space, noise, use of common areas, and access to public services such as water or enrollment in schools.<sup>13,14,17,18</sup> In January 2015, the National Police instructed its directorates for Citizen Security (Dirección de Seguridad Ciudadana), Criminal Investigation (Dirección de Investigación Criminal), and Police Intelligence (Dirección de Inteligencia Policial) to carry out a diagnostic of the security situation in social housing projects. In Ciudad Equidad, the diagnostic revealed problems including the presence of criminal gangs and interpersonal issues among neighbors, such as vandalism and fights.

The social strife within Ciudad Equidad caught the attention of Fundación Bolívar Davivienda, a nongovernmental organization associated with the construction company (Constructora Bolívar) in charge of building the complex. In response to this situation, Fundación Bolívar Davivienda decided to fund and promote a series of yoga classes to enhance the emotional and physical well-being of residents of Ciudad Equidad.

The program was designed and implemented by Corporación DUNNA, a nonprofit organization that aims to enhance peacebuilding in Colombia through yoga, mindfulness, and dance/movement therapy. The program offered Satyananda Yoga, and the protocol for the classes was developed specifically to improve coexistence among residents. DUNNA staff designed the classes around the premise that generating peace and well-being in the community requires that individuals begin to feel well within themselves in terms of who they are, how they act and react, and what they feel (M. A. López, personal communication, October 25, 2018). DUNNA has worked in 35 municipalities in Colombia, offering yoga classes to more than 3,400 people. The author was involved as part of an external, university-based assessment team, meaning that the author was

not involved in the design or implementation of the intervention.

## Literature Review

Yoga is an ancient practice that combines *asana* (physical postures and movement), *pranayama* (breathing exercises), *yoga nidra* (deep relaxation), meditation, and other tools.<sup>19</sup> Yoga and mindfulness techniques are increasingly used as tools to enhance physical and emotional well-being in various populations with different health concerns.<sup>8,10,20,21</sup> Yoga practice is designed to cultivate a sense of nonjudgmental awareness, which has been shown to be effective for reducing psychiatric symptoms and improving both attention and concentration.<sup>9,21,22</sup> Yoga increases mindfulness while including physical movements and diverse postures; some researchers claim that this is a more direct way of treating trauma, stress, and psychosomatic symptomatology than focusing solely on mindfulness exercises.<sup>23</sup>

Results from a school-based randomized controlled trial suggest that practicing yoga may lead to reduced anger and fatigue.<sup>10</sup> Another study, focusing on adolescents 14 to 18 years of age who had received different psychiatric diagnoses, found that participants reported reductions in anxiety, depression, and hostility after taking part in the Mindfulness-Based Stress Reduction program.<sup>24</sup> Frank et al.<sup>25</sup> assessed the effectiveness of a yoga-based program on attitudes toward violence in a sample of high-risk adolescents, finding that the treatment group showed significant reductions in revenge motivation and reported hostility. Furthermore, yoga has been shown to decrease physical agitation.<sup>22</sup>

Mindfulness interventions with young people show an increase in self-efficacy and emotional regulation skills that promotes socioemotional well-being.<sup>26</sup> Metz et al.<sup>26</sup> performed a pretest/posttest comparison group experiment to assess the effectiveness of the Learning to Breathe program, which consists of a series of lessons on core themes such as body awareness, understanding and working with feelings, and integrating mindful awareness into daily life. The program significantly increased measures of emotional regulation and self-efficacy and decreased psychosomatic complaints and perceived stress level relative to the control group.

In a similar vein, a study in Kenya worked with seven participants in the Africa Yoga Project (AYP). These individuals were between the ages of 20 and 35 and had suffered the effects of poverty and violence before enrolling in the project. The participants, who had joined the program as students and taught in the program at the time of the study, reported that teaching for AYP led to positive outcomes in five key areas, represented by the acronym SPACE: safety

and stability, personal growth, action, cultural and experiential diversity, and empowerment.<sup>27</sup> Moreover, participants reported satisfaction with the program, expressed enthusiasm about participating in it, and emphasized its benefits in their lives.<sup>27</sup>

Studies with adults indicate that mindfulness is associated with greater emotional awareness, acceptance, and improved mood states.<sup>28</sup> Brown et al.<sup>28</sup> demonstrated the positive influence of mindfulness on mental health and well-being as well as on physical health, emotional self-regulation, and interpersonal relationships and behavior. Yoga enhances body awareness and helps individuals to develop a firm sense of self, which a randomized controlled trial significantly correlated with emotional regulation.<sup>29</sup>

This growing body of evidence has also demonstrated the effects of yoga in treating trauma in women with childhood histories of abuse and in victims of intimate partner violence.<sup>30–32</sup> West et al.<sup>27</sup> carried out a qualitative assessment of the effects of a 10-week Trauma Sensitive Yoga program in women with a history of childhood trauma who were suffering from PTSD. The program significantly contributed to participants' symptom reduction, emotional regulation, and acceptance and appreciation for themselves and their life experiences.

These studies suggest that yoga has the potential to mitigate social and interpersonal conflicts like those found in Ciudad Equidad. To date, despite this growing body of knowledge, no studies in Colombia have investigated the perceived effectiveness of Satyananda Yoga for improving well-being in social housing complexes. The present study aims to fill this gap by examining how DUNNA's Satyananda Yoga protocol might affect individuals within Ciudad Equidad and the larger community.

## Methods

The methodological tendency of evaluation research is primarily quantitative, seeking to measure impact conceptualized in positivistic terms. Framing impact as solely quantitative is problematic, so the present research includes perception-driven qualitative assessment and qualitative pre- and postevaluation strategies as a rigorous alternative. This qualitative assessment strategy can provide feedback to policymakers directly from the perspective of program beneficiaries. The present assessment of the perceived changes associated with practicing yoga using focus group research fills a methodological gap in the literature.

## Yoga Intervention

The intervention consisted of 20 free 90-minute yoga sessions in four of Ciudad Equidad's 12 housing blocks. Sessions were held at either 10:00 am or 2:30 pm twice a

week over a 3-month period. A yoga instructor who had extensive experience working with vulnerable populations led the sessions. The same teacher, a Colombian woman, led all classes. She followed the same protocol, based on the type of yoga taught by the Bihar School of Yoga in Munger, India, during all sessions. The protocol involved Satyananda Yoga, drawn from the Hatha Yoga (asanas and pranayamas) and Raja Yoga (yoga nidra and meditation) traditions.<sup>19</sup> It focused on yoga postures, easy-to-learn breathing techniques, intentional relaxation, and meditation.

Each class followed the same structure, beginning with 25 minutes of simple physical postures and movements, followed by 25 minutes of breathing exercises and 30 minutes of yoga nidra, and ending with 10 minutes of *antar mouna* (inner silence) meditation. During the first 25 minutes, the teacher emphasized smooth, slow motions rather than execution and precision of the exercises, allowing each person to develop an individual relationship with yoga according to her own capacity and needs. In practice, this meant that there was no pressure on participants to improve in the execution of the exercises; rather, participants were focused and coordinating their respirations. Between asanas were short spaces for relaxation and reflection.

During the 25 minutes of breathing exercises, the teacher emphasized Satyananda Yoga techniques that focus on balance and tranquility.<sup>19</sup> More sophisticated exercises were introduced as the group progressed through the program. The specific breathing techniques used were abdominal breathing, thoracic and clavicular breathing, and "complete yogic breathing," which combines these in a powerful breath that fills and empties the lungs at maximum capacity. The main pranayamas used were *viloma* breathing (staged inhalation), *ujjayi* breathing (inhaling and exhaling via the nostrils while making a sound in the back of the throat), and *nadi shodhana* (alternate-nostril breathing).<sup>19</sup>

The final 40 minutes of class comprised 30 minutes of yoga nidra and 10 minutes of meditation. The complete practice of Satyananda Yoga Nidra is divided into eight specific stages performed in *savasana* (lying supine with the heels spread wider than the shoulders). During the protocol, participants performed the eight stages of yoga nidra while the teacher provided guidance with simple visualizations. The objective of this exercise was to induce deep physical, mental, and emotional relaxation, which in turn was intended to help relieve fatigue, insomnia, and high blood pressure.<sup>33</sup> Sessions ended with 10 minutes of *antar mouna* meditation. The teacher used this part of the sessions to help participants develop the ability to observe their own minds, release resistance to change, and develop positivity.<sup>34</sup>

Satyananda Yoga encourages participants to be aware of their bodies and minds while appreciating and accepting

themselves as they are. Yoga mats were made available for all participants to enable them to perform the exercises correctly and comfortably. The number of individuals in each session did not exceed 25, all of whom were beginners—none of the participants had practiced yoga or meditation before the intervention. Participants were encouraged to supplement the classes with home practice using an audio CD and an accompanying handbook; however, home practice was not monitored, and the author received no information on whether participants engaged in home practice.

Classes were taught inside the *maloca* (open-air community center) of each of the four blocks (numbers 3, 6, 7, and 8). The four blocks selected for the intervention were chosen based on the feasibility of carrying out the intervention in those blocks. Two of the other blocks still had areas with ongoing construction, and the remaining six were excluded because of violence levels that would have posed excessive risk for the yoga instructor. The chosen blocks had a volunteer local coordinator assigned to help with the logistics and recruitment of participants. Each *maloca* was spacious and adequately lit.

Participants did not receive any monetary compensation for their participation in the intervention but did receive a snack after each session. During snack time, participants were able to mingle, and the teacher was available to answer questions about the session, particularly with regard to the exercises and learning objectives. Participants commonly asked the teacher questions after the sessions ended. The program as a whole aimed to positively affect aggressiveness, impulsiveness, anger, rage, sadness, perceived stress, and emotional regulation.

### Subject Recruitment and Research Population

Potential participants were contacted via three methods: posters throughout the shared spaces in the community, phone calls, and home visits completed by the local project coordinator. Eligibility criteria for participation included an age threshold (14 years or older) and official residence in Ciudad Equidad. Participants had to register with the local program coordinator. The DUNNA program managers aimed for classes of no more than 25 people; however, no individuals were turned away because the cap was not reached. In total, 232 people participated in at least one yoga session, and 143 completed half of the classes or more.

Participants signed a written consent form prior to the focus groups and the yoga classes. Participants were recruited for the postintervention focus groups with the help of the local coordinator, who contacted individuals who had participated in at least 50% of the yoga sessions. This criterion was established by the DUNNA program managers to ensure that focus group participants had spent enough time in the classes to discuss the experience in detail.

All of the focus group participants were female. Most were unemployed, lived with their families, and defined themselves as housewives. The average age of the participants was 39, with a range of 25 to 55 years. The highest educational level attained by the majority of the participants was primary school. Each focus group included between five and seven participants; there were 20 to 28 focus group participants prior to the intervention as well as after the intervention.

The intervention was intended to reach a mixed audience in terms of gender, but this was not ultimately the case due to the schedule, which favored people who were home during the day. Those on regular workday schedules, disproportionately men, could not attend the sessions. Moreover, the common perception that yoga is associated with women may have dissuaded men from enrolling in the program.

Of the 232 individuals who attended at least one yoga session, 38.4% (89 individuals) dropped out of the program without finishing at least 50% of the planned sessions. The local coordinator contacted the individuals who stopped attending the sessions to ask them about their reasons for doing so. The largest proportion (8.3%) mentioned other studies or sports training. Other reasons participants gave for leaving the program included personal health or health of a relative (6.9%), incompatibility with work schedule (6.9%), lack of interest (5.6%), and moving away from Ciudad Equidad (3.5%).

### Focus Group Context and Protocol and Research Phases

Before the beginning of the intervention, focus groups were held in the *malocas* of each of the four blocks included in the intervention. After the conclusion of the intervention, focus groups were held in private houses. This change was made to reduce background noise in the recordings. Focus groups lasted from 40 to 60 minutes, and all were audiorecorded and transcribed for further analysis supported by NVIVO 11.0.

The focus groups were run by at least one experienced moderator. Eight focus groups were held, four before the intervention and four after the intervention. The focus group instrument allowed for free discussion and included open-ended questions such as, “Where in your neighborhood do you feel in danger?”, “Have you witnessed any armed fights on your block recently?”, and “Have you witnessed or heard about any cases of domestic violence in your block recently?”

Focus groups held before the yoga intervention discussed the lives of individuals in the social housing complex and their perceptions surrounding violence in their neighborhood. These focus groups were exploratory and intended to identify community-based needs and issues.<sup>35</sup> For

example, people were asked to describe whether they had been involved in any conflicts in their neighborhood, including fights with neighbors and fights with weapons, and whether they were members of a gang.

The postintervention focus groups explored whether participants perceived the intervention as effective in reducing violence and enhancing individual well-being. Focus group moderators encouraged participants to discuss their experience throughout the intervention as well as any perceived changes in their emotional or physical well-being and changes within the housing complex. The postintervention focus groups can also be characterized as experiential focus groups, as they assessed the qualitative impact of the yoga classes and determined whether the yoga program could be an effective tool for reducing violence by observing the natural attitudes of participants.<sup>35</sup>

The focus group research design incorporated social cartography to help participants trace perceived sociospatial changes at the neighborhood level by “recall[ing] and decod[ing] information about the relative locations and attributes of phenomena in the everyday geographical environment.”<sup>36</sup> Moreover, the focus group instrument included the following thematic sections: aggression and impulse control, stress, coping strategies, interpersonal relationships, emotional regulation, and relationships among groups of people. Additionally, the social mapping component included 16 variables related to violence inside the housing complex. The same instrument was used during both data collection phases (pre- and postintervention).

During the preintervention focus groups, participants were instructed to draw a map representing central meeting spaces and spatial identifiers in their block in Ciudad Equidad. Participants were then asked to indicate places where they had witnessed or heard about violent acts taking place, such as sexual aggressions and fights, helping to map out the incidence of the 16 variables related to violence in the housing complex. This activity was performed to identify any changes in the community environment postintervention. During the preintervention focus groups, the moderator sought primarily to establish a spatial baseline from the community’s point of view.

Participants were asked to collectively choose a symbol for each of the 16 variables of interest. The moderator facilitated conversation among the participants, asking questions about certain decisions made among the focus group members (e.g., “Why did you choose a knife to represent fights?”). After filling in the boxes with the different symbols, participants were asked to place each symbol on the map, while the moderator asked questions about the location and the reasons for the different symbols chosen. After finishing the mapping exercise, the facilitator used the map to stimulate conversation about participants’ perceptions of

violence and coexistence among neighbors in the block, seeking to discuss the key themes such as aggression, stress, and interpersonal relationships.

To ensure that the selected variables and themes were discussed at both time points, the postintervention focus groups sought for participants to mention changes related to all of the variables included during the preintervention mapping exercise. For example, to elicit information about consumption or sale of illegal drugs inside the block or in the housing complex, the moderator asked the following question during the preintervention focus groups: “Is/are there any place(s) where illegal drugs are commonly used or sold?” During the postintervention group, the moderator asked the same question, with additional subquestions about any perceived changes related to the yoga classes. The same was done for all 16 variables included in the mapping exercise. If there were perceived changes, the participants could mark these on the map they created prior to the intervention.

One slight difference between the two sets of focus groups is worth highlighting: During the postintervention focus groups, the moderator included open-ended questions related to the experience of practicing yoga, how participants felt after the yoga class, and a possible multiplier effect, in which the positive effects of the yoga practice might affect the way participants treat others. The main goal of these questions was to evaluate whether participants had enjoyed the program and would be interested in participating in it on a permanent basis.

### Data Analysis

Following transcription of the focus group audiorecordings, NVIVO 11.0 was used to code the information into thematic nodes. Nodes were selected by grouping common themes into categories. The research instrument guiding the coding process involved the design of a codebook that followed the themes covered in the original focus group instrument, which in turn guided the data analysis performed in NVIVO 11.0. After reviewing word frequencies for each node in NVIVO 11.0, analytical themes were grouped into broader thematic categories through an axial coding process.<sup>37</sup> This process resulted in categories that described changes observed after the yoga intervention, according to the different themes used to analyze the qualitative data set. The analytical themes included in the codebook were aggression and impulsiveness, relationships with community members, interpersonal relationships, and perceived stress.

After construction and validation of the codebook, two coding cycles were completed, following Saldaña,<sup>37</sup> to guide the qualitative data analysis process. Word frequencies, visualized through word clouds generated in NVIVO 11.0,



**Table 1.** Frequency of Word Mentions Associated with the Variable *Fights* (See Fig. 1)

Preintervention Focus Groups		Postintervention Focus Groups	
Word	Frequency	Word	Frequency
Niño(s) (child/children)	38	Yoga	29
Siempre (always)	20	Bastante (a lot)	16
Gente (people)	18	Riñas (conflicts)	10
Pelea (fight)	17	Disminuido (reduced)	8
Cuchillo (knife)	15	Carácter (temperament)	7
Botellas (bottles)	14	Peleas (fights)	7

**Table 2.** Frequency of References to Type of Weapon Associated with the Variable *Fights*

Weapon	Preintervention Focus Groups	Postintervention Focus Groups
Botella(s) (bottles)	19	1
Cuchillo (knife)	15	0
Gases (tear gas)	5	0
Vidrios (glass)	5	0
Puñal (dagger)	4	0
Machete	3	3
Pistola (gun)	3	0

to types of weapons decreased. For example, Table 2 shows how in the preintervention focus groups the word *bottle* was mentioned as a common weapon used in fights on 19 different occasions, whereas in the postintervention focus groups the use of bottles as a weapon was mentioned just once.

This reduction in the frequency of references to weapons may be correlated with the yoga intervention, but the more important finding for the purposes of the present study is the shift in discourse used by community members. The topic of conversation changed after the intervention. Before the intervention, when participants were asked about fights with weapons, they mentioned bottles, knives, gases, glasses, daggers, and even guns. When participants were asked the same question after the intervention, however, the conversation focused on the perceived effects of yoga on reducing fights with weapons, rather than the weapons that were usually identified during fights at the housing complex. Table 2 illustrates that of the seven weapons originally mentioned, only two (bottles and machetes) were mentioned in the postintervention focus groups.

During the focus groups, participants said that the people who usually fought with weapons were adolescents and young people in the community, and that the most common weapons used were broken bottles, knives, and machetes. Fights were presented as usually occurring outside their blocks, with the exception of three common

conflicts: fights over water access, fights between mothers over accidents that happened to their children, and conflicts caused by loud music. The fights between mothers typically happened in shared recreational spaces, including the park, or in the parking lot. Mothers typically fought or reacted violently to protect their children from mothers of other children. The reduction in the number of fights, with or without weapons, is further supported by the following quote extracted from a high-frequency node in NVIVO 11.0 (excerpt from the coding node *fights and conflicts*, with a total saturation of 177 references):

I say that the use of sticks and sharp edges of bottles in fights has decreased because you rarely see them anymore, not like before when we first got the houses. In the beginning it was violent situation after violent situation, but now it has decreased substantially [postintervention focus group, December 10, 2015].

### Fights Between Neighbors

Quotes extracted from the coded focus group data show that violent fights between neighbors were common before the yoga intervention and that women often fought over incidents involving their children. A drawing extracted from one of the social cartography maps represented this type of conflict by showing one woman pulling another woman's hair. This kind of fight occurs regularly in Ciudad Equidad, particularly in the parking lot or at the park, which are the most common places for children to play. The following quote describes this form of violence between neighbors (excerpt from the coding node *fights and conflicts*):

There [participant points in the direction of the park] at the park, they have fought because of their children . . . or the kids fight and their mothers arrive and they fight and hit each other [preintervention focus group, October 22, 2015].

The majority of participants in the postintervention focus groups indicated that they perceived a reduction in the number of violent fights among neighbors. This perception was based on their observation of having been themselves involved in fewer fights since the intervention started. Participants said that the yoga sessions helped them control their anger and think about the consequences of acting or reacting violently before doing so. In turn, this was seen as decreasing violence and strengthening neighborhood relations, as demonstrated by the following quote (excerpt from the coding node *fights and conflicts*):

[A]nd now you don't see those fights between neighbors, those quarrels, it has all calmed down and yoga has helped us all a lot [postintervention focus group, December 9, 2015].

In the focus groups, community members even speculated about the potential for yoga to help others as it had helped them, with one participant making the following suggestion (excerpt from the coding node *fights and conflicts*):

We have to invite [gang members] to practice yoga, so that they are involved in different things and are not throwing stones and fighting over unnecessary things . . . They have to be better, they need to be controlled and invited to practice yoga . . . [postintervention focus group, December 10, 2015].

### Domestic Violence

Domestic violence was another topic discussed in the focus groups. Physical abuse and punishment of children is a common practice within the community. It was also common for mothers to react violently against their children or their partners, presumably because of their own high stress levels. Participants felt that practicing yoga helped them reduce violent reactions, particularly against their children.

When asked about domestic violence during the postintervention focus groups, the conversation shifted from an emphasis on altercations between family members, usually partners, to discussions of improved situations and relationships within the household (Table 3). During one of the preintervention focus groups, domestic violence was exemplified by a drawing depicting a man choking a woman while asking her, "Why don't you do as I say?"

The most common form of violence mentioned during the focus groups was that against participants' own children. During the postintervention focus groups, the majority of participants mentioned that practicing yoga helped them manage conflicts with their partners and children. They also mentioned being able to deal with their rage and being more patient and respectful with their children, as

**Table 3.** Frequency of Word Mentions Associated with the Variable *Domestic Violence*

Preintervention Focus Groups		Postintervention Focus Groups	
Word	Frequency	Word	Frequency
Discusiones (discussions)	3	Yoga	8
Familia (family)	3	Hijos (children)	5
Marido (husband)	3	Cambio (change)	4
Pelean (people fight)	3	Disminuido (reduced)	3
Mujer (woman)	2	Mejorado (improved)	3
Pareja (partner)	2	Mujer (woman)	3

illustrated by the following quotes (excerpts from the coding node *domestic violence*, with a total saturation of 37 references):

I had this way of mistreating my kids, yelling. Everything was yelling, and every time I went to them to talk, they would immediately react nervously. But not anymore, I've found more tranquility [postintervention focus group, December 9, 2015].

In my house I have also changed a lot because I was very impulsive. I would get angry about nothing [and] I didn't know how to hold myself back, but thanks to yoga I have learned how to channel that anger and control myself and breathe before getting angry, even including the bad moments that you sometimes have with your children. Not everything is hitting and so on, so [yoga] has helped me a lot in that sense [postintervention focus group, December 10, 2015].

Before practicing yoga, I had family problems in my house with my partner, and since I have been practicing yoga, I have improved with that. There are times when he tells me things and I don't pay attention, he tells me the same thing three times and I just let him talk to himself or sometimes I just go out and leave him alone [postintervention focus group, December 10, 2015].

### Sexual Aggression

During the preintervention focus groups, the topic of sexual aggression was also mentioned, particularly because there had been a rumor in the neighborhood about a 12-year-old girl being raped near Ciudad Equidad. Participants mentioned that the aggressor was not a resident of Ciudad Equidad and that they usually do not hear of sexual violence taking place within the housing complex. Before the intervention, the rumor about the girl was the most frequently mentioned topic in relation to sexual aggressions. After the intervention, participants still mentioned the rumor, but they discussed how yoga might help to reduce sexual aggressions against them and might help to increase their awareness of safe spaces and self-defense practices (excerpt from the coding node *sexual aggressions*, with a total saturation of 18 references):

In practicing yoga you start becoming more conscious of yourself; therefore, at least for a girl, a woman, you see that place late at night . . . and now, while thinking much more clearly, you will obviously avoid going down that path because something could happen to you [postintervention focus group, December 9, 2015].

**Table 4.** Frequency of Total References by Variable Discussed

Variable	Preintervention Focus Groups	Postintervention Focus Groups	Total References
Sexual aggressions	14	4	18
Fights and conflicts	114	63	177
Domestic violence	17	20	37

### Violence Against Security Guards

The last issue related to the analytical theme of interpersonal relationships as well as relationships with community members is the attitudes of some residents of Ciudad Equidad toward the security guards who patrolled the complex. When this topic was discussed during the preintervention focus groups, participants mentioned that the main reason for aggression against guards was the denial of entry into certain parts of the housing complex. As one participant explained (excerpt from the coding node *fights and conflicts*, with a total saturation of 177 references),

That may be because they don't let someone in or because the security guard said something to him, they didn't like him, those are the aggressions that happen and then they begin cursing [preintervention focus group, October 22, 2015].

Table 4 summarizes the references to each variable in the pre- and postintervention focus groups. References to sexual aggression, fights, and conflicts decreased significantly. Although references to domestic violence increased, the author attributes this to a discussion of a particular violent household, during which participants suggested that members of the household should participate in the program.

The qualitative data collected demonstrate that incidents of fights and conflicts occur among neighbors or within households, with and without weapons, in Ciudad Equidad. To a lesser degree gang fights, sexual aggression, and conflicts with guards also occur. The study also showed that participants, based on their experience in the yoga classes, believe that yoga could have a positive effect in their neighborhood. The results of the focus groups and the final node count indicate that participants in the yoga classes had a positive experience and perceived the classes as having a positive effect on the variables assessed, particularly in terms of fights and conflicts.

Participants perceived the yoga intervention as an effective tool for the reduction of conflicts in their lives, both individually and at the neighborhood level. Participants felt that yoga helped them manage anger, be more understanding, and resort to violence less frequently. Overall, the results were encouraging for the DUNNA program given that participants perceived positive changes and viewed the

intervention as enhancing individual well-being (physical and emotional) and positive relationships among neighbors, friends, and family members.

### Discussion and Implications

This article helps bridge the gap between research and public health initiatives focused on the prevention of violence in high-poverty communities. The findings are particularly relevant for social housing complexes, which in Colombia are often unsafe environments where violent behaviors and fights are daily occurrences. This qualitative assessment identifies the positive effects that participants perceived yoga practice had on their general well-being and incorporates the voices of the participants themselves.

Moreover, this study extends previous research that has reported the beneficial effects of yoga for diverse populations of adults, adolescents, and children. For example, West et al.<sup>27</sup> report that, following a Trauma Sensitive Yoga intervention with women suffering from PTSD as a result of childhood trauma, participants linked the intervention to positive changes in their lives. Participants said that they learned to think before acting, to identify what they were feeling, and to regulate reactions to stressors. Also, these findings are consistent with the positive results identified in a sample of school-aged children in Israel who had been affected by war and received yoga training while attending school.<sup>38</sup> Ehud et al.<sup>38</sup> relied on external observation and self-assessment by students to show that children who attended yoga classes enjoyed them and found them interesting. These children also showed statistically significant improvements in their attention span, restlessness, and inattentiveness.

In addition to the positive experiences and perceptions reported by participants, findings suggest that the intervention strengthened emotional regulation and coping skills, which in turn changed some of the participants' attitudes and reactions toward their children. Learning to cope with stressors and having a better understanding of their emotions helped some of the participants who are mothers to change their style of parenting to a more nurturing and less violent one, resulting in a safer environment for their children.

In the present study, program participants felt that yoga could reduce violence in their blocks by making individuals feel more connected to one another. In some cases, focus group participants even speculated that yoga could help other residents of Ciudad Equidad to decrease stress and aggression. Although the validity of these claims cannot be determined, they can be interpreted as an expression of participants' perceptions of the yoga classes as valuable and useful in their own lives. Similar results have been

identified in studies assessing the AYP in Nairobi, Kenya. For example, Klein and colleagues<sup>39</sup> concluded that the AYP teachers who participated in their study perceived yoga as a tool for facilitating physical, emotional, and spiritual change in themselves and others. These findings are beginning to reveal the benefits of yoga in communities where violence is a common occurrence and trauma is a common issue that may reach beyond the level of the individual. This means that yoga classes may not only directly improve personal well-being but also positively affect communities. Qualitative work by West et al.<sup>27</sup> highlights the same implications, suggesting that yoga may be a low-cost intervention to effectively bridge the gaps between people of diverse and conflicting backgrounds.

Although informed by previous research, this study is highly innovative, as it seeks to ameliorate the high rates of violence by changing individuals' behavior (e.g., enhancing self-control, fostering emotional intelligence, and helping participants to become more reflective and develop deliberate decision-making skills).<sup>10,26,28</sup> In a context of limited resources, where many individuals may have had their sense of well-being and security shattered by the effects of war and poverty, this yoga intervention and similar mindfulness-based programs should be encouraged and promoted as a safe, accessible, and effective alternative to help individuals regain mental and physical well-being.

Encouraged by the results of the intervention, DUNNA launched a second phase beginning in 2016. At the time of this writing, however, the author had not assessed the program or participated in its design or implementation. The second phase of the program expanded in scope to include children and adolescents. In addition, DUNNA has trained 20 women from the community (all victims of the armed conflict) as yoga instructors, and in 2018 these women taught classes at Ciudad Equidad once a week to any interested community member. It is worth noting that some participants who currently work as instructors expressed that they felt empowered by the opportunity of learning and teaching yoga. They perceived that this practice helped them realize that body and mind can heal and gave them hope for new possibilities in life.

### Limitations

The findings of this study must be considered in light of potential limitations, which may constrain generalization to other contexts. The sample was small and represented a self-selected group of women in the particular context of a public housing complex in Santa Marta, Colombia. It is unclear whether similar results would be found with a different group of female participants or with male participants. Volunteer bias may threaten the external validity of the results, as study participation was voluntary. Finally, it is

worth highlighting that this study cannot definitively claim causality between the intervention and its perceived effects on the participants. It is restricted to compiling the voices of the yoga class participants in that particular context and can definitively say only that these individuals perceived yoga as an effective tool for the reduction of violence and aggression. Moreover, the focus group participants were women who attended more than 50% of the yoga sessions, which likely means that these participants had a more positive experience and therefore represent a self-selected group with good experiences to report.

Given these encouraging, albeit limited, preliminary results, the topic would benefit from further research. Future studies could institute random assignment of participants to intervention or control groups to more clearly establish causality. This would shed additional light on the promise of yoga practice as a tool to foster emotional and physical well-being for the reduction of violence in public housing and provide additional insight into potential interventions to help residents living in stressful, difficult conditions and possibly experiencing psychological symptoms.

### Conclusions

Yoga may be an effective violence-reduction strategy because it enhances individuals' physical and emotional well-being. In light of the results of this study, policymakers should consider strategies to enhance individuals' physical and emotional well-being, such as yoga practice, as a way to decrease violence in public housing. Living in a high-poverty environment and being exposed to violence often leads to stress, dysfunctional coping skills, reduced emotional regulation, and aggressiveness. This, in turn, tends to worsen living conditions and negatively affect overall well-being. Yoga practice may decrease antisocial and aggressive behaviors by helping program participants to reduce their perceived levels of stress, anger, and impulsiveness, and by promoting effective coping strategies, emotional regulation, and feelings of tranquility and peace. Considering the violence and reduced emotional and physical health prevalent in settings such as Ciudad Equidad, such interventions deserve further study as a tool to change people's lives, improve their communities, and promote peace. Furthermore, given the context of violence in Colombia, interventions that enhance general well-being with the goal of reducing violence are highly relevant for peace-building processes. Understanding the perceived benefits and implications of yoga in a country transitioning out of more than 50 years of civil war can inform other peace-building initiatives.

### Conflict-of-Interest Statement

The author declares that no conflicts of interest exist.

## References

1. Kamphuis, J. H., Emmelkamp, P. M. G., & Bartak, A. (2003). Individual differences in posttraumatic stress following post-intimate stalking: Stalking severity and psychosocial variables. *British Journal of Clinical Psychology, 42*(2), 145–156.
2. Kleinman, A. (1988). *The illness narratives: Suffering, healing, and the human condition*. New York, NY: Basic Books, Inc.
3. Richards, A., Ospina-Duque, J., Barrera-Valencia, M., Escobar-Rincón, J., Ardila-Gutiérrez, M., Metzler, T., & Marmar, C. (2011). Posttraumatic stress disorder, anxiety and depression symptoms, and psychosocial treatment needs in Colombians internally displaced by armed conflict: A mixed-method evaluation. *Psychological Trauma: Theory, Research, Practice and Policy, 3*(4), 384–393.
4. Shultz, J. M., Garfin, D. R., Espinel, Z., Araya, R., Oquendo, M. A., Wainberg, M. L., . . . Neria, Y. (2014). Internally displaced “victims of armed conflict” in Colombia: The trajectory and trauma signature of forced migration. *Current Psychiatry Reports, 16*(10), 476–491.
5. Stammel, N., Heeke, C., Díaz-Gómez, M. T., Ziegler, M., & Knaevensrud, C. (2012). What the victims tell: Attitudes and experiences of internally displaced persons within the context of the armed conflict and the reparation process in Colombia. Berlin: Berlin Center for Torture Victims (bzfo). Retrieved from [http://www.ewi-psy.fu-berlin.de/einrichtungen/arbeitsbereiche/klinisch\\_psychologische\\_intervention/media/report\\_colombia\\_12-2012.pdf](http://www.ewi-psy.fu-berlin.de/einrichtungen/arbeitsbereiche/klinisch_psychologische_intervention/media/report_colombia_12-2012.pdf)
6. Ibáñez, A. M., & Moya, A. (2010). Do conflicts create poverty traps? Asset losses and recovery for displaced households in Colombia. In Di Tella, R., Edwards, S., & Schargrodsky, E., Eds. *The economics of crime*, 137–172. Chicago: University of Chicago Press.
7. Lott, B. (2004). Violence in low-income neighborhoods in the United States. *Journal of Aggression, Maltreatment & Trauma, 8*(4), 1–15. doi: 10.1300/J146v08n04\_01
8. Pascoe, M. C., & Bauer, I. E. (2015). A systematic review of randomised control trial on the effects of yoga on stress measures and mood. *Journal of Psychiatric Research, 68*, 270–282.
9. Sharma, M., & Haider, T. (2013). Yoga as an alternative and complementary therapy for patients suffering from anxiety: A systematic review. *Journal of Evidence-Based Complementary & Alternative Medicine, 18*(1), 15–22.
10. Khalsa, S. B., Hickey-Shultz, L., Cohen, D. I., Steiner, N., & Cope, S. (2012). Evaluation of the mental health benefits of yoga in a secondary school: A preliminary randomized controlled trial. *Journal of Behavioural Health Services and Research, 39*(1) 80–90.
11. Oken, B. S., Zajdel, D., Kishiyama, S., Flegal, K., Dehen, C. (2006). Randomized controlled trial of yoga in healthy seniors: Effects on cognition and quality of life. *Alternative Therapies in Health and Medicine, 12*(1), 40–47.
12. El Tiempo. (2015, August 30). La cara desconocida en urbanización Ciudad Equidad, en Santa Marta. Retrieved from <https://www.eltiempo.com/archivo/documento/CMS-16313175>
13. Ministerio de Vivienda, Ciudad y Territorio & Fundación Bolívar Davivienda. (2016). *Modelo de gestión de la convivencia y seguridad en Viviendas de Interés Prioritario*. [Unpublished government document, available from the author on request.]
14. Opinión Caribe. (2018). Ciudad Equidad “Ta’ Chévere.” Aug. 29. Retrieved from <https://opinioncaribe.com/2018/08/29/ciudad-equidad-ta-chevere-2/>
15. Sánchez, F., Díaz, A. M., & Formisano, M. (2003). Conflicto, violencia y actividad criminal en Colombia: Un análisis espacial. Documento CEDE, Universidad de los Andes.
16. Departamento Administrativo Nacional de Estadística. (2015). Boletín técnico: Pobreza monetaria, año móvil julio de 2014-junio de 2015. Sept. 17.
17. Eventos Santa Marta. (2018). Trifulca entre vecinos en Ciudad Equidad. May 26. Retrieved from <https://web.eventossantamarta.com/2018/05/26/trifulca-entre-vecinos-en-ciudad-equidad/>
18. W Radio. (2014). Santa Marta: Bomba de tiempo en Ciudad Equidad por inseguridad. May 7. Retrieved from <http://www.wradio.com.co/noticias/actualidad/santa-marta-bomba-de-tiempo-en-ciudad-equidad-por-inseguridad/20140507/nota/2212264.aspx>
19. Saraswati, S. S. (2008). *Asana pranayama mudra bandha* (4th ed.). Bihar, India: Yoga Publications Trust.
20. Clark, C. J., Lewis-Dmello, A., Anders, D., Parsons, A., Nguyen-Feng, V., Henn, L., & Emerson, D. (2014). Trauma-sensitive yoga as an adjunct mental health treatment in group therapy for survivors of domestic violence: A feasibility study. *Complementary Therapies in Clinical Practice, 20*, 152–158.
21. Quiñones, N., Gómez, Y., Agudelo, D. M., & López, M. A. (2015). Efficacy of a Satyananda yoga intervention for reintegrating adults diagnosed with post-traumatic stress disorder. *International Journal of Yoga Therapy, 25*, 89–99.
22. Salmon, P., Lush, E., Jablonski, M., & Septhon, S. (2009). Yoga and mindfulness: Clinical aspects of an ancient mind/body practice. *Cognitive and Behavioral Practice, 16*(1), 59–72.
23. Ogden, P., Minton, K., & Pain, C. (2006). *Trauma and the body: A sensorimotor approach to psychotherapy*. New York, NY: Norton.
24. Biegel, G. M., Brown, K. W., Shapiro, S. L., & Schubert, C. M. (2009). Mindfulness-based stress reduction for the treatment of adolescent psychiatric outpatients: A randomized clinical trial. *Journal of Consulting and Clinical Psychology, 77*(5), 855–866.
25. Frank, J. L., Bose, B., & Schrobrenhauser-Clonan, A. (2014). Effectiveness of a school-based yoga program on adolescent mental health, stress coping strategies, and attitudes toward violence: Findings from a high-risk sample. *Journal of Applied School Psychology, 30*(1), 29–49.
26. Metz, S. M. Frank, J. L., Reibel, D., Cantrell, T., Sanders, R., & Broderick, P. C. (2013). The effectiveness of the Learning to Breathe program on adolescent emotion regulation. *Research in Human Development, 10*(3), 252–272.
27. West, J., Duffy, N., & Liang, B. (2016). Creating SPACE through Africa Yoga Project: A qualitative study. *International Journal of Yoga Therapy, 26*, 73–82.
28. Brown, K. W., Ryan, R.M., & Creswell, J. D. (2007). Mindfulness: Theoretical foundation and evidence of its salutary effects. *Psychological Inquiry, 18*(4), 211–237.
29. Daly, L. A., Haden, S. C., Hagins, M., Papouchis, N., & Ramirez, P. M. (2015). Yoga and emotion regulation in high school students: A randomized controlled trial. *Evidence-Based Complementary and Alternative Medicine, 2015*, 794928. doi: 10.1155/2015/794928
30. Dale, L. P., Carroll, L. E., Galen, G. C., Schein, R., Bliss, A., Mattinson, A. M., & Neace, W. P. (2011). Yoga practice may buffer the deleterious effects of abuse on women’s self-concept and dysfunctional coping. *Journal of Aggression, Maltreatment and Trauma, 20*(1), 90–102.
31. van der Kolk, B. A., Stone, L., West, J., Rhodes, A., Emerson, D., Suvak, M., & Spinazzola, J. (2014). Yoga as an adjunctive treatment for posttraumatic stress disorder: A randomized controlled trial. *The Journal of Clinical Psychiatry, 75*, e559-e565.
32. West, J., Liang, B., & Spinazzola, J. (2017). Trauma Sensitive Yoga as a complementary treatment for posttraumatic stress disorder: A qualitative descriptive analysis. *International Journal of Stress Management, 24*(2), 173–195.
33. Saraswati, S. S. (2009). *Yoga nidra* (6th ed.). Bihar, India: Yoga Publications Trust.
34. Saraswati, S. S. (2012). *Meditations from the tantras*. Bihar, India: Yoga Publications Trust.
35. Fern, E. F. (2001). *Advanced focus group research*. Thousand Oaks, Calif.: Sage Publications.
36. Paulston, R. G., & Liebman, M. (1994). An invitation to postmodern social cartography. *Comparative Education Review, 38*(2), 215–232.
37. Saldaña, J. (2009). *The coding manual for qualitative researchers*. Thousand Oaks, Calif.: Sage Publications.
38. Ehud, M., An, B., & Avshalom, S. (2010). Here and now: Yoga in Israeli schools. *International Journal of Yoga, 3*(2), 42–47.
39. Klein, J. E., Cook-Cottone, C., & Giambone, C. (2015). The Africa Yoga Project: A participant-driven concept map of Kenyan teachers’ reported experiences. *International Journal of Yoga Therapy, 25*, 113–126.