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The association between perceived injunctive norms toward corporal punishment, parenting support, and risk for child physical abuse

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ABSTRACT

The use of corporal punishment (CP) is a strong risk factor for many poor outcomes for children including child maltreatment. The use of CP occurs within social contexts which are important to understand. Although it is known that perceived social norms regarding CP are related to its use, the specific role that a mother's primary support person plays in influencing attitudes toward and use of CP remains unknown. The current study assessed linkages between maternal perceived social support in parenting and perceived injunctive norms of CP from her primary source of support, with maternal attitudes toward and use of CP. Survey data were collected from female primary caregivers (N = 436) of children age 2 to 7 years (mean age = 3.7) enrolled in Special Supplemental Nutrition Program for Women, Infants and Children (WIC) clinics in Southeastern Louisiana. Most frequently, the biological father of the child (37.9%) and the maternal grandmother of the child (24.2%) were identified as the participant's primary source of social support in parenting. Perceived injunctive norms of this support person toward CP use were significantly and positively associated with attitudes toward, AOR = 5.97, 95% CI = [4.04, 8.82], and use of CP, AOR = 3.77, 95% CI = [2.55, 5.59]. However, perceived social support was not associated with these outcomes and also did not moderate these associations. Findings suggest that efforts to reduce maternal risk for child physical abuse and use of CP must include the mother's primary source of social support if they are to be successful.

1. Introduction

Corporal punishment (CP), also commonly referred to as spanking or physical discipline, is defined as "the use of physical force with the intention of causing pain but not injury, for the purpose of correction or control of the child's behavior" (Donnelly & Straus, 2005, p. 3). CP has emerged as an important public health issue, given its strong association with several poor outcomes for children that may carry into adulthood (Afifi, Mota, Dasiewicz, MacMillan, & Sareen, 2012; Afifi et al., 2017; Gershoff & Grogan-Kaylor, 2016). In particular, CP is strongly associated with increased risk for child physical abuse (Gershoff & Grogan-Kaylor, 2016; Lee, Grogan-Kaylor, & Berger, 2014; Trocmé & Durrant, 2003; Zolotor, Theodore, Chang, Berkoff, & Runyan, 2008). Children who have

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experienced CP are about three times more likely to experience physical abuse and about nine times more likely if an object was used (Zolotor et al., 2008). There is also a dose response association between frequency of CP use and other acts of physical and psychological aggression, and neglect, against children (Herzberger, Potts, & Dillon, 1981; Taylor, Guterman, Lee, & Rathouz, 2009). The effects of CP are on the same scale as other adverse childhood experience including physical and emotional abuse (Afifi et al., 2017). Outcomes associated with CP include aggression and antisocial behavior (e.g., Berlin et al., 2009; Lansford et al., 2014; Lee, Taylor, Altschul, & Rice, 2013; Taylor, Manganello, Lee, & Rice, 2010), and mental health problems (e.g., Bugental, Martorell, & Barraza, 2003; Christie-Mizell, Pryor, & Grossman, 2008; Taillieu & Brownridge, 2013).

Despite these negative risks for children, use of CP remains highly prevalent in the U.S. Approximately 71% of adults in the U.S. agree that CP use is sometimes necessary for child discipline (Child Trends Databank, 2015). Prevalence estimates are highest for children between the ages of 3 and 5, non-Hispanic Black families (Berlin et al., 2009; Ellison, Bartkowski, & Segal, 1996; Giles-Sims, Straus, & Sugarman, 1995; Grogan-Kaylor & Otis, 2007; Mackenzie, Nicklas, Waldfogel, & Brooks-Gunn, 2012; Regalado, Sareen, Inkelas, Wissow, & Halfon, 2004; Slade & Wissow, 2004; Straus & Stewart, 1999; Wissow, 2001; Zolotor et al., 2008). Additionally, mothers report more frequent use of CP compared to fathers (Straus & Stewart, 1999; Xu, Tung, & Dunaway, 2000).

1.1. Social normative influences on risk for child physical abuse

Social norms regarding CP may be the most prevalent risk factor for child physical abuse; yet broad population level risk factors such as these are often neglected in prevention research (Klevens & Whitaker, 2007). According to the Theory of Planned Behavior, perceived injunctive norms are an important source of normative influence in attitude-behavior relations (Ajzen, 1988, 1991). Perceived injunctive norms are perceptions within one's referent groups, or of an important individual, of approval or disapproval of a particular behavior, and can influence behavior derived from social expectations (Ajzen, 1991; Cialdini & Trost, 1998; Cialdini, Kallgren, & Reno, 1991; Fishbein & Yzer, 2003; Kallgren, Reno, & Cialdini, 2000). Perceived injunctive norms can play a role in shaping attitudes and behaviors regarding substance abuse (Collins & Carey, 2007; Hagger et al., 2012), speeding (Cestac, Paran, & Delhomme, 2011), physical activity (Courneya, Conner, & Rhodes, 2006; Rhodes, Macdonald, & McKay, 2006), and sexual behaviors (Armitage & Talibudeen, 2010). With regard to risk for child physical abuse, perceived approval of CP use by friends, family, and professionals may play a role in shaping attitudes toward and use of CP (Taylor, Hamvas, Rice, Newman, & DeJong, 2011). However, which particular family members and friends may that influence parents the most is unknown. It may be that certain key support persons particularly influence maternal attitudes and use of CP.

Furthermore, while perceived social support has been identified as an important protective factor for parenting behavior (Green, Furrer, & McAllister, 2007; Respler-Herman, Mowder, Yasik, & Shamah, 2012; Taylor, Conger, Robins, & Widaman, 2015), perceived social support from key persons might matter most and might influence the impact of perceived norms. Social support can be defined as the social relationships that provide emotional support, services, resources, and practical support, as well as advice, that are valued by the recipient (Thompson, 1995). Social support helps reduce the personal demands, stress, isolation, and depressive symptoms that can contribute to child maltreatment (e.g., Armstrong, Birnie-Lefcovitch, & Ungar, 2005; Bishop & Leadbeater, 1999; Garbarino & Kostelny, 1995; Thompson, 1995). Specifically, emotional support in raising a child, informational support including personal and childrearing advice, and instrumental support such as help with childcare may contribute to reducing risk for child maltreatment (Dietz, 2000; Garbarino & Kostelny, 1995; Klevens & Whitaker, 2007; Leventhal & Brooks-Gunn, 2000, 2003; Muller, Hunter, & Stollak, 1995; Thompson, 1995). Further, perceived social support may positively influence parenting beliefs and behaviors, including a greater responsivity to child needs, close monitoring, and more frequent positive parent-child interactions (Green et al., 2007; Respler-Herman et al., 2012; Taylor et al., 2015).

Social support has been shown to generally protect against child maltreatment (Belsky, 1993; Garbarino & Sherman, 1980; Thompson, 1995). However, there is a lack of understanding of the specific types and sources of support that matter in reducing risk for child maltreatment (Bishop & Leadbeater, 1999; Seagull, 1987; Thompson, 1995, 2015). Social support may also not uniformly act as a buffer against maltreatment, and there is no research to date investigating a link between social support and CP use directly. For example, family members that provide emotional support could reinforce harshly punitive or neglectful parenting practices that could lead to child maltreatment (Thompson, 1994, 1995, 2015). Further, little attention has been given to examining who the most important source of support is for mothers in parenting and the effect of that person's social support on maternal CP use. Experiencing social support can help to reduce parenting stress which could potentially lead to less practice harsh discipline practices with their child (Belsky, 1984; Thompson, 1994, 1995). Yet if support is coming from someone that strongly approves of CP, it might reduce parenting stress while at the same conferring risk for child physical abuse.

1.2. Current study

There are four main research questions for the current study: 1) what person serves as the main source of parenting support for mothers? 2) are perceived injunctive norms of this key support person associated with maternal attitudes toward and use of CP as a risk factor for child physical abuse? 3) is perceived social support from the key support person associated with maternal attitudes toward and use of CP? and 4) is the association between perceived injunctive norms and attitudes toward and use of CP moderated by perceived social support from the key support person? Understanding who the key source of support is for parents, the role of maternal perceptions of that key individual's injunctive norms regarding CP, as well as the interplay with maternal perceived social support, could provide an important target for shifting parental attitudes toward CP as a risk factor for child physical abuse.

2. Methods

2.1. Study sample

Participants for this study (N = 436) were recruited from Special Supplemental Nutrition Program for Women, Infants and Children (WIC) clinics located in the Greater New Orleans Area, Louisiana, U.S. as part of the *Tulane University Innovations in Positive Parenting Study (TIPPS)*. WIC is a program that provides nutrition counseling, referrals to health care, social services, and benefits for nutritious foods in the form of WIC vouchers that are available to pregnant, postpartum and breastfeeding women, infants and children up to age 5. To be eligible for this study, participants had to be: 1) English-speaking, 2) age 18 or older, 3) the primary female caregiver to an index child between the ages of 2 and 7 years old, and 4) return to the WIC clinic 3 months later for follow-up visit. Most participants (97%) were biological mothers to the index child and so for ease of reference we often refer to participants as such.

2.2. Procedures

These cross-sectional data were collected from November 2014 to May 2017. All research activities were approved by the Tulane University Social-Behavioral Institutional Review Board. Participants were recruited in four WIC clinic waiting rooms by study staff. After a TIPPS staff member gave a brief description of the study, the parent's eligibility status was assessed. If the parent was eligible and interested in participating, a TIPPS staff member provided a copy of the informed consent form to the parent, reviewed the consent form with the parent, and, if she agreed to participate, had the parent sign the consent form. In-person baseline interviews, which took approximately 45 min, were conducted and responses were entered by the interviewer into REDCap, a secure data collection web application. Participants received a $25 Walmart gift card for their time. Data were collected in major domains including: 1) attitudes toward and use of CP, 2) identification of key individual source of parenting support, 3) perceived parenting support from that individual, and 3) perceived injunctive norms about CP by that individual. CP questions were asked in reference to an identified index child, who was identified as the participant's child with the most challenging behavior.

2.3. Measures

2.3.1. Main variables of interest

2.3.1.1. Frequency of CP use. This was assessed by asking: "How often in the past month have you spanked your child?" Answer choices included: (0) *never,* (1) *once or twice in the past month,* (2) *about once a week,* (3) *about twice a week,* (4) *about once every other day,* (5) *about once a day,* and (6) *more than once a day*. Because frequency of CP use was highly skewed as a continuous measure, it was re-coded as an ordinal variable: (0) *never*, (1) *once or twice in the past month*, and (2) *more than twice in the past month.*

2.3.1.2. Attitudes toward CP (Holden, 2001). A shortened, 5 item version of the Attitudes Toward Spanking (ATS) questionnaire was used to assess parents' personal attitudes and beliefs about use of CP. Items were adapted to take the form of questions instead of statements. Four items ("How often on average in the past month has spanking been the only way you got your child to behave?", "How effective do you think spanking is for changing your child's behavior in the long run?", "How necessary do you think spanking is as a tool for teaching proper moral and social conduct to your child?", "How would you rate spanking as a disciplinary technique overall?") use a 7-point Likert scale. One item ("How harmful do you think spanking is for your child?") was assessed on a 5-point Likert scale. A continuous summary score between 0 and 33 was calculated for the 5 items; higher score means higher approval of CP. Because this variable was highly skewed, it was recoded using a quartile split as follows: (0) very negative attitudes toward CP, (1) somewhat negative attitudes toward CP, (2) somewhat positive attitudes toward CP, and (3) very positive attitudes toward CP. Cronbach's alpha was calculated to help determine internal consistency ($\alpha = 0.82$).

2.3.1.3. Perceived injunctive CP norms of key support person (Holden, 2001). Participants were asked: "Now I would like you to think about the person you named as being most involved in raising your child. Do you think that this person would *strongly agree, agree, neither agree or disagree, disagree or strongly disagree* with each of the following statements about spanking?" Then, four items from the ATS questionnaire were used to assess perceived norms regarding CP of the key support person. A similar 4-item measure demonstrated good reliability ($\alpha = 0.79$) in a sample of New Orleans parents (N = 500) (Taylor et al., 2011). Each item ("Spanking is a normal part of parenting," "Sometimes the only way to get a child to behave is with a spank," "When all is said and done, spanking is harmful for children," and "Overall, I believe spanking is a bad disciplinary technique") was measured on 5-point Likert scale (1 = *strongly agree* to 5 = *strongly disagree*). Two items were reverse scored with higher scores indicating perceived norms that were more supportive of CP. The continuous variable was highly skewed; therefore, it was recoded as a binary variable based on a median split, with (0) perceived *lower levels of* approval of CP from key support person for scores between 0 and 2.75, and (1) perceived *higher levels of* approval of CP from key support person for scores between 3 and 5. (We assessed this both as a continuous summation and ordinal variable with no difference in study findings.) Cronbach's alpha was calculated for the measure in this sample ($\alpha = 0.82$).

2.3.1.4. Perceived social support by key support person (Zimet, Dahlem, Zimet, & Farley, 1988). This was measured by an adapted version of the Multidimensional Scale of Perceived Social Support (MSPSS). The scale assessed emotional, instrumental, and advice-giving

support. This measure was adapted to ask specifically about the level of social support specific to parenting provided by the parent's primary source of social support, as we were unable to identify an existing measure that did this (α = 0.96). Parents were asked "Who is the person most involved in raising your child with you?" Response options included *no one, father of the child, current partner (that is not father of the child), mother, father, brother, sister, cousin, close friend,* and *other*, which could then be specified in a follow-up question. Six additional questions were answered from the MSPSS for this individual involved in raising the child with the participant and specific to parenting. Each item ("My [key source of support] is around when I am in need of emotional help and support in raising my child," "I can share the joys and sorrows of raising a child with my [source of support]," "My [Source of support] really tries to help me in raising my child," "My [source of support] is a real source of comfort in raising my child," "I can count on my [source of support] when things are difficult in raising my child," "My [source of support] cares about my feelings in regards to raising my child," and "My [source of support] is willing to help me make decisions about raising my child") was rated on a 7-point Likert scale from *very strongly disagree (0)* to *very strongly agree (6)*. Because the summary score for this variable was highly skewed, an ordinal variable was created: (0) low social support (for scores between 0 and 6.27), (1) moderate social support (for scores between 6.28 and 6.99) and (2) high social support (for score of 7). (Multiple forms of the variable were assessed including continuous summation and ordinal, but study findings were the same.)

2.3.2. Potential confounders or moderators assessed

All variables described below were assessed as potential confounders or moderators as all have been shown to be associated with use of CP (Giles-Sims et al., 1995; Grogan-Kaylor & Otis, 2007; Kavanaugh et al., 2006; Mackenzie et al., 2012; Taylor et al., 2009, 2011; Zolotor et al., 2008).

2.3.2.1. Demographic variables. Sociodemographic characteristics of the participants were examined as potential confounders including race/ethnicity, primary caregiver's age, level of education, marital status, status of relationship with child's father, religion, residential situation, alcohol consumption, and monthly income, and child's age and child gender.

2.3.2.2. Exposure to parenting interventions (EPI). Primary caregivers were asked about their participation in parenting interventions common in New Orleans such as Nurse Family Partnership and Healthy Start. EPI was examined as a potential confounder.

2.3.2.3. Family violence history. Multiple forms of family violence known to be associated with CP use were assessed and included as potential confounders. Intimate Partner Violence (IPV) was assessed using the HITS screening tool (Sherin, Sinacore, Li, Zitter, & Shakil, 1998). Items included: "How often does your current or most recent partner: 1) physically hurt you? 2) insult or talk down to you? 3) threaten you with harm? 4) scream or curse at you? Items were measured on a 5-point scale from (0) *never* to (4) *frequently*. A summary score between 4 and 20 was calculated, and then collapsed into a binary variable: (0) no exposure to IPV and (1) exposure to IPV. History of experiencing physical aggression as a child by a caregiver was measured with the following questions: "While you were growing up, that is, during your first 18 years of life, how often did a parent, step-parent or other adult living in your home: 1) push, grab, shove, slap you, or throw something at you? 2) Spank you?" These items were measured on a 3-point scale from (0) *never* to (2) *often*. A summary score was created, and then collapsed into a binary variable with (0) no exposure to childhood physical aggression and (1) exposure to childhood physical aggression.

2.3.2.4. Maternal Mental Health (Morlan & tan, 1998). The Brief Symptom Inventory (BSI) was used to measure maternal mental health and was assessed as a potential confounder. This is a brief form of a self-report checklist and was created to measure nine different psychological symptoms including, somatization, obsessive-compulsiveness, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. The BSI consists of 17 questions measured on a 5-point scale from *not at all* (1) to *extremely* (5). The BSI has high internal consistency (α = 0.75-0.89), test-retest and other forms of reliability, as well as very good convergent validity. The BSI is well-known and well-accepted as a user friendly and easy to complete instrument.

2.4. Data analysis

Univariate, bivariate, and multivariate analyses were conducted. All analyses were performed using STATA version 13.1. Standard errors, 95% confidence intervals and unless otherwise stated, a p-value < 0.05 were used to define statistically significant associations. Both dependent variables, attitudes toward CP and use of CP, were analyzed as ordinal categorical variables. Assumptions of normality were not met for these variables, and there was no appropriate transformation to normality. Therefore, nonlinear versus linear methods were employed to test the associations. Descriptive, univariate analyses including frequency distributions, means, and standard deviations were conducted for all variables. Bivariate analyses that included chi-square analyses were conducted to examine crude associations between both perceived social support and perceived injunctive CP norms, and attitudes toward and frequency of CP use. Bivariate analyses including chi-square and correlation analyses were used to test crude associations between the exposure, moderator and outcomes, as well as with potential confounding variables. No covariates including exposure to physical aggression in childhood, IPV, nor religion were significantly associated with CP, but were kept in for the fully adjusted multivariate regression model because of support from past literature for the association of these factors with CP attitudes and use.

Multivariate analyses included ordered logistic regression models to test the relation between Support-Specific Injunctive Norms and attitudes toward and frequency of CP use after adjusting for covariates and including effect modification. Additionally, all covariates with regression coefficients that changed by more than 10% in the multiple regression model compared to a simple

regression model, were considered a confounder. Less than 10% (n = 86) of the full sample were excluded from the sample for analyses due to missing data for the main exposure and/or outcome variables. There were no demographic differences between those included and excluded from the analyses sample. To test perceived social support as a moderator for the associations between support-specific injunctive norms and both attitudes toward and frequency of CP use, an interaction term was introduced into regression analyses to test the interaction between perceived social support (as an ordinal variable) and support-specific injunctive norms (as a binary variable). To help in addressing potential self-selection and additional confounding by unmeasured factors, propensity score matching was tested in analysis. This ensured that exposed and unexposed groups were similar except for parent report of support-specific injunctive norms. Overlap of propensity scores was assessed and then parents were matched 2:1 by support-specific injunctive norms, with a caliper width of 0.05 of the pooled standard deviation of the logit of the propensity score. The matched sample was used for multivariate analyses.

3. Results

3.1. Sample characteristics

The demographic characteristics of study participants are presented in Table 1. The mean caregiver age was 31.1 (*SD* = 8.4), and the mean age for the index child was 3.7 (*SD* = 1.6). A majority of the caregivers were Black (83.7%) and identified their religion as Baptist (54.3%). Nearly half had at least some college or technical training (41.5%). Most experienced physical aggression including CP or physical abuse in childhood (60.7%), and approximately one third had experienced IPV with their most recent intimate partner (36.0%). The majority of the sample made less than $20,000 for annual income (57.6%) and had not been exposed to other parenting interventions (61.0%). Caregiver mental health was average with a mean BSI score of 1.4 (*SD* = 0.6). Additionally, 52.8% of the index children were female. The majority of the sample (67.7%) reported moderate or high perceived social support.

The biological father of the child was identified as the primary source of support in raising the child by a plurality of this sample (37.9%). Other primary sources of support included the maternal grandmother of the child (24.2%) and the participant's current partner that was not the biological father of the child (13.7%). Hence, for a majority of these caregivers, her current or former partner was the primary source of social support for raising her child.

3.2. Bivariate and multivariate models

In reference to injunctive norms, participants who perceived higher levels of approval of CP had more positive attitudes toward CP (84.3%) compared to those who perceived lower levels of approval of CP from their key support person (15.7%). Participants with perceived higher levels of approval of CP also reported more frequent use of CP their children (69.2%), with many reporting using CP more than twice a month, compared to those who perceived lower levels of approval of CP from their key support person (30.8%). Participants who identified as Baptist were significantly more likely to report more frequent use of CP with their children, which included the majority of those who reported using CP more than twice per month (57.6%) compared to those that did not identify as Baptist (42.4%), X^2 (2) = 6.81, p = 0.03. Further, exposure to IPV with the most recent intimate partner was significantly associated with more frequent CP use, X^2 (2) = 9.06, p = 0.01. Despite the majority of participants exposed to IPV not reporting the father of the child or their current partner as their primary source of support (54.2%), a fairly large percentage did still report their current partner (30.3%). No other statistically significant associations were found between the examined covariates, as shown in Table 1.

Regression results are displayed in Table 2. Support-specific injunctive norms were associated with both attitudes toward CP, AOR = 6.12, 95% CI = [4.12, 9.10], and frequency of CP use, AOR = 3.77, 95% CI = [2.55, 5.59]. Compared to those with lower levels of perceived approval for CP from their key support person, those with higher levels had six times the odds of having positive attitudes toward CP and nearly four times the odds of reporting more frequent use of CP. In the fully adjusted models, those with higher levels still had six times the odds of having positive attitudes toward CP and nearly four times the odds of reporting more frequent use of CP compared to those with lower levels of perceived approval for CP from their key support person, and nearly four times the odds of reporting more frequent use of CP. There was no significant association between perceived social support and attitudes toward and use of CP. There was no evidence of effect modification by perceived social support on the relations between support-specific injunctive norms and attitudes toward, OR = 1.02, 95% CI = [0.66, 1.59], and use of CP, OR = 1.23, 95% CI = [0.80, 1.88].

4. Discussion

This study extends previous research on the relationship between social support, perceived injunctive social norms, and risk for child physical abuse. The first research question for this study was to find the main source of parenting support for mothers. The most common primary source of support identified was the father of the child, followed by the maternal grandmother of the child, or a current partner that was not the biological father of the child. This is an important finding, as sources point to a high level of father absence in similar populations (U.S. Census Bureau, 2018). It should be noted that fathers and male partners made up a majority of the primary source of support for mothers, a promising sign as father involvement is linked to positive social and psychological development (Jeynes, 2016). If the major source of support in parenting for female caregivers is the father of the child or a current partner and father figure for the child, there is an opportunity to engage more fathers in parenting interventions that target both caregivers. Engaging both caregivers might prove more effective in changing parenting attitudes and behaviors for both caregivers.

Table 1
Characteristics of Sample by Attitudes toward and Frequency of Corporal Punishment (N = 436).

	Total N (%)
Support-Specific Injunctive Norms***	
Negative	187 (47.2)
Positive	209 (52.3)
Perceived Social Support	
Low	128 (32.2)
Moderate	95 (23.9)
High	174 (43.8)
Maternal Race	
Black	365 (83.9)
White	25 (5.8)
Other	45 (10.3)
Maternal Education Level	
Less than High School	64 (14.7)
Completed High School or GED	141 (32.3)
Some College	181 (41.5)
Completed College or Graduate Degree	50 (11.5)
Religion	
Catholic	40 (9.2)
Baptist*	236 (54.3)
Non-denominational Christian	45 (10.3)
Other	55 (12.6)
No religion	59 (13.6)
Exposure to Physical Aggression in Childhood	
Yes	262 (60.7)
No	170 (39.4)
Exposure to IPV with most recent partner	
Yes	157 (36.0)
No	279 (64.0)
Exposed to Other Parenting Interventions	
Yes	170 (39.0)
No	266 (61.0)
Mean	
Range	
SD	
Child Age	3.7
	2-7
	1.6
Caregiver Age	31.1
	19-73
	8.4
Brief Symptom Inventory	1.4
	1-4.5
	0.6

*$p < 0.05$; ***$p < 0.001$; based on likelihood ratio chi-square test; calculations based on non-missing data (missing calculations based on non-missing data (missing data < 10% for all variables).

Additionally, the bivariate associations indicating some potential risk factors for greater CP use including identifying as Baptist and exposure to IPV are important findings to consider. These findings are supported by past research identifying conservative religiosity (Day et al., 1998; Ellison et al., 1996; Giles-Sims et al., 1995; Grogan-Kaylor & Otis, 2007) and exposure to IPV (Taylor et al., 2009) as strong risk factors for CP use. Although Conservative Protestants specifically have been identified as those more at risk for using CP (Grogan-Kaylor & Otis, 2007), we may be seeing similar results in this study with Baptists due to the "spare the rod, spoil the child" philosophy of child rearing also common amongst Baptists. Acknowledging the importance of cultural and religious context in prevention efforts to reduce CP must be considered and further evaluated. Additionally, the finding regarding IPV highlights the need to directly address existing IPV and the effects of past IPV on parents in child physical abuse prevention efforts targeted at reducing CP that aim to improve maternal mental health and provide support. It is particularly important to address IPV and mothers' primary sources of support in such efforts given that a large percentage of mothers exposed to IPV in our sample indicated their primary source of support in parenting was their current partner. Prioritization should be given to better integrating prevention

Table 2
Attitudes and Frequency of CP Use Regressed on Perceived Injunctive Norms toward CP of Key Source of Support (N = 436).

	Attitudes Toward CP		Frequency of CP	
	Model 1 Unadjusted (n = 390) OR (95%CI)	Model 2 Adjusted (n = 389) OR (95% CI)	Model 3 Unadjusted (n = 390) OR (95%CI)	Model 4 Adjusted (n = 390) OR (95% CI)
Support-Specific Injunctive Norms (ref = Negative) Positive	5.97 (4.04, 8.82)*	6.12 (4.12, 9.10)*	3.76 (2.56, 5.53)*	3.77 (2.55, 5.59)*
Exposure to Physical Aggression in Childhood (ref = No)		1.34 (0.92, 1.99)		1.46 (0.98, 2.17)
IPV history (ref = No)		1.15 (0.75, 1.73)		1.22 (0.81, 1.84)
Race (ref = **Black)**		0.83 (0.50, 1.38)		0.98 (0.58, 1.66)
Religion (ref = Baptist)		0.66 (0.45, 0.97)		0.67 (0.45, 0.99)

Note: Sample n is less than (N = 436) due to missing values.
* $p < 0.001$.

efforts to address multiple forms of violence including IPV and child abuse as there is a high risk for co-occurrence (Hamby, Finkelhor, Turner, & Ormrod, 2010; Taylor et al., 2009).

The normative influence of the main source of social support in parenting was a strong predictor of parental CP attitudes and use. As previously demonstrated, parents' perceived injunctive norms of close family and friends are associated with parental attitudes toward and use of CP (Taylor et al., 2011). This finding expands on past research by specifically demonstrating the link between parents' perceived injunctive norms of the primary source of support in raising a child and parental attitudes toward and use of CP. This association also suggests the need to focus on shifting positive attitudes toward CP not only for female primary caregivers, but also for their most important and influential sources of support in parenting and disciplining their children including other caregivers such as fathers. If these fathers/partners have positive attitudes toward CP, then targeted strategies may be needed to change their beliefs about CP within a larger community context to help also change the beliefs of mothers and other female caregivers. Shifting attitudes of grandparents of children and other family members that support female caregivers in raising their children may also be extremely relevant. This is particularly relevant given the high level of approval for CP in this sample and overall in the U.S. (Child Trends Databank, 2015), and that social norms regarding CP may be the most prevalent population-level risk factor for child physical abuse in the U.S. (Klevens & Whitaker, 2007).

Further, social support from the primary source of support was not associated with CP use and did not moderate the relationship between injunctive norms and CP use. This may be because of the strong association we found between perceived higher approval of CP use by the primary source of support and more positive parental attitudes toward and greater use of CP. This finding has important implications. Social support may not buffer against risk for child physical abuse when key sources of support approve of CP use. In other words, key sources of parenting support may be reinforcing use of CP by parents. This is a critical finding, as it indicates the need for further research into the type of support needed by parents to not use CP as a child discipline strategy, and the need to influence norms regarding CP for familial sources of support for parents. There may be also other sources of support that play a role in influencing maternal CP use beyond just one key individual that need to be further investigated.

4.1. Limitations

There are limitations to the current study. First, this study is cross-sectional in nature, and so we cannot draw conclusions about the sequence of events between exposure and outcome variables. Second, although the scales used to measure social support and injunctive norms demonstrated high reliability, neither has been validated in prior studies. There is also the potential for self-selection bias based on convenience sampling. However, propensity score matching was used in analyses to help in addressing potential self-selection and additional confounding by unmeasured factors. Information bias is also a potential threat to internal validity. Specifically, measurement bias could be an issue as exposure variables were based solely on parental self-report. Specifically, self-reporting may have led to recall and social desirability biases by asking about past behavior and about CP use. Finally, there is a potential for lack of generalizability with the unique social environment of Southeast Louisiana and because it is specific to a WIC sample. The study population was from the South and were majority were Black and Baptist, all of which may act as strong cultural influences that may be linked to CP use. However, by focusing on a demographic group that may report greater use of CP, there was an opportunity to examine the association between such cultural influences and use of CP. Further, by focusing on a WIC population in this study, results may be generalizable to other WIC populations and populations with similar socio-demographic characteristics.

5. Conclusions

The beliefs of parents' key sources of support about CP may influence how parents' discipline their children, which in turn can impact risk for child physical abuse. The current study suggests it is critical to include fathers, grandparents, and current partners in efforts to prevent child physical abuse as their influence on parenting behaviors may be substantial. Current study findings help to inform multilevel strategies that would involve targeting this broader audience beyond just parents. Such strategies might include media and public service announcements, and child discipline education programs. Currently, child abuse programs exist designed to increase social support (Cavaleri et al., 2011), and programs designed to reduce support for CP show promise (Chavis et al., 2013; Hudnut-Beumler, Smith, & Scholer, 2017; Scholer, Hamilton, Johnson, & Scott, 2010). However, these programs would benefit from efforts to expand to address other factors including IPV and key sources of support for parents, and to utilize more targeted strategies for building positive support that shifts normative beliefs around CP use. Building a stronger support network for parents that recognizes the harm of CP use may prevent or mitigate the effects of stress on parenting, shift parents' perspective on what will be most beneficial in disciplining their children and promoting child well-being, and allow parents to more effectively discipline their children.

Conflicts of interest

The author(s) declared no potential conflicts of interest.

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