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EVALUATION OF A MEDICAL CENTER STAFF BYSTANDER INTERVENTION TRAINING FOR NO-HIT-ZONES: AN INNOVATIVE STRATEGY TO CHANGE SOCIAL NORMS REGARDING PHYSICAL PUNISHMENT

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ABSTRACT

No-Hit-Zones (NHZ) use a public health approach to prevent violence against children. NHZs include bystander intervention training, educational materials, and an organizational policy that prohibits any form of physical hitting. This study is the first to assess the effectiveness of the NHZ bystander intervention training component exclusively. Following the training, staff were less likely to support the use of physical punishment, more likely to support intervention when witnessing physical punishment, and demonstrated increased knowledge about the NHZ policy. These results suggest that bystander intervention training is an integral part of NHZs' ability to establish a safe environment for children.

Keywords: No Hit Zone (NHZ), Physical punishment, violence prevention, Bystander intervention, child abuse

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INTRODUCTION

In the U.S., Child Protective Services receives approximately 3.9 million referrals annually alleging child maltreatment for 7.1 million children (Children's Bureau, 2023). Of these referrals, 51.5% are screened in and become reports requiring further action (Children's Bureau, 2023). Roughly 25% of child maltreatment victims experience physical abuse, making it one of the most common types of child maltreatment (Children's Bureau, 2023; Fortson et al., 2016). However, these numbers vastly underestimate children's exposure to physical punishment, which often occurs in private settings and goes unreported (Cuartas et al., 2020). Using a public health lens with a focus on preventing harm to children, the CDC defines physical abuse as "the use of physical force, such as hitting, kicking, shaking, burning, or other shows of force against a child," including the use of physical punishment (Fortson et al., 2016, p. 8). Physical punishment of children, often called spanking, slapping, popping, or whooping, is linked with many types of harm and injury to children consistent with those linked to physical and emotional abuse (Afifi et al., 2017). In particular, the use of physical punishment has been consistently linked to negative outcomes such as child behavioral problems (e.g., aggressive behaviors, anti-social behaviors, impulsivity), a higher risk of developing mental health disorders, and reportable physical abuse (Gershoff & Grogan-Kaylor, 2016; Heilmann et al., 2021; Ma et al., 2021; Zolotor et al., 2011). Adults who experienced physical punishment in childhood have higher odds of negative physical health outcomes including cardiovascular disease, obesity, and arthritis (Afifi et al., 2013).

Unfortunately, use of physical punishment remains very common. Based on estimates from two large population-based studies, approximately one-third of children aged two or younger have been spanked by a caregiver (Maguire-Jack & Gromoske, 2012; Zolotor et al., 2011). Additionally, it has been reported that 68% of children around the age of three have experienced at least one instance of physical punishment within the past month (Finkelhor et al., 2019). These findings highlight the high prevalence of physical punishment among young children. Further, most U.S. adults (i.e., 59% of men and 51% of women) believe that physical punishment is necessary for child discipline (Davern et al., 2021). The normativeness of the physical punishment of children must be shifted to reduce rates of child physical abuse (Fortson et al., 2016; Klevens & Whitaker, 2007; World Health Organization, 2010). Educational interventions that educate on the harms and ineffectiveness of physical punishment and promote alternative, positive parenting strategies are essential to changing such norms (Burkhart et al., 2018; Chavis et al., 2013; Schoemaker et al., 2018). Focusing on changing norms to prevent child physical abuse is expected to improve both acute and long-term physical, mental and behavioral health outcomes for children (Burke et al., 2011; Danese & McEwen, 2012; Norman et al., 2012).

Pediatric Health Care Settings as Important Venues for Child Physical Abuse Prevention

Pediatric health care settings are an ideal place to change social norms regarding physical punishment. Pediatricians are known to be primary trusted sources of professional advice for parents regarding child discipline (Taylor et al., 2013). A national study of U.S. pediatricians found that most do not support the use of physical punishment and are aware of the poor health outcomes associated with it (Taylor et al., 2018). Further, parents' perceptions of pediatricians' approval of physical punishment is strongly associated with their own attitudes toward physical punishment (Taylor, Hamvas, & Paris, 2011). The American Academy of Pediatrics (AAP) has issued a policy

statement for pediatricians that advocates for the elimination of physical punishment of children, and provides guidelines on positive parenting strategies (Sege et al., 2018). Pediatricians are often tasked with intervening on this issue as they and medical center staff often encounter incidents of physical punishment in their clinics (Font et al., 2016). Although most U.S. pediatricians are motivated to participate in promoting alternative discipline strategies for parents to use instead of physical punishment, they also express a need for training and educational resources on how to advise parents about such strategies (Fleckman et al., 2021).

Bystander Interventions to Prevent Violence

Bystander interventions focus on providing training for participants to successfully develop skills to intervene when observing a particular negative behavior, like a caregiver using or threatening to use physical punishment with a child. The goal is to empower participants to make a commitment to intervene, shift their attitudes regarding the importance of intervening when a certain behavior occurs, and increase the frequency of interventions in such cases (Banyard et al., 2004). While bystander-based interventions have been successful in reducing violence, including dating and sexual violence (Coker et al., 2017), only a few studies have attempted to understand the factors that motivate bystander intervention in instances of child abuse (Christy & Voigt, 1994; Davis, 1991; Hoefnagels & Zwikker, 2001). For example, out of concern for the safety of the child, bystanders are often willing to intervene in public spaces when a parent hits a child (Christy & Voigt, 1994; Davis, 1991).

No Hit Zones (NHZs)

No Hit Zones (NHZs) have emerged as a growing and innovative public health approach designed to reduce rates of child physical abuse and physical punishment through three components: (1) an organization-level policy banning hitting (including the use of physical punishment); (2) a public education campaign focused on the ineffectiveness and poor health outcomes linked to physical punishment and promotion of alternative positive parenting techniques; and (3) a bystander intervention training for staff (Frazier et al., 2014). These three components reflect the basic principles of the bystander-based approach to child-abuse prevention, which includes changing norms about whether to intervene and teaching potential bystanders how to best intervene (Adhia et al., 2017). In recent years, NHZ policy adoption and NHZ interventions have been increasing across the U.S. and around the globe (No Hit Zones, 2023).

Only two studies to date have assessed the effectiveness of fully implemented NHZ programs (Bertero et al., 2020; Gershoff, Font, et al., 2018). These studies indicated the NHZ programs were linked with reduced support for physical punishment from parents (Bertero et al., 2020; Gershoff, Font, et al., 2018) and staff (Gershoff, Font, et al., 2018). Moreover, following NHZ implementation, staff reported that they had more knowledge about the NHZ policy and were more willing, and had greater knowledge about how, to intervene when witnessing physical punishment (Gershoff, Font, et al., 2018).

Gershoff and colleagues (2018) also illuminated variations in support for spanking, support for intervention when parents hit children, and knowledge about the NHZ policy, based on differing participant characteristics. Job type (direct patient care vs. non-direct care) and educational degree are two significant factors across these three outcomes. Those employed in direct-care positions or with professional degrees, held distinct views compared to non-direct care staff without professional

degrees: they reported less support for spanking, higher approval and knowledge of how to intervention, and greater knowledge of the NHZ policy. Although no other demographic characteristics were associated significantly with all three outcomes, some additional variations are worth noting including those tied to gender and race. Compared to male staff, female staff were more likely to disapprove of spanking and voiced stronger support for intervening when parents hit their children; White staff were also more likely to endorse support for intervening than nonwhite staff.

The limited empirical evidence supporting the effectiveness of NHZs is promising; however, more research is needed. No evaluation to date has assessed the effectiveness of the NHZ bystander intervention training specifically. With the expansion of NHZs, it would be helpful to have a training protocol that is evidence-based.

The Current Study

The current study is the first to focus exclusively on evaluating the bystander training component for a NHZ intervention. We assessed changes from pre- to post-NHZ training in medical center staff for: 1) support for physical punishment, 2) support for medical center staff intervention regarding physical punishment, and 3) knowledge of the NHZ policy and how to intervene. We hypothesized that from pre- to post-NHZ training: 1) support for physical punishment would decrease, 2) support for medical center staff intervention would increase, and 3) knowledge of the NHZ policy and how to intervene would increase.

METHODS

Study Sample

All staff (medical and non-medical) at Children's Hospital New Orleans (roughly 2,500) were mandated by hospital policy to complete the NHZ training within a year. This study was conducted during the initial wave of NHZ trainings. Study eligibility criteria included: 1) must be 18 years of age or older, and 2) must be fluent in spoken and written English. All participants were provided with a handout about study participation including information on the purpose of the study, the study methods for the NHZ training and surveys, investigators' contact information and the right to decline participation. Of those that completed the initial wave of NHZ trainings ($n = 672$; 27% of all staff), approximately 90% completed both pre- and posttest surveys ($n = 607$). Among the participants who completed both pre- and posttest surveys ($n = 607$), the majority were female (86%), identified as White (69%), and considered themselves religious (77%). Most of these participants worked in direct care (83%), and nearly 80% held a bachelor's degree or higher.

NHZ Intervention

The current study is focused on the NHZ staff training component and knowledge of the policy. The NHZ policy covered two elements: 1) the hospital will implement a NHZ on all campuses in which no hitting is allowed, including adult-to-child, adult-to-adult, and child-to-adult hitting, and 2) when hitting is observed, it is staff's responsibility to interrupt the behavior as

well as communicate hospital policy regarding the NHZ. The public education campaign included clear signage that no parent shall hit a child as well as handouts displayed around the medical center on alternative parenting strategies by ages and developmental stages. Staff were exposed to the educational campaign materials prior to the bystander intervention training.

The bystander intervention training for staff included three parts: 1) a 23-minute training video, 2) a review of the research on the harms and ineffectiveness of physical punishment, and 3) a facilitated discussion of appropriate strategies for staff to intervene when witnessing an incident of hitting (Note: for this study, each training session was led by one of two possible facilitators). The video includes multiple experts (e.g., pediatricians and researchers) in child physical abuse prevention. The first video segment, "Why have a NHZ?" provides staff with an explanation of the NHZ policy and why hospitals are implementing such policies to improve staff knowledge regarding the policy. The second video segment, "Why is spanking harmful?" highlights research on the harms of physical punishment to decrease support for physical punishment amongst staff. The third segment of the video describes how NHZs prevent child physical abuse and how staff should intervene to promote acceptability and support for staff intervention when hitting is witnessed. Finally, the video introduces educational materials focused on developmentally appropriate alternatives to physical punishment that can be provided to parents. After the video was shown, in-person facilitators reviewed appropriate strategies (e.g., speaking calmly and referencing the displayed NHZ signs) for staff to communicate with parents about the NHZ policy, played two additional video clips demonstrating how staff might intervene when physical punishment is witnessed, and provided common scenarios of staff and parent interactions relevant to physical punishment with multiple-choice answers on how to intervene.

Staff Assessments

As they entered the room for the NHZ training, staff were given a single piece of paper that included a consent script and a pretest survey on the front, and a posttest survey on the back. The consent script at the top of the front side of the survey informed participants that their responses were anonymous and confidential and that they had the right not to participate in the research. Before the training started, participants were instructed to complete the front side of the survey (pretest) only, right below the consent script. The in-person facilitators verified that each participant correctly filled out the front of the survey before beginning the training. If a participant filled out the incorrect side of the survey, the in-person facilitators provided the participant with a new copy of the survey to complete. When the training was over, participants were invited to complete the back side of the survey (posttest). Each survey took approximately 10 minutes to complete. Upon leaving the training room, all surveys were deposited into a locked box to ensure anonymity and confidentiality.

Measures

Support for Physical Punishment was measured using 5 items from the Attitudes Towards Spanking Scale (ATS) (Holden & Zambarano, 1992) and 4 items from a scale used in a previous NHZ evaluation (Gershoff, Font, et al., 2018). This 9-item scale demonstrated high reliability (Cronbach's $\alpha = 0.84$, current study; Cronbach's $\alpha = 0.90$, Gershoff, Font,

et al., 2018). Each item was assessed on a 5-point Likert scale ranging from *(1) strongly disagree* to *(5) strongly agree*. The scale includes items such as: "Sometimes, the only way to get a child to behave is with a spank," "I believe it is the parents' right to spank their children if they think it is necessary," "There are better ways to discipline a child than to spank them," and "When all is said and done, spanking is harmful for children" Items indicating a lack of support for physical punishment, including "There are better ways to discipline a child than to spank them" and "When all is said and done, spanking is harmful for children," were reverse scored. A summary score ranging from 9 to 45 was calculated with higher scores signifying more support for the use of physical punishment.

Support for Staff Intervention When Parents Hit Children was assessed using a 5-item measure developed for a previous NHZ evaluation (Gershoff, 2018), plus one additional item. The original 5-item measure demonstrated high reliability (Cronbach's $\alpha = 0.77$, current study; Cronbach's $\alpha = 0.80$, Gershoff, Font, et al., 2018). Each item used a 5-point scale ranging from *(1) strongly disagree* to *(5) strongly agree*. The scale includes items such as: "Hospital staff have an obligation to intervene when children are being spanked or hit on hospital property" and "I have some comfortable strategies that I can use to intervene when I believe a parent is using physical discipline." A summary score ranging from 6 to 30 was calculated with a higher score indicating greater support for staff intervention when parents hit children.

Knowledge About the NHZ Policy and How to Intervene was measured using 7 items developed for a previous NHZ evaluation (two were adapted) to assess knowledge (Cronbach's $\alpha = 0.71$, current study; Cronbach's $\alpha = 0.71$, Gershoff, Font, et al., 2018). Each item was scored on a 5-point scale ranging from *(1) strongly disagree* to *(5) strongly agree*. The scale includes items such as: "I feel knowledgeable enough about spanking and effective discipline alternatives to discuss other options with families" and "Parents should not be allowed to spank or hit their children while on hospital property." A final summary score ranging from 7 to 35 was calculated with a higher score indicating greater knowledge about the NHZ policy and how to intervene when witnessing a parent hit a child on hospital premises.

Participant Demographics were measured to assess differences in key outcomes across groups including: sex (1 = female, 0 = male), religiosity (0 = not religious, 1 = religious) and job type (1 = direct care, 0 = indirect care), race/ethnicity, age, education, and facilitators. Race was recoded into three categories: White, Black, and non-White/Black. Respondents' age was mean centered for multivariate analyses. Education level was recoded into three categories: high school completion/associate's degree, bachelor's degree, and master's or doctoral degree. To account for the possibility that the training facilitator could have an impact on outcomes, we included this variable in our assessment.

Data Analysis

All analyses were conducted using SAS (Version 9.4). Univariate analyses included frequency distributions for all demographic characteristics and means and standard deviations for outcome measures. Bivariate analyses included paired *t* tests to compare mean differences between pre- and posttest for each key outcome measure: 1) support for physical punishment, 2) support for staff intervention, and 3) knowledge of the NHZ policy and how to intervene. In addition, paired *t* tests were used to assess the variation in pre-/posttest mean differences for each demographic group. At the multivariate level, Ordinary Least Square (OLS) regressions were

conducted to determine the associations between participants' demographics and pretest scores for three outcomes. Multivariate regressions were also conducted on the difference scores for each of the three main outcomes to evaluate variations in change scores by demographics. All variables were simultaneously entered into the regression models and treated as predictors. A p value less than .05 was used to define statistical significance. Cohen's d effect sizes were calculated and interpreted using the guidelines from Cohen (1988), with 0.20, 0.50, and 0.80 corresponding to small, medium, and large effect sizes, respectively.

RESULTS

Demographics

Participant demographic characteristics are described in Table 1. Most participants identified as female (86%), White (69%), and religious (77%), with an average age in the mid-30s ($M = 36$). Most respondents had direct-care positions at the hospital (87%) and held a bachelor's degree or higher (78%).

TABLE 1
Sample Characteristics ($N = 607$)

Characteristics	*Freq (%)*
Sex	
Female	524 (86.33)
Male	83 (13.67)
Race	
White	419 (69.03)
Black	129 (21.25)
Non-White/Black	59 (9.72)
Age	
18–35	343 (56.88)
36–55	184 (30.51)
56+	76 (12.60)
Education	
>than Bachelor's degree	133 (22.17)
Bachelor's degree	254 (42.33)
Graduate Degree	213 (35.50)
Do you consider yourself to be religious?	
Yes	469 (77.27)
No	138 (22.73)
Job Type	
Direct Care	505 (83.47)
Non-direct Care	100 (16.53)
Facilitator	
More experience	158 (73.97)
Less experience	449 (26.03)

Results based on non-missing values.

Based on survey results, prior to the NHZ training, support for physical punishment use was already low among participants: most (90%) disagreed with using physical punishment as a discipline strategy and only about 9% reported feeling neutral about it. After NHZ training, even more participants (97%) disagreed with using physical punishment as a discipline strategy. The decrease in support for physical punishment from pre- to posttest was statistically significant (mean difference [MD]: − 3.74, $p < .001$, Cohen's $d = 0.78$) indicating a large effect size (see Table 2). Both support for staff intervention and knowledge about NHZ policy increased from pretest to posttest, mean differences were statistically significant and both effect sizes were large: support for staff intervention (MD = 3.79, $p < .001$, Cohen's $d = 1.03$) and knowledge about the NHZ policy and how to intervene (MD = 4.71, $p < .001$, Cohen's $d = 1.07$).

TABLE 2
Paired Pre-Test V. Post-Test by NHZ Training Outcomes

Survey Scale	*Pre-Test Mean (SD)*	*Post-Test Mean (SD)*	*Mean Difference*	*Cohen's d Effect Size*
Support for Physical Punishment	17.75 (6.52)	14.01 (5.42)	−3.74***	−.78
Support for Medical Staff Intervention	24.09 (4.01)	27.88 (2.90)	3.79***	1.03
Knowledge about NHZ Policy & How to Intervene	27.26 (4.69)	31.97 (3.33)	4.71***	1.07

Results based on non-missing values.
*$p < .05$, **$p < .01$, ***$p < .001$

The regression results of pretest scores by demographics are presented in Table 3. Prior to NHZ training, support for physical punishment was stronger for non-White (vs White) participants; participants that identified as religious (vs. non-religious); and participants with less than a bachelor's degree educational level (vs higher educational levels). Further, prior to NHZ training, support for staff intervention when witnessing hitting, or threats of hitting, was higher for women (vs. men) and for participants with higher levels of education. Finally, prior to NHZ training, knowledge about the NHZ policy and how to intervene was higher for Black (vs. non-Black) participants.

Table 4 presents regression results that predict pre- to posttest change scores for each outcome by demographics. After training, support for physical punishment decreased significantly more among Black participants compared to White participants ($b = -1.64$, $SE = .50$, $p < .01$). Support for staff intervention also increased significantly more among participants who held direct-care (vs. non-direct care) positions ($b = 1.17$, $SE = .43$, $p < .01$); lower educational levels were also associated with more significant increases in support for intervention than higher educational levels. After the NHZ training, participants who were in direct care showed a significantly stronger increase in knowledge about NHZ policy and how to intervene than those in non-direct care positions; and Black (vs. White) participants' increase in NHZ knowledge was marginally less strong ($b = -1.07$, $SE = .43$, $p < .05$). Participants who received NHZ training from the facilitator with more training experience showed increased levels of knowledge about NHZ policy and how to intervene ($b = 1.43$, SE = .54, $p < .05$).

TABLE 3
Multivariate Regressions of Pre-Test Scores for Support for Physical Punishment, Support for Staff Intervening, and NHZ Intervention Knowledge by Demographics

Characteristics	*Support for Physical Punishment B (SE)*	*Support for Staff Intervening B (SE)*	*Knowledge about NHZ policy and How to Intervene B (SE)*
R^2	.12	.05	.03
Female	−1.11 (.74)	1.09 (.48)*	.82 (.56)
Race			
Black	3.20 (.64)***	.45 (.41)	1.30 (.48)**
Non-Black/White	4.11 (.86)***	.25 (.55)	−.44 (.65)
Age	.01 (.02)	−.00 (.01)	−.01 (.02)
Education			
High school Completion	2.03 (.70)**	−1.03 (.45)*	−1.02 (.53)
Graduate Degree	−.62 (.59)	1.15 (.38)**	.44 (.45)
Religious	1.65 (.61)**	−.22 (.39)	−.81 (.50)
Facilitator	.83 (.60)	−.18 (.38)	.60 (.45)
Direct Care	−.61 (.76)	−.59 (.48)	−.51 (.57)

Results based on non-missing values. 2. Reference groups: male, White, Bachelor's Degree, not religious, facilitator w/more experience, and non-direct care, respectively.

*$p < .05$, **$p < .01$, ***$p < .001$

TABLE 4
Multivariate Regressions Predicting Changes in Support for Physical Punishment, Support for Staff Intervening and NHZ Intervention Knowledge by Demographics

Characteristics	*Support for Physical Punishment B (SE)*	*Support for Staff Intervening B (SE)*	*Knowledge about NHZ policy and How to Intervene B (SE)*
R^2	.04	.06	.04
Female	−.15 (.58)	.43 (.42)	.31 (.53)
Race			
Black	−1.64 (.50)***	−.07 (.37)	−1.07 (.45)*
Non-Black/White	−1.32 (.67)	−.62 (.49)	−.11 (.61)
Age	−.01 (.02)	.01 (.01)	.02 (.01)
Education			
High school Completion	−.95 (.55)	.87 (.40)*	.95 (.50)
Graduate Degree	.42 (.46)	−1.36 (.34)***	−.50 (.42)
Religious	−.50 (.47)	−.08 (.35)	.43 (.43)
Facilitator	.43 (.47)	−.09 (.34)	−1.07 (.43)*
Direct Care	−.37 (.59)	1.17 (.43)**	1.43 (.54)*

Results based on non-missing values. 2. Reference groups: male, White, Bachelor's Degree, not religious, facilitator w/more experience, and non-direct care, respectively.

*$p < .05$, **$p < .01$, ***$p < .001$

DISCUSSION

This study is the first of its kind to assess the potential efficacy of a NHZ bystander intervention training component. Implemented within a medical center setting, we found the NHZ bystander staff training to be effective in reducing support for physical punishment, increasing support and knowledge needed to intervene with families, and increasing knowledge about the NHZ policy. Before the NHZ training, most participants in our study disagreed with using physical punishment as a discipline strategy. This finding was not surprising given prior studies showing that pediatricians as well as other child health and welfare professionals overwhelmingly do not support the use of physical punishment (Taylor et al., 2017, 2018). After the NHZ training, even more participants opposed the use of physical punishment as a discipline strategy, and no participants supported the use of physical punishment. This encouraging news toward promoting child development. Given the detrimental impacts of physical punishment on children's overall development (Heilmann et al., 2021), NHZ training may have the potential to establish a clear, normative environment aligned with preventing children from being physically punished as well as encouraging staff to be supportive bystanders.

Another interesting finding is that Black participants who had reported the highest levels of support for physical punishment at pretest showed significant decreases in their support. While most U.S. adults believe that physical punishment is sometimes necessary, this belief and the utilization of physical punishment tend to be higher among Black than White adults (Davern et al., 2021; Gershoff et al., 2012); however, many disparate factors contribute to this phenomenon, including cultural beliefs deeply rooted in racism, slavery, and other structural forms of oppression (Patton, 2017). Black parents have also voiced unique concerns and beliefs in the need to use physical punishment, especially in response to certain types of child transgressions that jeopardize the child's safety or demonstrate a lack of respect that could put them at risk of violence from police or other forms of systemic oppression (Ispa & Halgunseth, 2004; Taylor, Hamvas, & Paris, 2011). However, an abundance of empirical evidence shows that use of physical punishment only increases children's risk of behavioral problems such as aggression (Gershoff & Grogan-Kaylor, 2016; Heilmann et al., 2021) and this risk is not lessened by cultural normativeness (Gershoff et al., 2012). Given this, our finding that Black participants' support of physical punishment was significantly reduced suggests that NHZ training could set the stage for an important norm shift regarding the use of physical punishment in a hospital setting. Simultaneously, it is important to note that some Black parenting strategies can be misinterpreted via Eurocentric parenting norms (Rious et al., 2019). Future research should delve deeper into ensuring the training feels especially culturally relevant for Black adults, thereby inspiring more culturally informed approaches for reducing physical punishment use within the Black community.

Like findings from a previous NHZ evaluation study (Gershoff, Font, et al., 2018), after NHZ training, staff report increased support for staff intervention if they witness physical punishment on medical center property. While parents and children come to medical centers largely to treat their physical health, it is encouraging to know that other aspects of children's well-being could also be improved since staff are willing to intervene when harmful physical punishment is witnessed. Moreover, participants with lower educational attainment increased their level of support for staff intervention more than those with a higher educational level. It is possible that staff with master's or doctoral degrees (e.g., doctors, nurses or upper

administration) have more responsibilities and limited time to intervene with parents about child discipline (Mastrangelo & Lansford, 2020).

After NHZ training, direct-care staff made more gains than non-direct care staff in two areas. First, they showed a greater increase in support for intervention. It may be that direct-care staff have more opportunities than non-direct care staff to interact with families, witness physical punishment, and thus to intervene. They also may feel more of an obligation given their clinical role. Second, while both groups reported increased knowledge of the NHZ policy goals and the tools needed to intervene, direct-care staff showed more progress than non-direct care staff on this measure. Medical professionals, such as pediatricians, are motivated to learn and participate in activities designed to change norms about physical punishment that can lead to prevention of child physical abuse (Font et al., 2016; Fleckman et al., 2020). Hence, they may also be more motivated to absorb and retain the NHZ training information that could equip them with the knowledge and tools to intervene.

Lastly, staff who received NHZ training from the facilitator with more training experience showed a greater increase in knowledge about the NHZ policy and how to intervene. The facilitator with more relevant experience may employ more effective training strategies, such as sharing personal experiences or anticipating common learning curves and questions among participants. This finding suggests it may be important to identify and incorporate into future trainings key "practice-based wisdom" from experienced NHZ facilitators.

Study Limitations

The current study has some limitations that should be considered when interpreting its results. First, the adoption of a single group "pre-experimental" research design may introduce various biases, such as test effects, maturation, the regression to the mean (RTM) effect, and social desirability (Shadish et al., 2002). These biases may limit our ability to attribute changes in the main outcomes directly to the NHZ training intervention. For instance, the drastic change in Black participants' attitudes toward physical punishment could have been attributed to the RTM phenomenon, as their pre-scores were at ceiling, and they would "naturally" regress to the population mean, given no intervention. Although the use of randomization would have been ideal, it was difficult to implement in this particular setting. Despite the limitations of a simple pre-/posttest design, it is a useful and common first step in determining the promise of an intervention during its development phase (Marsden & Torgerson, 2012).

Second, selection bias was introduced into our sample because not all staff were invited to participate in the study and it was a nonrandom sample. Our sample's demographic characteristics were similar to those of all staff at the hospital; however, they may not be generalizable to staff at other types of organizations, in other regions, and with other demographics. Third, the pre/post survey was distributed on a single page, printed front and back. This increased the chances that a participant may accidentally complete both sides of the survey before the training. However, this was highly unlikely given the checking done by facilitators and the fact that the posttest and pretest questions were nearly identical. The single-page survey allowed for simple, quick, paired-test data collection. Ideally, however, with enough resources, electronic surveys would have been preferable.

Implications for Research, Practice, and Policy

Our findings have implications for future research, practice, and policy. Our study is the first to assess the bystander training component of an NHZ intervention. Given the promising results of this study, future NHZ evaluations should employ more rigorous research designs, such as randomized controlled trials or repeated multiple baseline measurements, to evaluate the effectiveness of NHZ training within or across different hospitals and other types of institutions (e.g., schools, religious organizations). In addition, research is needed to explore specific factors contributing to successful NHZ implementation. Mastrangelo and Lansford (2020) found that the NHZ policy framing and unclear staff training formats were barriers to NHZ implementation. Future research might determine the most effective NHZ policy frames, educational materials, and training formats. Finally, future studies should also examine the long-term impact of NHZs on parents, and explore factors that would facilitate or impede changes in attitudes toward and use of physical punishment.

Practitioners and policymakers who are interested in implementing NHZs may use our study findings as evidence to support the power of NHZ training to reduce support for physical punishment, and to benefit children's well-being. The findings could benefit the growing number of NHZs being implemented in non-medical settings as well, such as homeless shelters, mental health agencies, governmental agencies, and health departments (Mastrangelo & Lansford, 2020). In fact, one way to overcome the resistance to NHZ implementation, often rooted in the normativeness of physical punishment, is to present examples of the many NHZs across the country to organizational leadership (Mastrangelo & Lansford, 2020). The more organizations that implement NHZs, the better the chance to change societal norms on physical punishment, which will promote children's healthy development in the long-run.

Finally, although participants from our study were motivated to intervene after NHZ training, we need to acknowledge how difficult it is for staff to intervene when witnessing a physical punishment incident on hospital premises. Staff may experience regret or fear after an intervention event (Davis, 1991; Gershoff, Font, et al., 2018). Policymakers at the institutional level should provide channels for staff to debrief their experiences, reward staff who intervene and de-escalate violent or threatening situations, and positively encourage future interventions (Gershoff, Font, et al., 2018).

Physical punishment is associated with a variety of detrimental outcomes for children's physical, cognitive, and social-emotional development and no positive developmental outcome over time (Heilmann et al., 2021). It is essential for NHZ practitioners and policymakers to learn to sensitively communicate the harmful effects of physical punishment, offer alternative parenting strategies that produce positive outcomes for children and families, and be mindful of the complex, historically embedded roots of physical punishment within particular communities and identities (e.g., Black and religious communities) (Patton, 2017; Taylor, Hamvas, & Paris, 2011). The promising findings of our study indicate that the NHZ bystander training could equip practitioners with such skills, allowing them to directly influence parents' behaviors, and to potentially reduce harmful social norms, promote healthy parenting practices, and improve the safety and well-being of children.

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DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author(s).

DATA AVAILABILITY STATEMENT

Deidentified data may be available upon reasonable request from the corresponding author in accordance with the governing IRB.

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