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Abstract

Child corporal punishment (CP) is associated with child physical abuse, which is a public health problem in the United States. Informed by the integrative model of behavioral prediction, this study surveyed low-income Black, Hispanic, and White parents who had children younger than 6 years old (N = 260) to identify major risk factors that determined intention to use CP to discipline children. Structural equation modeling revealed that attitudes, descriptive norms, and perceived efficacy of alternative discipline strategies were associated with intention to use CP. Additionally, parents' childhood CP frequency and past use of CP with their own children were influential distal variables that indirectly predicted CP intention. Results indicated the utility of the model in this behavioral context. Communication intervention programs targeting low-income parents should leverage perceived norms, perceived efficacy of alternative discipline strategies, and attitudes to change CP behavior.

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Corporal punishment (CP) refers to "the use of physical force with the intention of causing a child to experience pain but not injury for the purposes of correction or control of the child's behavior" (Straus, 2001, p. 4). Common examples of CP are spanking, slapping, and hitting a child with such objects as tree branches, spoons, and paddles. CP is a prevalent discipline method in the United States (Gershoff et al., 2012). Several studies have revealed the associations between CP and negative outcomes in child development, including aggression, low self-esteem, antisocial behaviors, and various health risks (Berlin et al., 2009; Gershoff, 2012; Whiteside-Mansell et al., 2009). CP is also associated with more severe childhood maltreatment, including emotional abuse, sexual abuse, physical abuse, and physical and emotional neglect (Afifi et al., 2017; Fréchette et al., 2015). Thus, the Centers for Disease Control and Prevention, (2021) views CP as a form of adverse childhood experiences that needs to be prevented to provide a healthy and nurturing environment to children.

CP behavior mostly takes place behind closed doors (Duong et al., 2021a; Klevens et al., 2019), making it difficult to identify and provide assistance. Public education campaigns through mass and social media might be the most efficient way to reach parents and change their CP practice (Gershoff et al., 2017). Research using the communication-based approach has shown some positive results in changing parents' attitudes toward CP. For example, parents who are exposed to detailed alternative discipline strategies in an interactive multimedia program report significantly lower likelihood of spanking children compared to parents in the control group (Chavis et al., 2013). Presenting messages containing research findings about the harmful consequences of CP may change parents' attitudes toward CP (Holden et al., 2014).

Additionally, exposure to campaign materials, including short video clips, print brochures, and graphical educational materials also reduces positive attitudes toward CP (Evans et al., 2012; Reich et al., 2012). Scholars have called for research to help develop intervention messages to change parents' attitudes and perceived norms supporting the use of CP (Duong et al., 2020; Klika & Linkenbach, 2019). The literature suggests that experiences of CP during childhood, positive attitudes toward CP, and perceived pro-CP norms are risk factors of CP (Duong et al., 2021a; Holden, 2020; Klevens et al., 2019). However, few studies have empirically examined whether and how these factors simultaneously affect CP behavior. Assessing these factors altogether helps to guide effective intervention messages design (Fishbein & Ajzen, 2011).

Guided by the integrative model of behavioral prediction (IM, Fishbein, 2009), this study theorizes a model in which intention to use CP is associated with attitudes, perceived norms, and perceived efficacy of alternative discipline strategies (i.e., non-physical discipline measures such as explaining and timeout). It also hypothesizes that childhood CP frequency and past use of CP are influential distal variables in this behavioral context. In doing so, this study adds three important contributions to the literature. First, while each of the variables in the conceptual model has been individually studied and established as related to CP use, a theoretical model such as the IM is needed to understand their interrelations. Second, the relative importance of these variables in predicting CP intention compared to each other is currently unknown. Finally, the current study tests the framework with a sample of low-income Black, Hispanic, and White parents, who are prone to using CP (Klevens et al., 2019).

Low-income Parents and the Use of Corporal Punishment

Previous studies have indicated that rates of CP use are higher among low-income families (Canfield et al., 2015; Mersky & Janczewski, 2018). Low-income parents are more

likely to experience poverty, unemployment, and family stress, which have causal links to various forms of child maltreatment including CP (Drake & Jonson-Reid, 2013; Maguire-Jack & Font, 2017; McLaughlin, 2017). Family stress due to economic hardships may also reduce parents' use of alternative discipline strategies, while increasing harsh parenting (Maguire-Jack & Font, 2017; Mistry & Wadsworth, 2011; Westbrook et al., 2015). Moreover, low-income parents tend to have limited financial resources and time to apply some alternative discipline methods in place of CP (Duong et al., 2021b).

Low-income families are often part of communities that are typically high in poverty, drug use, and crime (Ispa & Halgunseth, 2004; Taylor et al., 2011). As a result, low-income parents might use CP as a way to keep their children from engaging in violence, drug use, and crime (Taylor et al., 2011). These parents might also consider CP a home training practice that helps to shape their children's endurance and be ready for future adversities (Duong et al., 2021a; Ispa & Halgunseth, 2004). To low-income parents, therefore, CP might have an instrumental role linking to child survival and success in a challenging environment (Taylor et al., 2011). Additionally, parents living in such communities are more likely to perceive a higher level of social norms supporting the use of CP (Fleckman et al., 2019). These multiple risk factors suggest the need to prioritize this parent group in CP research and interventions. Although several studies have focused on CP in low-income families, little research has empirically examined multiple risk factors predicting CP intention in this population.

Application of the IM to Predict Corporal Punishment Intention

The IM provides a framework to predict behaviors using a limited set of constructs drawn from influential behavioral theories (Fishbein, 2009). The IM advances that intention is the best predictor of behavior and is influenced by three proximal variables: attitudes, perceived norms,

and perceived efficacy. Attitudes refer to individuals' latent disposition to respond with some degrees of favorableness or unfavorableness to a behavior (Fishbein & Ajzen, 2011). Perceived efficacy refers to cognition about the effectiveness, ease, and feasibility of a recommended behavior (Bandura, 1977). Thus, perceived efficacy comprises two dimensions: self-efficacy and response efficacy. Self-efficacy refers to perceptions of ability to implement a behavior, while response efficacy pertains to perceptions of whether a behavior is effective in achieving a desired goal. Perceived norms exist at the individual level and are further conceptualized as descriptive norms (i.e., perceptions of the prevalence of a behavior) and injunctive norms (i.e., perceptions of social approval of a behavior, Cialdini et al., 1990). These two types of norms are activated to fit an immediate situation and avoid social sanctions (Hogg & Reid, 2006). Perceived norms are distinct from collective norms, which operate at the social system level and reflect the actual social codes of conduct for a behavior (Lapinski & Rimal, 2005). Theorists suggest that health interventions using a communication-based approach should focus on descriptive norms and injunctive norms because they are modifiable through communication (Lapinski & Rimal, 2005). Moreover, campaigns should identify the most influential factors influencing behavior to leverage behavioral change through persuasive messages (Fishbein & Ajzen, 2011).

Applying the IM to the CP context, both attitudes and perceived norms have been theorized as major predictors of CP. Specifically, more favorable attitudes toward CP are associated with more use of CP with children. For example, Rodriguez et al. (2020) found that attitudes toward CP predicts subsequent CP use. Meanwhile, although collective norms supporting CP in the US has declined (Finkelhor et al., 2019), research found that low-income parents still perceive that other similar parents endorse and use CP (Duong et al., 2021a; Klevens et al., 2019). Perceived norms have been found to be associated with frequency of CP use

(Klevens et al., 2019). Additionally, researchers suggest that one possible way to prevent CP is to change parents' perceptions of their efficacy to use such alternative discipline strategies as explaining, timeout, and withdrawal of privileges (hereafter referred to as perceived efficacy, Duong et al., 2021b). Efficacious parents likely persist in their efforts to apply alternative discipline strategies, while parents with lower perceived efficacy are more likely to use CP (Rodriguez et al., 2020). In a randomized trial testing the outcomes of a parenting skills program, Breitenstein et al. (2012) found that intervention parents possess higher perceived efficacy and use less CP compared to parents in the control group. These findings suggest that parents' perceived efficacy is likely an important factor influencing CP intention. It follows that perceived efficacy should be examined along with attitudes and perceived norms to guide intervention campaigns. Thus, the first hypothesis predicts that attitudes, norms, and perceived efficacy will serve as proximal predictors of CP intention.

The IM also includes distal variables, such as demographics, media exposure, and past behavior. These distal constructs are hypothesized to inform attitudes, perceived norms, and efficacy beliefs, thereby indirectly influencing behavioral intention. Theorists suggest that there may be several distal variables related to a behavior, but only some are influential (Fishbein & Ajzen, 2011). To understand the formation of beliefs underpinning attitudes, perceived norms, and perceived efficacy, research needs to identify these influential distal variables. In the CP context, the literature has identified parents' experiences of CP during childhood as a powerful source of favorable attitudes toward CP and subsequent use of CP with their own children (Badenes-Ribera et al., 2019; Duong, 2021). Research shows that parents who had higher childhood CP frequency are more likely to apply CP to their own children (Widom & Wilson, 2015; Woods-Jaeger et al., 2018). Recent research also reveals that one influential source of

parents' perceived norms is their positive framing of childhood experiences of CP (Duong et al., 2021a). Specifically, parents are motivated to rationalize the appropriateness and representativeness of their use of CP to maintain cognitive balance because they fear that their discipline behavior can be stigmatized as child abuse (Duong et al., 2021a). Childhood CP frequency may also shape parents' perceptions of CP as an effective measure to manage children, while impairing parents' perceived efficacy of using alternative strategies to replace CP (Duong, 2021). Additionally, researchers posit that parents who have experienced CP may possess an expectation of greater compliance from their children (Rodriguez et al., 2016). These parents may also have less exposure to alternative strategies (Rodrigues et al., 2018). Therefore, the second hypothesis predicts that there will be an indirect association between childhood CP frequency and CP intention, which is mediated by attitudes, perceived norms, and perceived efficacy. Moreover, to account for the possibility that parents' perceived efficacy of alternative discipline strategies might contribute to shaping their attitudes toward CP (Duong, 2021), the third hypothesis predicts that the indirect association between childhood CP frequency and CP intention will be mediated via both perceived efficacy and attitudes.

In the IM, past behavior is conceptualized as a distal variable, which consistently predicts behavioral intention through attitudes and perceived norms across several contexts (Fishbein & Ajzen, 2011). In this study, past behavior is defined as parents' past use of CP to discipline their children. Past behavior might also be associated with perceived efficacy because parents who have used CP might view CP as effective to get a child's quick response and compliance (Taylor et al., 2011). Therefore, parents might conclude that CP is effective while viewing alternative discipline strategies as less effective. As such, the fourth hypothesis posits that there will be an indirect relationship between past use of CP and CP intention, which is mediated by attitudes,

perceived norms, and perceived efficacy. Finally, the fifth hypothesis proposes that the indirect association between past use of CP and CP intention will be mediated via both perceived efficacy and attitudes. Figure 1 illustrates the conceptual model.

Methods

Procedures and Participants

A sample of 260 parents were recruited by Qualtrics using its online panels. Several selection criteria were used to ensure data coming from the most at-risk groups (Klevens et al., 2019). First, participants were US citizens who identified themselves as Black, Hispanic, or White of 18 years old or above. Second, they had to be parents who lived with at least one child under six years old. Third, their annual family income was capped at $40,000 (US Census Bureau, 2019). Finally, the highest education level was some colleges or a technical school. Qualtrics sent a survey link that hosted a questionnaire to potential participants. Participants who agreed with the informed consent continued with the survey. Each participant was paid approximately $3 for their participation. The study was approved by a University's Institutional Review Board.

The sample included 75 Blacks (28.8%), 67 Hispanics (25.8%) and 118 Whites (45.4%). Of the total sample, there were more females (77.7%) than males (22.3%). The participants had a mean of 31 years old. The majority of participants had completed some college or technical school degrees (50.4%). Participants identified as Protestant (14.6%), Catholic (15%), Christian (13.1%), Baptist (6.2%), others (11.9%), and non-religious (39.2%).

Measures

Table 1 reported descriptive statistics, internal consistency, and correlations among key variables. Measure items and factor loadings were provided in the Appendix.

Distal variables. Childhood CP frequency was assessed by asking participants to report how often they were beaten by their own parents, hit with objects (e.g. tree branches and belts), had objects thrown at them, and had their ears pinched or heads shoved (1-*never*; 5-*very often*, Fauchier & Straus, 2010). The reference time for these behaviors was when participants were 6 to 10 years old to ensure participants' ability to recall (Fleming & Borrego, 2019). Past behavior was assessed with 4 items reporting participants' frequency of using CP with their own children in the last three months (e.g., I spanked/slapped/popped my child when she/he misbehaved, 1-*never*; 5-*very often*).

Proximal variables. Attitudes toward CP were asssessed with 6 items containing bipolar 7-point semantic differential pairs (e.g., good/bad, effective/ineffective). Injunctive norms were assessed with 5 items (e.g., Most parents who share my racial/ethnic background think parents like me should spank/slap/pop a child for his/her misbehavior, 1-*strongly disagree*; 5-*strongly agree*). Descriptive norms were assessed using 5 items (e.g., How many parents who live in your community would you guess currently spank/slap their children at home to correct the children's misbehavior?, 1-*none*; 5-*most*). Perceived efficacy of alternative strategies were assessed with 8 items (e.g., I know the best way to use non-physical disciplines to effectively correct my child's misbehavior, 1-*strongly disagree*; 5-*strongly agree*). These measures were created as guided by prior IM research and the CP literature (e.g., Duong, 2021; Fishbein & Ajzen, 2011).

Dependent variable. CP intention was measured with 6 items (e.g., I intend to spank, slap, or pop my child when he/she misbehaves in the next three months, 1-*very unlikely*; 5-*very likely*).

Covariates. Age, gender, race, education, and religiosity were measured. Additionally, child aggressive behavior (Gershoff et al., 2010), psychological stress (Westbrook et al., 2015),

and domestic violence (Grogan-Kaylor et al., 2019) tended to influence CP and thus were measured as covariates. Child aggressive behavior scale was adopted from the Infant-Toddler Social and Emotional Assessment scale (Carter et al., 2003). The Short Form Perceive Stress Scale (Warttig et al., 2013) was used to assess participants' stress. Domestic violence was assessed using the HITS screening questions (Sherin et al., 1998).

Analysis

All analyses were conducted using Stata 14. Structural equation modeling (SEM) with maximum likelihood estimation was conducted because this method allowed the assessment of the structural relationships between laten variables and measured indicators (Stephenson & Holbert, 2003). The confirmatory factor analysis (CFA) was first examined to verify the measurement model. Items with standardized factor loading less than .70 were removed from the proposed model (Kline, 2015). Next, the CFA and the structural model analyses were conducted to test the model using the remaining items. The two distal variables were allowed to covary and so were the four proximal variables (Kline, 2015). Continuous covariates that had no significant correlation with the IM variables were excluded from the model (i.e., age and domestic violence, *ps* > .05). One-way ANOVA analyses showed no significant differences regarding CP intention among the three racial groups ($F(2, 257) = .211$, $p = .81$), education levels ($F(3, 256) = .813$, $p = .49$), religious affiliations ($F(5, 254) = 2.229$, $p = .06$), and gender ($t(258) = -.678$, $p = .49$). Thus, these variables were also excluded from model estimation and only stress and child behavior were included. As the chi-square test non-significant results are often rare, comparative fit index (CFI), Tucker-Lewis Index (TLI), root mean square residual (SRMR), and root mean square error of approximation (RMSEA) were used together to assess model fit (Kline, 2015).

The model had a good fit when the CFI and TLI values were at .95 or above, and the SRMR and RMSEA values were less than or equal to .08 (Hu & Bentler, 1999).

Results

The CFA showed a good fit of the measurement model, $\chi^2(565) = 978.310$; $p < .001$, CFI = .95; TLI = .95; RMSEA = .05; SRMR = .07. Results of the full structural model test also indicated a good fit to the data, $\chi^2(591) = 996.004$; $p < .001$, CFI = .96; TLI = .95; RMSEA = .05; SRMR = .05. The full structural model explained 54% of the variance in attitudes, 46% in injunctive norms, 28% in descriptive norms, 35% in perceived efficacy, and 75% in CP intention.

As showed in Figure 2, results of the structural model revealed that attitudes, and descriptive norms were positively associated with CP intention. Perceived efficacy was negatively associated with CP intention. However, the association between injunctive norms and CP intention was nonsignificant. To examine the indirect effects of the distal variables on CP intention, mediation analyses were conducted using bootstrapping method with 5,000 re-samples (Hayes, 2017). If the lower and upper CIs were either both below or above zero, the indirect effect would be supported. Results revealed that the indirect effect of childhood CP frequency on CP intention through descriptive norms (β = .05, 95% CI [.007, .088]). However, the indirect effect of childhood CP frequency on CP intention through attitudes, injunctive norms, and perceived efficacy was nonsignificant (β =.01, 95% CI [-.019, .033]; β = .01, 95% CI [-.019, .045]; and (β = -.02, 95% CI [-.052, .001]). The indirect effect of childhood CP frequency on CP intention through both perceived efficacy and attitudes was also nonsignificant (β = -.01, 95% CI [-.013, .001]. Meanwhile, results revealed the significant and indirect effect of past use of CP on CP intention through attitudes (β = .15, 95% CI [.072, .236], descriptive norms (β = .06, 95% CI

[.011, .103], and perceived efficacy (β = .10, 95% CI [.038, .153]. The indirect effect of past behavior on CP intention through both perceived efficacy and attitudes was significant (β = .02, 95% CI [.001, .040]. However, the indirect effect of past behavior on CP intention through injunctive norms was nonsignificant (β =.04, 95% CI [-.054, .125].

Additional analyses testing equality of coefficients of the two distal variables showed that compared to childhood CP frequency, past behavior had a stronger association with attitudes ($\chi^2(1) = 5.37$; $p < .05$), injunctive norms ($\chi^2(1) = 15.05$; $p < .001$), and perceived efficacy ($\chi^2(1) = 64.49$; $p < .001$), but not descriptive norms ($\chi^2(1) = .31$; $p = .58$). Furthermore, data revealed that parents estimated the frequency of other parents' use of CP significantly higher than their own use ($M = 3.17$; $SD = 1.05$ vs. $M = 1.95$; $SD = .98$; $t(259) = 18.411$, $p < .001$).

Discussion

This study tested the IM in the context of low-income parents using CP to discipline children. The model incorporated major factors influencing CP, including attitudes, injunctive norms, descriptive norms, perceived efficacy of alternative discipline strategy, childhood CP frequency, and past use of CP. Although the CP literature has identified these different risk factors, testing how they work together to inform low-income parents' CP intention remained understudied. Data showed that the model accounted for a significant proportion of variance in CP intention, indicating the utility of the IM in this behavioral context. Attitudes, descriptive norms, and perceived efficacy were significantly associated with CP intention, while childhood CP frequency and past behavior were influential distal variables.

Results revealed the associations between the IM proximal variables and CP intention. Specifically, attitudes and descriptive norms were positively associated with CP intention, while injunctive norms were not associated with CP intention. Furthermore, perceived efficacy of

alternative discipline strategies was negatively associated with CP intention. These results indicated that descriptive norms and perceived efficacy predicted CP intention even after controlling for attitudes. Previous CP studies mostly focused on attitudes and rarely incorporated perceived norms and efficacy beliefs in predicting CP intention. By applying the IM, the current study brought together these proximal variables and simultaneously examined their associations with CP intention, thereby extending this literature. In terms of perceived norms, it should be noted that while descriptive norms were positively associated with CP intention, injunctive norms were not. In other words, low-income parents' perceptions of CP being widely used were more influential than perceptions of CP being socially approved. This might be explained by Duong et al.'s (2021a) qualitative data, which revealed that low-income parents strongly resisted bystanders' interventions in their child discipline work. These parents argued that it was their right to apply CP with their children and dismissed others' disapproval of CP. However, they contended that other parents whom they identified with on the basis of racial and age groups also used CP with children at home. Thus, results suggested the important role of descriptive norms in the context of low-income parents using CP. Additionally, data showed that perceived efficacy remained significant after controlling for other proximal variables. Taken together, these results indicated the potential utility of the IM to make sense of how multiple proximal factors might be simultaneously assessed to predict CP intention in the low-income parent population.

Results indicated that childhood CP frequency and past use of CP were influential distal variables. While childhood CP frequency was indirectly associated with CP intention via only descriptive norms, past use of CP was indirectly associated with CP intention through attitudes, descriptive norms, perceived efficacy, and also through the two mediating steps of perceived efficacy and attitudes. Compared to childhood CP frequency, data indicated that past use of CP

had stronger associations with most of the IM proximal variables. This finding suggested that if low-income parents had previously applied CP to discipline their children, they were more likely to think that CP was a favorable discipline method, estimate a higher level of CP prevalence, and consider alternative discipline methods as less effective. Previous CP research generally focused on childhood CP experiences in shaping attitudes and CP behavior (Chung et al., 2009; Holden et al., 2014). Findings from this study further suggested that once parents had use CP with their children, this behavior might have guided their thoughts and child discipline practice. Perhaps, after parents had conducted CP, they might have found more reasons to justify the behavior and bolster their attitudinal and normative beliefs of using CP. Research is needed to further investigate these results and speculations with the low-income parent population.

From a practical perspective, results suggested that attitudes, descriptive norms, and perceived efficacy were major factors influencing CP intention, and thus should be considered altogether in research and campaigns aiming at reducing CP among low-income parents. Results indicated that descriptive norms were a risk factor. Note that descriptive norms are often overestimated for unhealthy behaviors (Blanton et al., 2008; Miller & Prentice, 2016), and CP is not an exception as has been shown in the current study and another research (Ganz et al., 2020). Health campaigns have used normative messages to correct normative misperceptions with varying degrees of success (e.g., Campo & Cameron, 2006; Silk et al., 2017). This approach might also be considered in CP prevention context (Klika & Linkenbach, 2019). Additionally, strengthening low-income parents' perceived efficacy of alternative discipline strategies can help to reduce CP (Duong et al., 2021b; Rodrigues et al., 2018). Thus, CP population-level intervention programs targeting low-income parents using communicative messages should leverage perceived norms and perceived efficacy in addition to attitudes to change the behavior.

Moreover, campaigns might benefit from identifying past use of CP to segment target audiences with tailored message strategies. It is important to note that the parents recruited in the current study were from low-income families, who likely use CP frequently (Cucchiara, 2020; Ispa & Halgunseth 2004). Thus, population-level interventions to reducing CP among low-income parents might need to be conducted in conjunction with programs addressing structural factors at the community level (e.g., poverty, neighborhood violence, Fleckman et al., 2019; Weisenmuller & Hilton, 2021).

Limitations and Future Directions

This study has limitations. The cross-sectional design precluded causal interpretations of the results. Future studies should consider collecting data at multiple times to establish causal relationships. Additionally, the model was not estimated for each of the three racial groups. Despite Qualtric' data collection in three weeks to recruit low-income Black and Hispanic samples, multiple stringent selection criteria restricted the number of participants in these two racial group samples, which were likely underpowered to detect within- and between-group effects (Kline, 2015). Future studies should test the IM with larger samples of low-income Black and Hispanic parents. Another limitation was that the measure of childhood CP frequency did not take into account the valence of this experience, which might be influential to parents' evaluations of their childhood experiences of CP. Future research might consider measuring the emotional aspect of childhood CP. Future research should also test norm-based messages combining with attitudes and perceived efficacy to provide insights to prevention campaigns.

Conclusion

The IM has been an influential behavioral change theory in guiding public health intervention campaigns (Fishbein & Yzer, 2003). Informed by this framework, this study tested a

model accounting for multiple risk factors of CP intention among low-income Black, Hispanic, and White parents. Results revealed that positive attitudes, high descriptive norms, and low perceived efficacy of alternative discipline strategies were important proximal factors predicting CP intention. Additionally, childhood CP frequency and past use of CP were distal variable that indirectly influenced CP intention. In addition to testing the IM in a novel behavioral context, this study provided results that were informative to communication interventions aiming at preventing CP among low-income parents in the US.

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