



## Evaluation of Bikers Against Child Abuse (BACA) program: A community intervention for child abuse victims



Dee C. Ray<sup>a,\*</sup>, J.P. Lilly<sup>b</sup>, Nancy Gallina<sup>c</sup>, Paula MacLan<sup>d</sup>, Brittany Wilson<sup>a</sup>

<sup>a</sup> University of North Texas, United States

<sup>b</sup> Provo, UT, United States

<sup>c</sup> Touro College, United States

<sup>d</sup> Norman, OK, United States

### ARTICLE INFO

#### Keywords:

Program evaluation  
Child abuse  
Community intervention

### ABSTRACT

Children who have experienced physical abuse benefit from a multitude of community interventions including support programs to address emotional and behavioral stability. This pilot study evaluated the services of Bikers Against Child Abuse (BACA), a community of bikers lending intervention to abused children, using a pre/post exploratory design. Participants (N = 154) were children who had been referred by parents/guardians for current or past physical and/or sexual abuse. Parents/guardians of children were interviewed four times over a course of one year. Results indicated children demonstrated substantial improvements in their overall levels of emotional distress, conduct concerns, hyperactivity, and behavioral and emotional functioning. Overall, results support the premise that services provided by BACA may serve as a unique intervention for children who have experienced abuse.

### 1. Introduction

According to United States National Child Abuse and Neglect Data Systems (NCANDS) Child Maltreatment report (2015), there were 2.25 deaths per 100,000 children across the nation in 2015 and Child Protective Services (CPS) investigated over 3.3 million cases of suspected child abuse resulting in documentation of 683,000 children as victims of maltreatment. More specifically, reports indicated 75% of victims experienced neglect, 17% were physically abused, 8.4% were sexually abused, and 6.9% reported as other such as threatening abuse, parent alcohol/drug use, or relinquishment of a newborn. Townsend and Rheingold (2013) reported that one in seven girls and one in 25 boys will be sexually abused before the age of 18 while historical reports place incidence rates much higher at one in four girls and one in six boys (CDC, 1997). Childhood abuse and neglect can have a myriad of consequences including but not limited to cognitive delays, emotional difficulties including depression and anxiety, and long term health problems (Child Welfare Information Gateway, 2013). The effects of childhood abuse manifested through depression, anxiety, addiction, poor physical health, and distress can last a lifetime (Draper et al., 2008; Lindert et al., 2014). Post traumatic stress disorder (PTSD) was found to be a common psychiatric diagnosis related to effects of sexual abuse (Bahali, Akcan, Tahiroglu, & Avci, 2010), and researchers have

concluded a strong link between child maltreatment and higher probability of later diagnosed personality disorders (Elliott et al., 2016).

Child maltreatment has been associated with both internalizing and externalizing behavioral problems that can be detrimental to the developmental path of children who have been abused (Keiley, Howe, Dodge, Bates, & Pettit, 2001). Child abuse, more so than neglect, has been shown to have a significant relationship with both externalizing and internalizing problem behaviors (Keyes et al., 2012). Cicchetti (2016) proposed that the central function of the emotional system in children is to organize behavior. When children are abused, emotional regulation is threatened and subsequent behaviors are designed to adapt to the environment that places them at risk, leading to emotional and behavioral responses that may not be adaptive when there is no longer a threat. Hence, children who have been abused often display behavioral problems such as inattention (Maguire et al., 2015), interpersonal difficulties (Kim & Cicchetti, 2010), oppositional or aggressive behaviors (Manly, Kim, Rogosch, & Cicchetti, 2001), as well as emotional problem symptoms such as moodiness and anxiety (Kim, Cicchetti, Rogosch, & Manly, 2009). In reviewing literature related to child maltreatment and behavioral outcomes, Maguire et al. (2015) concluded that the relationship between child behavioral problems and abuse is strong enough to warrant the assessment of children for possible abuse when they present with behavioral challenges.

\* Corresponding author at: Counseling Program, 1155 Union Circle, Box 310829, Denton, TX 76203, United States.

E-mail address: [dee.ray@unt.edu](mailto:dee.ray@unt.edu) (D.C. Ray).

Children who have been abused experience a limited ability to verbalize the details or reactions to abusive events. Children may expect negative consequences for themselves and other family members if they disclose abuse, including fear regarding the potential for physical harm, death, and harm to pets (Malloy, Brubacher, & Lamb, 2011; Murray, Nguyen, & Cohen, 2014; Phillips, 2014). Specifically, fear has been identified as the predominant emotion in young victims of child abuse who feel helpless and powerless (Foster & Hagedorn, 2014). The time between disclosure of the abuse and trial or resolution of a case is typically stressful and frightening for a child. Progress may be slowed or lost when the child, fearing for their own and the safety of their family, has to return to their home, school or neighborhood without being supported or surrounded by a strong social network (Perry & Szalavitz, 2006). Recent studies have concluded that supportive environments and communities serve as protective factors and mediate resilience among children who have been abused (Domhardt, Munzer, Fegert, & Goldbeck, 2015; DuMont, Widom, & Czaja, 2007). Children called to testify often report not feeling safe when they are required to sit alone on the stand (Nathanson & Saywitz, 2015) where they may face the alleged perpetrator (who may have threatened to harm the child and/or the child's family) and are expected to report their experiences to a judge and jury of strangers. In response to this acknowledgement of children's fears and sense of safety, a grassroots collective developed the intervention organization, Bikers Against Child Abuse (BACA, 1995), that has provided support for children living in fear and addressed a need that had gone unfulfilled by focusing on its mission of "empowering children to not feel afraid of the world in which they live" (BACA, 1995).

## 2. Bikers Against Child Abuse (BACA)

BACA was founded to address the fear and subsequent behavioral reactions of abused children who participated in traditional counseling services. As is most often the case in traditional therapy, treatment is limited to one or two hours a week. In addition, a review of the literature indicated that duration of therapy necessary for a child to recover from trauma is difficult to ascertain given the number of variables that drive treatment including type of abuse, frequency, duration, level of violence, relationship of the perpetrator, etc. (Lipovsky & Hanson, 2007). Although progress is made, that progress can often become interrupted or set back by the investigation process that can include intrusive questioning, delays in the judicial system, or threats made by the alleged perpetrator against the child and/or their family. J. P. Lilly, a licensed clinical social worker and registered play therapist-supervisor, founded BACA after integrating his skills as a mental health professional and motorcyclist. Similar to historical interventionists (Glaser, 1965; Rogers, 1942). Lilly based the BACA intervention on idiographic experiences, not on a particular set of theoretical concepts. In the first BACA intervention, Lilly, who was working in response to a particularly difficult case involving an 8 year-old boy who refused to leave his house due to fear of his perpetrator, sought the support of fellow bikers to volunteer to provide an empowering experience for the boy. With permission from the boy's guardians, 27 motorcycles and nearly 40 people from clubs, organizations, and solo riders responded and rode as one group to the child's home; they dismounted, greeted the child, and offered him a ride on a motorcycle that he accepted. Following his ride, the boy was outside of his house riding his bicycle on his own within hours. This idea, a seed, led to the formation of BACA on a local level then grew regionally and today has progressed into an international organization across three continents.

As is the case with many grass roots organizations, the genesis is most often related to an unmet need within the community (Smith, 2000). Studies have shown the mediating and moderating impact of social support on long term effects of childhood maltreatment (Aydin, Akbas, Turla, & Dundar, 2016; Sperry & Spatz-Widom, 2013) concluding that positive social support may modulate the trauma

experienced by a child by addressing their feelings of fear, anxiety, and trust through encouragement of a sense of safety based on a stable reliable presence (Charuvastra & Cloitre, 2008). BACA attempted to meet the need of abused children living in fear by providing a presence during a crisis, where and when needed, 24 h seven days a week through the goodwill of their volunteers. It is the goal of BACA to empower children by being a relational support in their lives through a crisis. BACA's objective is to reduce and/or remove fear so that the child can feel safe in the environment in which they live. BACA achieves this goal when each chapter or chapters meet the child/rep by going to their homes or places chosen by the parent/guardian. They are a source of support throughout this time of crisis, escorting them to and from school, to and from court throughout the court process and any other time when needed until the crisis is over. This venture that began as one chapter in Utah has grown to 236 (165 full charter status; 71 temporary charter status) chapters in the US and 64 full/temporary charter chapters around the world. The successful nature of community interventions is well documented in the literature (Christens, 2010; Flanagan & Levine, 2010; Schwartz & Suyemoto, 2013). Currently, BACA is an international 501c (3) non-profit organization.

Like other grass roots organizations, BACA relies on volunteer members to provide most or all of its activities or work (Smith, 2000). BACA's social structure is voluntary and its members are committed to the mission of helping abused children feel safe. Each member starts out as a new supporter and has to pass a background check through the National Crime Information Center (NCIC) before they are allowed to have contact with a child. They are required to meet a set of criteria for a minimum of one year before being considered ready to wear the BACA backpatch. The new supporter is assigned a sponsor (experienced member) whose job is to guide them and ensure that they meet quarterly training requirements and have a full understanding of the BACA mission, meaning of the colors, code of conduct, chain of command, international by-laws, the universal constitution, levels of intervention, policy and procedures, and group riding rules. The sponsors observe the new supporters, reports their progress to the sponsor coordinator on a quarterly basis, and if meeting qualifications, recommends advancement to membership to the executive board.

## 3. BACA intervention

BACA employs four levels of intervention, dependent upon the unique needs of the children involved in the program. Levels of intervention are hierarchical in nature and increase in responsiveness based upon need. Most often used is the Level 1, the initial intervention during which BACA members from local chapters ride as a group to the child's home or place designated by the parent/guardian, children are presented with a vest, patch/stickers of their choice, and photographs may be taken by the parent/guardian of the child with BACA members. The child may be offered a ride on a motorcycle and is given a stuffed bear with the phone number of the local chapter written on the shirt of the bear. Children are assigned two primary contacts who they can call 24 h, seven days a week if they are feeling fearful. The primary contacts make regular follow-up visits or contact with the child until the situation is stable. If contacts are called by the child or parent/guardian, BACA responds by providing presence at the child's home or serving as escorts for the child. A Level 2 occurs less frequently (8%), but, if the child experiences further abuse or harassment after the child has met the BACA membership, BACA members provide a presence at the child's home, and will, if necessary, escort the child to and from school or other places where the child is required to be until the harassment desists.

On January 12, 2018, B.A.C.A.

voted unanimously to no longer perform

### Level 3 and 4 Interventions.

Additionally, at any time needed, BACA members will accompany the child/ren to court, and will provide a presence by sitting with the child in the witness waiting room, be in the courtroom while the child testifies and escort them as needed throughout the days the child is required to be in court. At all times, BACA works in collaboration with judicial and law enforcement authorities and enforces policies against any vigilante behaviors.

#### 4. Purpose of the study

BACA has intervened for over 20 years on behalf of children who have been abused and are feeling afraid in an effort to provide support for these children so that they can emerge from this crisis situation and heal. Although anecdotal evidence provided strong support for the effectiveness of the program, quantitative support is lacking in evaluating program impact. The purpose of this study was to gather empirical evidence and explore the credibility of the BACA intervention as a viable program for child abuse intervention.

#### 5. Methods

We conducted a single group repeated measures evaluation of BACA intervention over the course of a year. Because the study was national and longitudinal, participants were allowed to enter the study over a period of four years to account for attrition. Posavac (2011) recommended the use of one-group designs for evaluation as less intrusive and expensive than other more complex research designs, thereby, allowing for practical implementation. Additionally, results from single group designs allow stakeholders to explore basic outcomes and probability of improvement for participants.

##### 5.1. Participants

Participants included 154 children (103 girls, 66.9%; 51 boys, 33.1%) who were provided services in 16 states across the United States (see Table 1). Children's ages ranged from 3 to 18 years with a mean age of 9.96 years ( $SD = 3.62$ ). One three year-old was included in the sample due to being within a month of his fourth birthday at initiation

**Table 1**  
Number of Participants per State.

States	n
Iowa	2
Louisiana	1
Maryland	2
Massachusetts	13
Missouri	34
New Hampshire	6
New York	2
North Carolina	7
Ohio	20
Oklahoma	24
Texas	5
Utah	13
Virginia	4
Washington	1
Wyoming	2

**Table 2**  
Demographic Characteristics of Participants (N = 154).

Characteristic	n	%
Ethnicity		
Black American	1	0.6
Native American	2	1.3
Latino	1	0.6
White	129	83.8
Multi	18	11.7
Unreported	2	1.3
Type of Abuse		
Physical	44	28.6
Sexual	103	66.9
Unidentified	7	5
Living Situation		
Single biological mother	72	57
Single biological father	7	5
Both biological parents	32	21
Biological mother and stepparent	17	11
Biological father and stepparent	8	5
Extended family	10	7
Biological mother and extended family	3	2
Foster parent	2	1
Unknown	2	1

of study and one 18 year-old adolescent was included in the sample because participation in BACA intervention began at age 17. Participants were predominately White ( $n = 129$ ) with the majority living in single parent homes. Demographic characteristics regarding ethnicity, type of abuse, and living situation are listed in Table 2. A total of 128 (80%) of the 154 participants participated in therapy either the entire time or at some point during BACA intervention; 75 (49%) were in therapy prior to and throughout BACA intervention, 28 (18%) started therapy before BACA intervention and either completed treatment or treatment was interrupted, 25 (16%) started therapy after BACA intervention, 22 (14%) did not participate in therapy and participation in therapy was not known for 4 (3%) of the participants. A total of 44 (29%) of the participants testified in court, 32 (21%) were scheduled but had not testified during the year of intervention, 11 (7%) of the victims were scheduled to testify but the alleged perpetrator took a plea deal before the year after initial contact was up, 2 (1%) testified before BACA intervention, and 65 (42%) did not testify in court.

##### 5.2. Instruments

###### 5.2.1. Strengths and Difficulties Questionnaire (SDQ)

*Strengths and Difficulties Questionnaire (SDQ)*: Goodman, 2001) is a 25 item assessment completed by parents/caregivers and used to identify behavioral problems and interpersonal strengths of children four to seventeen years of age. The SDQ Total Difficulties score is a composite of four subscales including Emotional Symptoms, Conduct Problems, Hyperactivity and Attentional Difficulties, and Peer Relationship Problems. The Total Difficulties score can range from 0 to 40. An additional fifth subscale indicates Prosocial Behavior. Higher total difficulties scores have been correlated to greater psychopathology (Goodman & Goodman, 2009). Goodman (2001) reported strong internal consistency reliability coefficients for scales and factor analyses results supporting the five-factor solution.

###### 5.2.2. Behavioral and Emotional Screening System (BESS)

*Behavioral and Emotional Screening System – Parent (BESS)*: Kamphaus & Reynolds, 2007) is an assessment completed by parents/caregivers and is used to measure behavioral and emotional strengths and weaknesses for children preschool to 12th grade. A T-score of 20 to 60 suggests that a child is rated at a normal level of risk, 61–70 indicates elevated risk, and 71 or higher is extremely high risk. Internal consistency reliability was reported to be 0.88 for the total score.

Kamphaus and Reynolds (2007) reported high level of convergent validity for the BESS and the Behavioral Assessment System for Children – 2nd Edition (Reynolds & Kamphaus, 2004)

### 5.3. Procedure

This study was approved by the Institutional Review Board of southwestern university in the United States. Each data collector completed the National Institute of Health training on the protection of human research participants. The first author, who was not a member of BACA, operated as a research design and statistical consultant to ensure objective procedures for data collection and analysis. Additionally, all data collectors were licensed mental health professionals functioning as clinical advisors to BACA. As part of normal BACA procedures, when a call was received on the BACA hotline, each case was vetted by designated BACA members following the normal admission criteria. The chapter child liaison phoned the parent/guardian to set up a date so that the Initial Contact Team (ICT) could meet the family. The parent/guardian was also asked at that time if they would be willing to participate in an ongoing BACA research project. If the parent/guardian agreed, a referral was made to the data collection team comprised of clinical advisors for this study. The first point of data collection took place before the parent/guardian met with the BACA ICT. This allowed for the collection of baseline data prior to intervention (pretest). The clinical advisor contacted the parent/guardian and explained the purpose of the study. If the parent/guardian agreed to participate during the first assessment, the advisor asked for the child's gender, age (date of birth), type of abuse, and then informed the parent/guardian that further participation entailed a series of assessments that would take from 10 to 15 min to administer per child, that there was no penalty if they chose not to participate, and that they may choose not to answer any question or withdraw from the study at any time. They were then asked for verbal consent to participate and informed that the child liaison had a copy of the Information Sheet that would provide more details of the study. The clinical advisor indicated the parent/guardian's consent on the form. The clinical advisors contacted the parent/guardian through phone calls to collect data at three subsequent points during the following year, reading instrument items for parents/guardians to answer over the phone. The second set of data was collected two weeks after the first intervention, referred to as the Level 1. The third data collection point was collected at six months and the fourth collection took place at one year after initial contact. Participants were recruited into the study over four years and final data collection took place in the fifth year.

### 5.4. Intervention

As previously presented, BACA employs four levels of intervention with the majority of children participating in the first two levels and very few in need of the third and fourth levels. All participants participated in Level 1 intervention. Over the course of the study, less than one percent (1%) of BACA cases met the need for intervention beyond Level 2 indicating that most participants in our sample received only Level 1 and/or Level 2 intervention. Table 3 presents the number of children across all BACA services that participated in the four levels.

Table 3  
Number of BACA Cases for Each Intervention Level Over Duration of Study.

Year	Level 1	Level 2	Level 3	Level 4
1	985	73	2	2
2	890	79	1	10
3	948	78	0	13
4	1506	106	5	3
5	1261	91	2	4

### 5.5. Data analysis

In order to explore the credible impact of BACA intervention on participants, we conducted an a priori power analysis to determine the number of sample participants needed with a power of 0.8 and an alpha at 0.01. A more conservative alpha level of 0.01 and small effect size estimates were employed to ensure statistical power associated with multiple analyses. Power analysis indicated that 36 participants were necessary to reach statistical significance. Given the sample size of 154, we concluded that we had an appropriate number of participants to conduct a repeated measures analysis of variance (ANOVA) for the purposes of exploring meaningful clinical change.

We conducted seven repeated measures one-way ANOVAs over four points of measurement on the overall Total Difficulties score and five subscales of the *SDQ* and the total score of the *BESS*. Statistical significance was determined at the 0.01 alpha level. We reported effect size through partial  $\eta^2$  and interpreted according to Cohen's (1988) guidelines; small (0.01), moderate (0.06), and large (0.14). Data met assumptions for parametric analyses including normal distribution. For each ANOVA, we interpreted Wilks' Lambda multivariate statistic due to violation of sphericity (Pallant, 2013). Following each ANOVA, we conducted post hoc pairwise comparisons of data collection points to highlight differences between time periods.

## 6. Results

### 6.1. Strengths and difficulties

#### 6.1.1. Total difficulties

A one way repeated measures ANOVA was conducted to compare scores on the Total Difficulties score of the *SDQ* at Time 1 (prior to intervention), Time 2 (2 weeks following Level 1 intervention), Time 3 (six months after initial contact), and Time 4 (one year after initial contact). The means, standard deviations, and pairwise comparisons for all analyses are presented in Table 4. There was a significant effect for time in Total Difficulties, Wilks' Lambda = 0.66,  $F(3, 151) = 26.44$ ,  $p < 0.01$ , multivariate partial  $\eta^2 = 0.34$ . There was a statistically significant difference, with a large effect size, across time periods. All time periods were statistically significantly improved from pretest. Results indicated that children's total difficult behaviors decreased over the time of intervention.

#### 6.1.2. Emotional distress

A one way repeated measures ANOVA was conducted to compare scores on the Emotional Symptoms subscale of the *SDQ* at Time 1 (prior to intervention), Time 2 (2 weeks following Level 1 intervention), Time 3 (six months after initial contact), and Time 4 (one year after initial contact). There was a significant effect for time, Wilks' Lambda = 0.63,  $F(3, 151) = 29.40$ ,  $p < 0.01$ , multivariate partial  $\eta^2 = 0.37$ . There was a statistically significant difference, with a large effect size, across time periods. All time periods were statistically significantly improved from pretest. Results indicated that children's emotional symptoms decreased over the time of intervention.

#### 6.1.3. Conduct problems

A one way repeated measures ANOVA was conducted to compare scores on the Conduct Problems subscale of the *SDQ* at Time 1 (prior to intervention), Time 2 (2 weeks following Level 1 intervention), Time 3 (six months after initial contact), and Time 4 (one year after initial contact). There was a significant effect for time, Wilks' Lambda = 0.86,  $F(3, 151) = 7.92$ ,  $p < 0.01$ , multivariate partial  $\eta^2 = 0.14$ . There was a statistically significant difference, with a large effect size, across time periods. Time periods at Time 3 and Time 4 were statistically significantly improved from pretest. Results indicated that children's conduct problems decreased over the time of intervention.

**Table 4**  
Means, Standard Deviations, and ANOVA Results for Four Data Collection Points.

	Time 1	Time 2	Time 3	Time 4			
	M(SD)	M(SD)	M(SD)	M(SD)	F	$\eta_p^2$	Post hoc
SDQ Total Difficulties	19.46 (8.28)	16.81 (8.08)	15.24 (8.59)	14.45 (8.30)	26.44*	0.34	1 < 2 < 3 1, 2 < 4 3 = 4
SDQ Emotional Distress	6.47 (2.64)	5.16 (2.76)	4.63 (2.92)	4.26 (2.89)	29.40*	0.37	1 < 2 < 3 1, 2 < 4 3 = 4
SDQ Conduct Problems	3.55 (2.94)	3.25 (2.75)	2.81 (2.80)	2.61 (2.49)	7.92*	0.14	3,4 < 1 4 < 2
SDQ Hyperactivity	6.11 (3.05)	5.39 (3.01)	5.06 (3.16)	4.80 (3.10)	12.92*	0.20	1 < 2, 3, 4 2 < 4
SDQ Peer Problems	3.45 (2.50)	3.03 (2.30)	2.76 (2.36)	2.78 (2.49)	6.78*	0.12	1 < 2, 3, 4
SDQ Prosocial Behaviors	8.24 (2.95)	8.27 (2.06)	8.37 (2.01)	8.45 (2.01)	0.52	0.01	1 = 2 = 3 = 4
BESS Total	65.42 (13.14)	60.99 (13.02)	57.91 (14.42)	57.70 (13.41)	31.93*	0.40	1 < 2 < 3 1, 2 < 4 3 = 4

\*  $p < 0.01$ . Note. The numbers in post hoc column refer to the time measures and illustrate significant differences between data collection points.

#### 6.1.4. Hyperactivity and attentional problems

A one way repeated measures ANOVA was conducted to compare scores on the Hyperactivity and Attentional Problems subscale of the SDQ at Time 1 (prior to intervention), Time 2 (2 weeks following Level 1 intervention), Time 3 (six months after initial contact), and Time 4 (one year after initial contact). There was a significant effect for time, Wilks' Lambda = 0.80,  $F(3, 151) = 12.92$ ,  $p < 0.01$ , multivariate partial  $\eta^2 = 0.20$ . There was a statistically significant difference, with a large effect size, across time periods. All time periods were statistically significantly improved from pretest. Results indicated that children's hyperactivity problems decreased over the time of intervention.

**Peer Problems.** A one way repeated measures ANOVA was conducted to compare scores on the Peer Problems subscale of the SDQ at Time 1 (prior to intervention), Time 2 (following Level 1 intervention), Time 3 (six months after initial contact), and Time 4 (one year after initial contact). There was a significant effect for time, Wilks' Lambda = 0.88,  $F(3, 151) = 6.78$ ,  $p < 0.01$ , multivariate partial  $\eta^2 = 0.12$ . There was a statistically significant difference, with a moderate effect size, across time periods. Results indicated that children's peer problems decreased from initial measurement to final intervention.

#### 6.1.5. Prosocial behavior

A one way repeated measures ANOVA was conducted to compare scores on the Prosocial Behavior subscale of the SDQ at Time 1 (prior to intervention), Time 2 (2 weeks following Level 1 intervention), Time 3 (six months after initial contact), and Time 4 (one year after initial contact). There was no significant effect for time, Wilks' Lambda = 0.99,  $F(3, 151) = 0.52$ ,  $p = 0.67$ , multivariate partial  $\eta^2 = 0.01$ . There was no statistically significant difference across time periods, with negligible effect size. Results indicated that children's prosocial behaviors remained relatively stable over the time of intervention. It should be noted that the pretest mean score (8.24) was in the average range, meaning that the children began intervention in the average range in this domain.

#### 6.1.6. Behavioral and emotional functioning

A one way repeated measures ANOVA was conducted to compare scores on the BESS at Time 1 (prior to intervention), Time 2 (2 weeks following the Level 1), Time 3 (six months after initial contact), and Time 4 (one year after initial contact). Due to missing data from incomplete instruments completed by caregivers, 6 participants were not included in this analysis. There was a significant effect for time, Wilks' Lambda = 0.60,  $F(3, 145) = 31.93$ ,  $p < 0.01$ , multivariate partial  $\eta^2 = 0.40$ . There was a statistically significant difference, with a large effect size, across time periods. All time periods were statistically

significantly improved from pretest. Results indicated that children's total emotional and behavioral problems decreased over the time of intervention. It should be noted that participants as a group began intervention in the elevated range (61–70) with a mean of 65.42 and ended intervention in the normal range (10–60) with a mean 57.70, indicating clinical significance of findings according to BESS interpretation guidelines (Kamphaus & Reynolds, 2007).

## 7. Discussion

Results of the present study appear promising in that participating children experienced decreased emotional distress, as well as conduct, hyperactivity, and attention related concerns following BACA intervention, per caregiver report. Additionally, children's initial improvements in overall behavioral and emotional functioning appeared to remain stable across time as caregivers reported sustained improvement across a one-year time period. Overall, children demonstrated substantial improvements in moving from clinical levels of emotional distress to developmentally typical levels following the intervention period. More specifically, children were reported as improving at a statistically significant level from pretest to first data collection (directly after Level 1 Intervention) on emotional distress, conduct problems, hyperactivity/inattention, and total behavioral problems. In reviewing BESS results in particular, it can be seen that children moved from a mean within the instrument's clinical range at pretest to non-clinical range at the second data collection point following Level 1 intervention. The children were reported as maintaining these improvements over a year. Although we are cautious in interpreting causation due to nature of single group design, it is evident that child emotional and behavioral improvement occurred during the time that children were involved in BACA intervention. However, it should be noted improvement also correlated with children's temporal distance from the crisis situation.

Through addressing the needs of abused children with a relational and reassuring presence, we suggest that BACA intervention allows children to feel safe and understood, reducing their propensities to express themselves through counterproductive behaviors and emotional distress. Over the course of the study, parents and guardians expressed their observation of changes in their children. One parent noted that her child was less nervous and seemed to be more confident while another parent expressed appreciation for BACA's presence when her child had bad dreams. Parents/guardians reported behavioral changes in their children such as a child being able to sleep in his own bed again and a daughter who was able to re-enroll in school without fear. These anecdotal reports seemed to support the BACA goal to

empower the child so that fear is reduced and safety enhanced.

Although results indicated improvements in areas of behavioral problems and emotional distress, there was no statistically significant improvement in prosocial behaviors. As mentioned, the overall mean at pretest for prosocial behaviors indicated that children were within the average range. Gustavo, McGinley, Hayes, Batenhorst, and Wilkinson (2007) found that parenting practices were significantly associated with adolescents' prosocial behavior, indirectly related through sympathy. Literature addressing prosocial behaviors in abused children indicated that those who were physically maltreated and had parents who were more sensitive and used less harsh discipline practices had prosocial skills that were developmentally appropriate (Sabourin Ward & Haskett, 2007). In addition, resilience in children who were maltreated and had protective factors such as child prosocial skills, child internalizing well-being and caregiver well-being were associated with lower likelihood of clinical levels of aggressive behavior (Holmes, Yoon, Voith, Kobulsky, & Steigerwalk, 2015). These findings suggest that a protective factor in both maltreated and non-abused children was mother's sensitivity and attribution and support of prosocial behavior. Anecdotal information from respondents in this study indicated that they were happy to participate in research in order to give back something for how BACA had helped their child or to "get the word out there so that other children could be helped" as stated by one parent. Hence, it is not surprising that children were observed as being prosocial by parents/guardians who could likely be described as prosocial as evidenced by their willingness to participate in this program evaluation study.

## 8. Limitations

Although results from this study are promising regarding the impact of BACA intervention on children who have been physically and sexually abused, several limitations exist. This intervention employed the use of a single sample of participants. Due to lack of a randomized comparison group, it is possible that participants improved due to maturation, placement in stable, non-abusive environments, or chronological distance from the trauma events. As noted, means for total behavioral difficulties and subscales related to emotional distress, conduct problems, and hyperactivity/inattention improved from pretest to the second data collection point. This lends more credibility to positive findings associated with intervention. Because the purpose of this evaluation was to specifically explore the use of BACA intervention, we are unable to draw any conclusions about BACA intervention compared to other interventions.

A lack of racial and ethnic diversity in the current sample represents a further study limitation. Although results of the study are strong, they are representative only of the current sample. Thus, generalizability to racial and ethnic groups outside of White children may be limited. The present evaluation indicates that BACA is currently serving a mostly White population. Considering that child abuse rates for Black Americans, Native Americans, and Latino/as are proportionally higher than White Americans (Lanier, Maguire-Jack, Walsh, Drake, & Hubel, 2014), there appears to be a great need for services addressing all racial/ethnic groups. Because BACA relies on parent referral for its services, outreach may be limited. BACA may benefit from reviewing their recruitment procedures to broaden their reach to all groups of abused children.

## 9. Lessons learned

The findings from the present study add to an existing body of literature emphasizing the importance of social support on children's abilities to positively cope with experiences of trauma, abuse, and/or neglect (Perry & Szalavitz, 2006). However, this study also adds a meaningful contribution to an existing literature base in supporting the premise that children demonstrate sustained emotional and behavioral

improvements over time, given a meaningful and safe relational experience. Additionally, the current evaluation supports ongoing research efforts exploring the impacts of BACA, and other grassroots organizations, on children's resiliency and coping abilities subsequent to a traumatic experience. Future evaluation efforts may be strengthened through the use of a randomized control or comparison group in order to address internal threats to validity of results. Further quantitative evaluation would benefit from a more detailed observation of mediators and moderators that may contribute to improvement. The current study focused on behavioral outcomes due to previous research linking child maltreatment and subsequent behavioral problems. However, BACA is specifically concerned with increasing feelings of personal safety for children. The assessment of feelings of safety correlated with behavioral and emotional outcomes would help further understanding of BACA intervention. Additionally, a qualitative exploration of children's and parent/guardians' experiences while engaging in BACA intervention would provide a greater understanding of processes occurring over the time of services.

## 10. Conclusion

The results of this study support the intended goal that children experiencing current or past sexual or physical abuse may benefit from BACA intervention strategies. Most research on the benefits of social support has focused on systemic partners including parents, peers, school and church life (Blanchard-Dallaire & Hebert, 2014; Godbout, Briere, Sabourin, & Lussier, 2014; Marriott, Hamilton-Giachrisis, & Harrop, 2013). Conversely, grassroots organizations tend to focus on helping its members rather than serving outside populations. BACA is a unique organization in that children who experienced physical and/or sexual abuse were taken in as partners, in an effort to provide them with a unique relational experience which may be unavailable to them in other areas of their lives. Although limited research on this topic exists, the results of the present study may indicate that this type of relational experience often helps an individual regain confidence and restores a sense of security in their lives (Holmes et al., 2015; Sabourin Ward, & Haskett, 2007). BACA's main mission throughout this study was to provide children with an ongoing sense of emotional and physical safety, while fostering them to feel a rejuvenated sense of autonomy and strength.

BACA as a non-profit grassroots organization completes a circle of support in conjunction with other agencies. BACA services are not intended to be replacements for direct clinical treatment and other services directed at this population. All participating children and families are advised that BACA members do not fill the role of therapist, police, or vigilante but that they are an organization of bikers who want to help the child feel safe. Although direct services contribute to a child's improvement and decreased behavioral difficulties, the results of this study showed a clinically significant improvement two weeks after intervention in decreasing emotional distress, conduct problems and hyperactive/attentional problems and for overall behavioral problems. This suggests improvements were both immediate and sustained over time. In addition, the scores one year post intervention indicated that as a group, children who participated in BACA intervention maintained improvement in behaviors as well as moving into the average range of concern. The results of this study indicate that the unique and adjunct services of BACA intervention serve as a promising intervention for children who have been abused.

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Dee C. Ray is a professor of counseling and director of the Child and Family Resource Clinic at the University of North Texas. Dr. Ray teaches clinical, research methodology, and child counseling courses. Dr. Ray has published over 100 articles, chapters and books examining the effectiveness and process of child therapy. Her research interests are effectiveness and mediator variables in child therapy.

John Paul Lilly MS, LCSW, RPT/S is a Licensed Clinical Social Worker. He is presently in private practice as a full partner with Sierra Counseling Associates, Inc. where he has been in private practice for thirty years. JP is the Founder and past National President of Bikers Against Child Abuse Inc. JP is recognized by the Association for Play Therapy as a Registered Play Therapist/Supervisor (1993 to present). JP taught in three different graduate schools of at Brigham Young University from 1993-2010. JP is published in professional journals, and he has authored chapters in two compilation books on play therapy.

Nancy Gallina is professor and associate dean at Touro College Graduate School of Social Work. Dr. Gallina has worked extensively with gang-involved youth and with issues including homelessness, abuse, addiction and mental health. Dr. Gallina runs a private clinical practice specializing in couples and grief counseling and treating childhood disorders such as ADHD, ODD and Autism.

Paula S. Maclean is a licensed clinical psychologist in private practice in Norman, Oklahoma. She did her post doctoral work with children at an advocacy center treating children and families who had experienced child sexual abuse, then established the psychology office for Child Protective Service, and since then has treated children and adults from ages 3 to 85 for a variety of conditions including but not limited to anxiety, depression, post traumatic stress disorder, and she sits on the IRB of the University of Oklahoma.

Brittany J. Wilson is a clinical therapist at Children's Health in Dallas Texas and adjunct instructor at the University of North Texas. Dr. Wilson has taught both clinical and didactic courses in counseling and play therapy and has published book chapters in leading texts on child therapies. Dr. Wilson's research interests are effectiveness of child therapy as well as clinical supervision.