Spring 5-15-2020

Predictors of Parent Training Completion for Non-voluntary Participants

Danielle Rivers

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By

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April 30, 2020

Background: Child maltreatment is an urgent public health issue with high individual, societal, and economic costs. Child maltreatment has broad, far reaching effects on social, emotional and behavioral health. Parenting programs are typically offered to parents at risk for, or with substantiated maltreatment, and they can be effective in improving parenting skills, and reducing child maltreatment risk. However, programs are only as effective as possible when parents engage, participate and complete these services. Generally, program completion is low and dropout is high in parenting programs. There are a variety of factors that affect completion for both voluntary and coerced populations, as specified in the Integrated Theory of Parent Involvement model, including factors related to the program, the provider, and the individual client. This thesis will examine factors of parents referred to the SafeCare Training Program for association with program completion among parents referred for cases of maltreatment.

Methods: Data were taken from a randomized trial of SafeCare conducted in four states by nine agencies. Participants (n=191) were parents who were referred by child welfare agencies to receive SafeCare, and agreed to participate in the research study. Parents completed a baseline assessment that included a range of questions on about parenting skills, parent-child relationship, parenting stress, parenting mental health/wellbeing, resource needs, and standard demographics information. These measures were grouped into demographics, parenting skills, risk factors, and environmental risk factors. Completion of SafeCare was tracked by the number of sessions completed, and based on the distribution, SafeCare completion was trichotomized into no sessions (n = 72), between 1-9 sessions completed (n = 72) , and 10 or more sessions (n =47) completed. Chi-square analyses and analysis of variance were conducted to examine the relationship between each predictor and program completion.

Results: The sole measure found to be associated with number of sessions completed was tobacco use within the last 12 months. All other demographic, parenting, or risk factor measures were unrelated to number of sessions completed. A second set of bivariate were conducted focusing only on participants who completed at least one SafeCare session (i.e., comparing the groups who had completed 1-9 sessions to those who completed 10-19 sessions). In this analysis, parent age was the sole measure associated with session completion.

Conclusion: Although there were no significant associations between individual-level factors and number of sessions completed, the importance of this study remains untouched because it adds to the body of knowledge examining factors that affect parent services for coerced populations specifically. Future research could examine program factors and provider characteristics as possible predictors of parent engagement, attrition, and program completion in non-voluntary populations.

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B.S., Purdue University

A Thesis Submitted to the Graduate Faculty
of Georgia State University in Partial Fulfillment
of the
Requirements for the Degree

MASTER OF PUBLIC HEALTH

ATLANTA, GEORGIA
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APPROVAL PAGE

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Acknowledgments

There are no words to describe how grateful I am to the following people, but I will attempt!

To Dr. Whitaker, one half of Dan/Yell, you are a gem. Genuinely. This thesis would literally not exist without you. You have constantly offered guidance, advice, nudges, and an open door (open inbox post-COVID19) every step of the way. This has truly been a learning process. You are an incredible mentor and contribute so much to the GSU community! So glad I became your GRA. Thank you for the opportunity.

To Erin Weeks, thank you for all your guidance and your contributions. You took the time to sit down with me, comb and work through all of this data with a full load of your own. You do not go unappreciated. Thank you so much for being you, super diligent, very encouraging, and extremely patient. You're the best, thank you.

To Dr. Self-Brown, as the second reader of this thesis, I am more than grateful to you for your input, comments, and guidance. Thank you.

To my brothers, my family, my friends, my team, my loved ones… wow. We did it. We're here. I wouldn't be anywhere near this without you. For every doubt, concern, worry, late night, you met me with confidence, reassurance, comfort and late night FaceTime calls. You all have never missed a beat; always with me, never lacking. I hope to give back to you all the in the same way you have poured into me. Grateful. Thankful. Appreciative. Indebted. Love you, all ways, always. It takes a village.

To my mom, I love you.

Author's Statement Page

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Danielle E. S. Rivers
Signature of Author (electronically signed)

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Introduction

Child Maltreatment as a Public Health Issue

Definition of CM

The Centers for Disease Control and Prevention (CDC) defines child maltreatment (CM) as exposure to abuse and neglect by a parent caregiver, or another person in a custodial role for children below 18 years of age (Leeb et al., 2008). There are four types of child abuse commonly recognized as maltreatment that all harm or have the potential to harm children: physical abuse, sexual abuse, emotional abuse, and neglect (Leeb et al., 2008; Velteman & Browne, 2001). Physical abuse describes the use of physical force that can result in harm of a minor like shaking or punching; sexual abuse is the sexual exploitation of a minor; emotional abuse covers behavior that impacts the emotional and behavioral development or self-worth of a child. Lastly, neglect describes instances where the basic needs of a child like housing, education, and health care are not met (Leeb et al., 2008; Velteman & Browne, 2001).

Prevalence of CM

According to the US Department of Health and Human Services (USDHHS), in 2018 alone, there were 678,000 victims of CM nationwide, roughly 9.2 per 1,000 children, an increase in 3,000 victims from 2014 (2020). A survey sponsored by the National Institute of Justice, The National Survey of Adolescents, estimates 5 million adolescents (ages 12-17) had experienced a serious physical assault, 1.8 million had experienced a sexual assault, and 8.8 million had witnessed interpersonal violence during their lifetimes (Kilpatrick et al., 2000). Nearly two thousand children died as a result of maltreatment in 2018, with 46% of these children being less than a year in age (USDHHS, 2020). Rates of abuse vary for different ages, different socioeconomic status, and type of abuse, with young, low-income children at a particularly high

risk (Chen & Chan, 2016; Hussey, Chang, & Kotch, 2006; USDHHS, 2020). Although the rate of substantiated CM has fallen from 13 per 1,000 children in 1990 to 9 per 1,000 children in 2017, the rate has shown little change over the past several years (USDHHS, 2016). It is important to acknowledge too, that these statistics represent only that cases that are reported to child protective service systems and are, therefore, expected to vastly underreport the true prevalence (Sedlack et al., 2010; Finkelhor et al., 2005).

Impacts of CM/Cost of CM

Child maltreatment impacts the life course of the victim, affecting many areas in both the short- and long-term. Adverse childhood experiences (ACEs), defined as potentially traumatic events that occur 0-17 years, impact future violence, victimization, perpetration, and lifelong health opportunity (CDC). Early abuse and neglect have been associated with delayed development, social and emotional impairment, risky health behaviors, disability, early death, poor physical health, social problems, dysfunctional parenting, and poor socioeconomic well-being (Fairbank, Putnam & Harris, 2007; Burns, Jackson, Harding, 2010; Hosser, Raddatz & Windzio, 2007; Hagele, 2005; Zielinksi, 2009; Florence, Brown, Fang, & Thompson, 2013; Velteman & Browne, 2001).

While all forms of abuse are associated with increased risk for post-traumatic stress disorder, different forms of abuse are associated with different health and behavioral outcomes (Velteman & Browne, 2001; Messman-Moore & Bhuptani, 2017). Evidence also suggests that a greater number of multi-type maltreatment were associated with greater adjustment problems as adults (Higgins & McCabe, 2000). Moreover, chronic, repeated abuse may even have a cumulative effect on health outcomes (Messman-Moore & Bhuptani, 2017). For instance, early

alleged maltreatment has also been associated with steeper increases in behavioral problems over time, suggesting a persistent pattern of behavioral dysfunction (Thompson & Tabone, 2010).

Economic costs of CM rival that of economic burden of stroke and type 2 diabetes with a total lifetime burden of nearly 124 billion dollars in 2008 (CDC). A 2012 sensitivity analysis that reported average lifetime costs for fatal and nonfatal CM alike (i.e., childhood health care costs, adult medical costs, productivity loss, child welfare costs, criminal justice costs, and special education costs) estimates the total burden to be as large as $585 billion (Fang, Brown, Florence, & Mercy, 2012).

Child maltreatment is an urgent public health issue with high physical, social, emotional, and economic costs. However, child maltreatment is preventable; safe, stable and nurturing relationships with parents are key to combating the negative impacts of child abuse and neglect (CDC, 2014; Shonkoff, 2009).

Parenting Programs to Address Child Maltreatment

Why parenting programs?

Child abuse and neglect is ultimately a failure in caregiving; accordingly, parents and caregivers are critical in addressing child maltreatment. Parenting programs target parents, the people that are most frequently the perpetrators of child maltreatment (Knerr, Gardner, & Cluver, 2013; USDHHS, 2020). Of child abuse and neglect victims in 2018, 39.4% of perpetrators were the mothers of the children and 21.5% of perpetrators were the fathers of the victim (USDHHS, 2020). Certain risk factors like poverty, substance abuse, domestic violence, mental health, economic well-being, family structure, and public policies are associated with increased risk of child maltreatment (Bath, 2009; Azar et al., 1998; Zielinksi, 2009; Lawrence, 2004; Gonzalez & MacMillan, 2008). Many interventions address these risk factors. However, because child

maltreatment represents a deficit in parenting, one of the most common intervention strategies is to address this deficit in parent skills (Sander & Pidgeon, 2011). Thus, the assumption of parenting-based interventions is that improving parenting skills and reducing parental risk factors will reduce the likelihood of child abuse and neglect.

What are parenting programs?

Parenting programs to address child maltreatment are designed to enhance parenting through several avenues. Many programs teach skill building, offer support to parents, and provide parenting knowledge (Cowen, 2001; Zhai, Waldfogerl, & Books-Gunn, 2013; Gershater-Molko, Lutzker, & Welch, 2003). Support can include care outside of the home for children, linkage to community resources, or modules focused on teaching and strengthening parenting skills like parent-child interactions (Cowen, 2001).

Well-known prevention or intervention programs that address parenting behaviors include Nurse-Family Partnership (NFP), Parents at Teachers (PAT), Healthy Families America (HFA), Triple P (the Positive Parenting Program), Parent-Child Interaction Therapy (PCIT), and SafeCare®. Several of these programs (e.g., NFP, PAT, and HFA) provide long-term early intervention for parents who are at risk for maltreatment and offer services to address a range of outcomes for both the parent and the child over a period of several years. Other programs, like Triple P, PCIT, and SafeCare, are short-term, skill-building programs that seek to improve parent's ability to care for and manage their children and thereby address abuse and neglect. Programs are usually designed to better the relationship between parent and child by changing actual parenting practices (Gonzalez & MacMillan, 2008). Whether the program is aimed at enhancing parental skills, or linking parents with more support and resources, most parent

programs share a common objective of reducing the likelihood of child maltreatment by reducing parent-related risk factors and improving the parent-child relationship.

SafeCare is an example of a skill-based model that teaches parents skills in parent child interactions, caring for sick or injured children, and skills to reduce physical hazards in the home (Gershater-Molko, Lutzker, & Welch, 2003). SafeCare consists of three structured modules, Parent-Child Interaction, Health, and Safety which address the proximal behaviors that could lead to child neglect and physical abuse (Lutzker & Bigelow, 2002; Hecht et. al, 2008; Whitaker et. al, 2008). SafeCare was developed to improve the skills of parents who were involved with the child protection system, or who were at risk for child maltreatment because of parenting deficits. SafeCare is delivered in the natural environment, usually the home, over an 18-20 week period. Families receive all three modules, which can be delivered in whatever order the provider and family deem appropriate (typically, providers start with the area of greatest need). The delivery of each SafeCare module is planned for six sessions, though the number of sessions can vary depending on the parent's progress. Each module begins and ends with an observation of key skills to gauge skills at baseline and uptake after the module is implemented. SafeCare skills are taught through didactic explanation, modeling of skills by the provider, and skill practice by the parent with positive and corrective feedback. SafeCare providers attended a four-day workshop after an initial readiness assessment and orientation to training. Providers received ongoing coaching once they began implementing the model. Coaching involves providers recording sessions with cell-phones or audio recording devices, and submitting them to SafeCare trainers, who score them for fidelity and provide corrective feedback.

Effectiveness of parenting programs

The evidence of the effectiveness of parenting programs in the literature depends heavily on the outcomes examined. Meta analyses of the effectiveness of parenting programs on changing parent and child behaviors have shown medium sized effects on immediate outcomes for both parent and child behaviors such as increased parenting skills (Lundahl et al., 2006; Thomas and Zimmer-Gembeck, 2007; Altafim & Linhares, 2015). More distal outcomes such as child maltreatment are harder to change, but the evidence suggests that parenting programs can be effective in reducing the prevalence of reports of child maltreatment, preventing child maltreatment recurrence, and reducing risk factors associated with child maltreatment perpetration (Chaffin et al., 2012; Mikton & Butchart, 2009). A meta-analysis examining 37 studies suggests that parenting programs reduced both substantiated and self-reported child maltreatment (Chen & Chan, 2015). Some research points to the promise of multifaceted parenting programs to yield more success and greater change (Holzer, Higgins, J., Bromfield, & Higgins D, 2006; Barth, 2009).

Another systemic review examined controlled trials addressing the prevention of child physical abuse recidivism. Only four studies were eligible for inclusion in the meta-analysis, but the results found that parenting programs were associated with modest but statistically significant reductions in recidivism for child protective service referred families (Vlahovicova et al., 2017).

A systemic review of 14 parent education programs in Australia, Canada and the United States revealed success in the majority of programs which ranged in targeted outcomes (Holzer et al., 2006). Authors reported that longer programs that were more intense, combined different strategies, and approached intervention design from the perspective of a strength rather than parent deficit were the most successful (Holzer et al., 2006). Another review found that longer programs with a greater number of sessions were most successful and that programs that mix

office and in-home services and contained a combination of group and individual delivery were more effective (Lundahl, Nimer & Parsons, 2006).

While these large reviews note significant limitations in included trials (lack of follow-up assessment, selection bias for participants, trials mainly in high-income countries) and large variety in assessment outcomes, recent reviews of parenting programs suggest that there is evidence that targeted interventions can reduce the risk for child maltreatment. However, one issue that plagues parenting programs is the issue of parent engagement and program completion (Chacko et al., 2016). Although parenting programs can be successful in reducing and preventing CM, the program is only as effective as possible when parents engage, participate, and complete the program.

Parent Engagement, Attrition, and Completion

General completion

Caregivers and parents must engage and progress in services to benefit from interventions. Program engagement and attrition play a direct role in parent training program outcomes. Though most of the aforementioned reviews do not take into account program attrition, individual studies have shown that greater participation, both in attendance and engagement, are associated with more positive child and parent outcomes (Haine-Schlagel & Walsh, 2015; DePanfilis & Zuravin, 2002), and that premature termination of services results in less positive outcomes (Rostad, Rogers & Chaffin, 2017). A recent review estimated that roughly 26% of parents participating in parent training programs drop out before services are completed, and another 25% of parents eligible for services never enroll, for a total of 51% of eligible parents who do not complete treatment (Chacko et al., 2016). Thus, an important step in advancing the effectiveness and dissemination of parenting programs for preventing child

maltreatment is a deeper understanding of factors that impact parent enrollment, engagement, attrition and program completion.

Prior research has found several factors can play a role in program engagement and attrition, including factors related to the provider, to the program, and to the individual (e.g., demographics, motivational, logistics) (Rostad, Moreland, Valle, & Chaffin, 2017; MacNaughton & Rodrigue, 2001). Logistic and resource constraints including time or availability, scheduling barriers, transportation, and childcare can be barriers to program engagement and completion. In addition, a parent's perceptions and motivations regarding parent programs may compel or discourage participation, attendance, and completion. For example, a parent or caregiver's beliefs about what they will gain from a program and whether they believe the program will be useful may predict participation (McWey et al., 2015; Love et al., 2013). Particular risk factors and family demographics like income, marital status and to some extent, race, are associated with program attendance and completion (Rostad, Rogers, & Chaffin, 2017). Another study found program factors like the structure, flexibility and format of the program to play a principal role in client enrollment and completion of services along with the presence of certain significant risk variables like intimate partner violence, substance abuse, and poor mental health (Damashek et al., 2011).

Non-voluntary populations

Among child protective service (CPS) referred families, parenting programs are the most frequently ordered service (Orlando, Barkan, & Brennan, 2019) with an estimated 800,000 CPS-involved families referred to parenting services annually (Barth et al., 2005). It is important to consider that parents involved in the welfare system may be different from those not involved in both motivation and parental risk factors, both of which are related to program completion.

Compliance with parenting programs for non-voluntary populations can be challenging given that the same factors that make families at-risk could impact parent participation and completion (Rostad et al. 2017). By definition, those mandated by CPS systems have different motivation to enroll and attend parent-training services. Some parents are required to complete programs as part of their case plan; parents retaining or being reunited with their child/ren could depend on completion of parent services. This external pressure to attend could impact a parent's engagement as compared to voluntary participants. CPS-referred parents compared to voluntary parents may also differ in perceptions of their own parenting behaviors, which can affect motivation. CPS referred parents may not believe they need to improve their parenting and may not see the program as useful and thus may be less likely to participate (McWey et al., 2015). Furthermore, families that face greater levels of adversity often have more difficulty engaging in behavioral parent training (Chacko et al. 2008, 2009). Finally, parents and caregivers involved in the welfare system also experience added stressors in the domains of mental health, substance abuse, and intimate partner violence (Estefan et al., 2012; Festinger, 1996). They may also experience more logistic barriers including low resources and poor access that may impact program completion. In support of this, one study among CPS-mandated parents found that offering concrete financial support along with parent training services reduces parent stress, improves retention, and supported greater engagement and retention (Rostad, Rogers & Chaffin, 2017; Rostad et al., 2017; Love et al., 2013). Thus, there is ample rationale to believe that CPS-referred families' participation in parenting program may be different that voluntary participants.

There is a wealth of literature concerning predictors of program completion for parents and parent training programs; however, there are few studies examining participation and program completion for non-voluntary participants referred by CPS system. Mandated

populations possess different motivations, perceptions, and risk factors for parent training program completion. This thesis will examine factors of parents referred to SafeCare for associations with program completion.

The current study

This study uses data from a recently completed trial of the SafeCare program in four different child welfare systems and nine agencies. Providers at each agency were randomly selected to either implement the SafeCare model or to continue providing the agency's standard services prior to the introduction of SafeCare (i.e., usual care). Families receiving SafeCare (and usual care) were invited to participate in the research study by completing a baseline and follow-up survey, and their SafeCare providers collected data on sessions attended and program completion. This thesis will examine how four classes of variables, demographics, parenting variables, risk factors, and environmental characteristics, collected at baseline, predict session attendance and completion.

Independent variables & rationale:

Studies have produced mixed findings about the roles of demographic characteristics, certain risk factors and parenting variables in program attendance and completion. For example, two separate studies found that alcohol and drug use affected the retention of parents in parent training services differently (Duggan et al., 2000; Ammerman et al., 2006; Damashek al., 2011) Healthy Family America studies suggest that substance abuse is associated with longer duration in services (Duggan et al., 2000), while another study using the SafeCare model (Ammerman et al., 2006; Damashek al., 2011) found that a greater number of caregiver alcohol and drug symptoms predicted less service and service completion. For some factors like parent mental health, literature suggests a general consensus about their role in service completion. Caregivers

with higher levels depression, especially maternal, were more likely to enroll in and complete services (Girvin et al., 2007; Damashek et al., 2011). Similarly, parents and caregivers who experienced emotional abuse and partner violence were more likely to remain in parent training services longer (Damashek et al. 2011). Ultimately, more research is needed to examine how demographics, parenting variables, risk factors, and environmental characteristics are associated with parent training program attendance and completion.

McCurdy and Daro have developed the Integrated Theory of Parent Involvement (ITPI) to bolster the conceptual framework for predictors of parent involvement and program completion (2001). ITPI proposes that four separate domains (individual characteristics, provider attributes, program characteristics, and neighborhood context), all contribute to parent intent to enroll in support services, actual enrollment, and retention. The theory posits that provider and program factors like provider skill and program capacity contribute more strongly to program retention than individual or neighborhood factors. In this project, I will primarily examine variables that fall in the first domain of the ITPI model – individual characteristics as all participants received the same model (SafeCare). I will examine a range of demographic variables, individual-level characteristics (parenting, mental health, substance abuse, etc.), and environmental variables (resource needs and household chaos), as predictors of program completion.

Methods

Study design

Data from this project came from a randomized trial that sought to compare the effectiveness of SafeCare to service as usual (SAU) on a range of parent and child outcomes. Families were recruited from nine different agencies within four different state child welfare

systems. Here, the analyses focus on predictors of SafeCare completion, and so only parents from the SafeCare arm of the study are included; SAU families will not be discussed further.

Study setting, site recruitment and selection

The setting for this study was public and private child welfare agencies at several locations in the U.S. Agencies were recruited for participation during July 2015 and September 2016 in two waves. Ten of the 16 sites that applied were deemed likely to adopt and sustain the model with reasonable success (e.g., with leadership buy-in, existing client flow, compatible funding streams, etc.) and were selected to participate in the project. One site dropped out immediately after training and thus data presented here is representative of nine sites.

The study design was a cluster randomized trial with randomization occurring at the team level within each site. Sites were eligible to participate if they had two or more teams of providers providing the same services and agreed to randomize those teams to receive SafeCare or to continue with SAU. Across the nine sites, 32 teams with 237 providers were randomized: 17 teams with 119 providers were randomized to implement SafeCare and 15 teams with 118 providers to continue SAU.

Participants: Recruitment and sample

Parents were eligible to participate in the study if they were at least 18 years of age, were receiving SafeCare services from a trained provider, and had a child aged five or under at the time of enrollment. Parents were introduced to the study opportunity by their provider during a visit. Providers were instructed to present a recruitment flyer to the parent and give a brief verbal summary of what would participation would involve. Parents who expressed an interest were referred to the Georgia State University (GSU)-based research team who called the parent to review the study procedures. Parents were told the study included two in-home assessments

(baseline and six-month follow up) during which they would complete a computerized survey and respond to short surveys at the end of each SafeCare session via a smartphone app their provider would bring to the session. Parents were assured that data would not be shared with their service provider or the local child welfare agency.

If a parent agreed to participate, a data collector who was part of the research team (not the service provider) and lived in the geographic area of the parent contacted the parent to schedule the in-home assessment. The data collector collected the signed consent form, administered the survey, and provided the parent with a $40 gift card for participating in each survey. Of the 312 SafeCare families assessed for eligibility, 193 (62%) met inclusion criteria, were contacted, and agreed to participate. In total, only 191 families completed baseline assessments and were analyzed as the electronic data from two cases were corrupted during file transfer.

Sample

Data was analyzed on a total of 191 families that agreed to participate in the research study, participated in SafeCare intervention and were referred by the child welfare system. The sample had 159 female and 32 male participants. The sample consisted of 77% White, and 33% non-White (Black, Latino, other) races. Of the total sample, 47% are working and 54% lived with another caregiver in the home (see Table 1).

Assessments

Data were collected from parents on key outcomes at baseline (prior to intervention). The primary outcomes were parenting skills, parent-child relationship, parenting stress, parenting mental health/wellbeing, and child well-being. Standard demographics, and a number of standardized measures that served as primary and secondary outcomes, and control or potential

moderator variables were collected. All measures listed below were collected via a computerized survey using the Qualtrics mobile application by a data collector who was blinded to the condition and who was not part of the service delivery team. Responses were uploaded after the completion of the survey. All scales are commonly used with parents and have been used with parents in high risk settings and are thus appropriate for the study sample.

The number of SafeCare sessions completed was derived from data collected by providers using the SafeCare mobile application. As part of SafeCare training, providers were trained to use the mobile application while delivering SafeCare. The assessments that are part of SafeCare were embedded in the app allowing providers to collect data live during each session. Data from the app was synced and saved to SafeCare web portal which allowed the GSU research team access to data collected from all sites.

Measures

Parent completion of SafeCare. Parent completion of SafeCare was measured by the number of sessions completed. Based on the distribution of SafeCare sessions completed, I created a categorical variable classifying each participant into one of three categories: no sessions completed (n = 72), 1-9 sessions completed (n = 72), and 10 or more sessions completed (n = 47). Thus, the categories represent completing no SafeCare, some SafeCare (up to half of the sessions), and a majority of SafeCare (more than half of sessions).

Predictors of SafeCare completion. A range of variables were examined as possible predictors of program completion. These were grouped together into four categories: demographic variables, parenting variables, risk factors, and environmental risk variables.

Demographics. Basic demographic information was collected from each participant including gender, parent age in years, race/ethnicity (white vs. non-white), monthly income (0-

$650, $651-$1250, or $1250+), and education level (less than high school, high school graduate, or some college or more). Additional information such as the number of children (0 1, 2, or 3+), employment status (working full or part time versus not working at all), and presence of additional caregivers (yes vs. no) in the home were also collected.

Parenting variables. Three types of parenting variables were examined. Parenting skills were assessed via the Parenting Young Children Scale (McEachern et. al, 2012) which assesses three dimensions of positive parenting: limit setting, proactive parenting, and supporting positive behavior. Each dimension is measured using seven items from which a mean score was computed for each subscale.

Parenting stress was measured with the Parenting Stress Index–short form (Abidin, 1995), a 36-item scale designed to measure various stressors in parenthood. Subcales include parental distress (12 items), dysfunctional interactions (12 items), and stressors related to having a difficult child (12 item). Items are answered on a 5-point scale and means for each subscale were computed along with the parenting stress total.

Finally, quality of the parent-child relationship was measured with the attachment subscale of the Devereaux Early Child Assessment (DECA), a normed scale that produces t-scores of client scores compared to a national norm (LeBuffe & Naglieri, 1999). The DECA contains age specific questions on which parents respond on a 5-point scale. Depending on the age of the child between 8 and 18 items are included on the attachment subscales. Raw scores were computed and used to look up t-scores on norms provided with the DECA manual.

Risk factors. Three primary risk factors were assessed: poor mental health, substance use, and partner violence victimization. *Parent mental health* was measured using the Brief Symptom Inventory (Derogatis & Melisaratos, 1983), a 53-item scale designed to measure a

range of emotional health states including depression, anxiety, somatization, and others. For these analyses, we computed the 'case' definition from the BSI. Each individual is considered a case if they are elevated on any of the BSI subscales or the global severity index, which is an index of overall symptom severity. *Parent substance use* was assessed with the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) (Humeniuk et. al, 2008) which is designed to screen for levels of substance use in adults for any illegal drug, alcohol or tobacco product. Specific measures used here included whether the participant reported any illegal drug in the last 12 months, any alcohol use in the last 12 months, or use of any tobacco product in the last 12 months. The ASSIST also measured problems resulting from substance use via four items on which participants rate the extent of problems in work, personal, social, and family life on a 5-point scale.

Partner violence victimization was measured using the short form of the Conflict Tactics Scale (Straus, 1979). I used the subscales assessing experiences of psychological violence during the past 12 months, and physical violence during the past 12 months. For each, a dichotomous measure was created to indicate whether the participant experienced the particular type of violence.

Several types of environmental risks variables were assessed. *Resource needs* were assessed using the Family Resources Scale–Revised (Van Horn, Bellis & Snyder, 2001) which assesses the adequacy of family needs in 40 different areas (money, concrete needs, medical, social, etc.). Respondents are asked how often a need is being met and respond on a 5-point scale ranging from Not at All to Almost Always. Responses to the items were highly correlated, and so the total number of items on which families indicated the need was unmet at least Sometimes were counted. Thus, higher numbers indicate a higher number of unmet needs

Social and concrete support were measured with the 3-item social support subscale and the 3-item concrete support subscale of the Protective Factors survey (Counts et. al, 2010). Item responses were on a 1-7 scale and are averaged to form a measure of social and concrete support so that higher scores indicate greater levels of support.

A *chaotic home environment* was measured with the CHAOS scale (Confusion, Hubbub, and Order, Dumas et al., 2005) which is a 15-item scale that measures structure and chaos in the home environment. The scale's 15 items are answered on a 1-4, and the items were averaged to create an index of chaos in the home such that higher scores indicate a more chaotic environment.

Statistical Analysis

Statistical analysis was performed using SAS 9.4 to determine any association between independent variables (parent demographics, resource needs, parenting variables, mental health, substance use, and violence) and program completion. I conducted bivariate analyses using chi-square tests for categorical independent variables, and analysis of variance (ANOVA) for continuous independent variables. Multivariate analyses were planned for variables that were significant in bivariate analyses.

Results

Among demographic variables, age, sex, and monthly income were all unrelated to the number of sessions completed. Similarly, level of educational attainment, number of children in the home, employment status, and presence of any other caregiver in the home were not associated with session completion.

Among individual level characteristics and traits, all variables except for tobacco use, were found to be unrelated to parent completion. Participants who used tobacco completed a

greater number of sessions than those who did not. The three primary parenting variables – parenting skills, parent stress and the parent-child relationship were unrelated to session completion. Risk factors such as parent substance abuse, parent mental health, and history of partner violence were each unrelated to sessions completed. Likewise, variables that describe environmental characteristics, like home chaos and resource needs were found to be not statistically associated with session completion. Multivariate analyses using logistic regression were not conducted due to the lack of variables found statistically significant.

A second set of bivariate analyses were conducted focusing only on participants who completed at least one SafeCare sessions (i.e., comparing the groups who completed 1-9 sessions versus 10-18 sessions). None of the variables were statistically significant other than parent age; participants who completed 10-19 sessions were older than those who completed 1-9 sessions.

Additionally, ordinal logistic regressions were conducted to examine the impact of parenting, risk, and environmental variables on number of sessions completed controlling for demographic factors. None of the variables were found to be statistically associated with number of sessions completed.

Discussion

The goal of this study was to examine individual-level characteristics, specifically demographic variables, parenting variables, risk factors and environmental characteristics, as predictors of program completion in a population of child welfare involved caregivers. I hypothesized that there would be an association between risk factors and environmental factors and number of sessions completed, predicting that the presence of certain risk factors such as substance abuse and lack of social and concrete support, would be associated with fewer sessions completed. Overall, however, there were no significant relationships found between the

independent variables examined and number of sessions completed. Of the 27 variables analyzed in bivariate analyses, only one (smoking) was related to number of sessions completed. Given the number of tests conducted, and the lack of theory around why smoking would be related to completion, this may very well be a false positive, Type I error.

In the current study, 38% of clients never completed a single SafeCare session, and another 38% completed less than half of the program. The mean number of SafeCare sessions completed was 5.1, which means that on average, families did not complete enough sessions to complete a single module. It is not clear how this very low-level program engagement affected program predictors. This level of engagement and program completion is not necessarily typical of SafeCare programs generally. For example, Damashek and colleagues (Damashek et al., 2011) found that almost 50% of clients completed SafeCare services, and that participants randomized to receive SafeCare were much more likely to enroll in and complete SafeCare services compared to usual care clients. In Chaffin and colleagues' statewide trial of SafeCare (Chaffin et al., 2012), with a child-welfare referred population, completion of treatment goals was extremely high for both SafeCare and usual care, with treatment compliance reported as 89% for SafeCare clients and 87% for usual care clients. Using the same data, Damashek et al. (2012), reported that on average clients completed "most" or "all" of their treatment goals.

On the whole, the literature reports mixed findings on predictors of program completion, with some studies citing program factors having greater impacts on program attrition and completion (Damashek et al., 2011) while others found that individual risk factors and characteristics like demographics or partner violence play a principal role in completion of services (Rostad, Rogers, Chaffin, 2017; Rostad et al., 2018; Damashek et al., 2011). The individual-level factors like demographics, parenting skills, and risk factors examined in this

project were found to not be associated with program completion. One of the more prominent theories regarding completion, the Integrated Theory of Parent Involvement (ITPI), posits that individual characteristics and neighborhood context contribute less strongly to program retention than provider attributes and program characteristics domains (McCurdy and Daro, 2001). Unfortunately, those characteristics were not broadly measured in this study; all participants received the same program, and though a limited range of provider characteristics were measured, those were not included in these analyses.

Implications

Because parent programs are only as effective as possible when parents engage, participate, and complete the program, research about factors that affect parent engagement, attrition and completion in referred populations have broad implications for policy and practice, especially within the child welfare system. Child welfare agencies refer at-risk parents and families to family and parent services oftentimes in an effort to assist and support families in need. Research finds that a majority of eligible parents do not complete these services (Chacko et al., 2016), and thus knowing what factors and traits influence parent decisions to complete a program or terminate their participation early is essential information for agencies. Results from research in predictors of program completion could inform how child welfare agencies refer clients to services in that it would inform them of which clients were most likely to complete a particular program. Research would be needed across programs to understand whether different factors predictor program completion for different programs. Information about these characteristics will allow child welfare agencies and staff to place or refer families with the best fitting parenting service. An appropriate program that fits the client can be the difference between a parent graduating from a program, enhancing their parenting skills, receiving support,

and offsetting child maltreatment versus a parent that terminates their participation early, does not improve their parenting competency and does not receive support. Ultimately, matching clients with the most appropriate program to reduce the chance of early drop-out could lead to more positive child and parent outcomes and reduce child maltreatment. Responses from consumers can also be gathered to understand program preferences with regard to focus, scope of the program, program length, and frequency. Typically, however, families have little choice in the types of services they receive, particularly those referred with allegations of maltreatment.

Further research

Additional research investigating predictors of parent engagement, attrition and completion in coerced populations would advance current literature. Examining both provider and program characteristics (that fit into the second and third domain of the ITPI model) rather than individual characteristics as potential predictors of program completion offers another avenue of research (McCurdy and Daro, 2001). More research of predictors of parent training programs other than SafeCare would contribute to this growing body of literature and allow comparisons of program characteristics as predictive factors. Different determinations of what is designated as session completion (i.e., number of sessions, no sessions versus some sessions, or a count of sessions) offers more flexibility and detail in analyzing parent completion rates. Likewise, analyzing predictors of completion in different sets of referred clients (i.e. clients who still have children in the home, clients who are working to reunite with their children, etc.) will give more detailed information how predictors may differ for clients in different situations. Moreover, choosing to identify factors associated with the outcomes of parent engagement or client attrition instead of parent completion could offer a more nuanced view of why clients

complete a service or drop out early. As a whole, further research in the field of parent services and programs for non-voluntary populations remains a worthwhile area of study.

Study limitations

There were several limitations with the data that were analyzed. Despite the moderate sample size (n=191), the cell sizes became relatively small when broken down by no sessions completed (n=72), some sessions completed (n=69), and most sessions completed (n=50). In addition, there were an inordinate number of clients completing no SafeCare sessions, and this calls into question the extent to which SafeCare was being utilized properly, or whether systems factors may have influenced client enrollment. Another limitation is the lack of provider and program data that has been identified as potentially important predictors of program engagement. It is possible that individual predictors would only be important in the context of (i.e., controlling for) provider and program characteristics. Finally, the analyses for this study were of the number of sessions completed, which is one measure of program engagement, but not a perfect one. It may be that some parents are very much engaged in services, but that other factors that were not measured here limit their ability to attend sessions. Likewise, parents may also attend services but be very disengaged from services, and simply going through the motions. The measure of used here – the number of sessions completed – does not capture these more psychological aspects of engagement.

Conclusion

Understanding what factors influence completion of parent services is essential in increasing the effectiveness of parent training programs; this is especially important for child welfare agencies as parenting programs are the most frequently ordered service among CPS referred families. A vast majority of the literature currently describes predictors of parent

engagement, attrition and treatment completion for voluntary clients. This study adds to the body of knowledge by examining factors that affect completion of parent services for coerced populations specifically. This project examined the effect of demographics, parenting skills and risk factors on session completion. Despite no association being found between these individual-level characteristics, an avenue of future research would examine program factors and provider characteristics as possible predictors of parent engagement, attrition, and program completion in non-voluntary populations.

Table 1. Demographic and Descriptive Statistics of non-voluntary SafeCare participants

Variable	**N (%) or M (sd)**
Number of sessions completed	
0	72 (37.70%)
1-9	72 (37.70%)
10-19	47 (24.60%)
Demographics	
Parent Age	28.63 (6.92)
Sex	
Female	159 (83.25%)
Male	32 (16.75%)
Race	
Non-White	43 (22.75%)
White	146 (77.25%)
Monthly Income	
< $600	62 (37.80%)
$600-$1250	55 (33.54%)
$1250+	47 (28.66%)
Education	
Less than HS	51 (26.70%)
HS	64 (33.51%)
Some college	76 (39.79%)
Kids in Home	
0	54 (28.27%)
1	60 (31.41%)
2	41 (21.47%)
3+	36 (18.85%)
Working	89 (46.60%)
Another caregiver in home	104 (54.45%)
Parenting variables	
Parenting Skills	
Support positive behavior	5.94 (0.98)
Proactive parenting	5.38 (1.53)
Setting limits	5.88 (1.38)
Parenting Stress	
Parent stress	25.75 (9.11)
Dysfunctional interactions	21.24 (6.32)
Difficult child	24.13 (7.38)
Total stress	71.12 (19.30)
Parent Child Relationship	52.37 (12.02)
Risk factors	
Parent Mental Health	
BSI Case	80 (41.88%)
Substance Use	
Alcohol use last 12m	107 (57.53%)
Illegal drug use last 12m	71 (37.57%)

Tobacco use last 12m	139 (73.54%)
Drug problem	102 (60.36%)
Partner violence	
Victim of psychological partner violence last 12m	115 (65.71%)
Victim of physical partner violence last 12m	45 (26.63%)
Environmental risk variables	
Resource Needs	
Total resource need	9.67 (7.33)
Support	
Social support	5.48 (1.58)
Concrete support	5.51 (1.52)
Home Chaos	
Chaos total	1.53 (0.34)

Table 2. Bivariate statistics for demographic variables, individual-level traits and environmental resource measures of non-voluntary SafeCare participants

Variable	Number of SafeCare Sessions Completed			
	None	1-9	10-19	
	N (%) or M (sd)	N (%) or M (sd)	N (%) or M (sd)	Test statistic
Demographics				
Parent Age	29.22 (7.90)	27.37 (6.07)	29.69 (6.36)	F (2, 186) = 2.02, p = .14
Sex				χ^2 (2, 191) = 4.42, p = .11
Female	65 (40.88%)	58 (36.48%)	36 (22.64%)	
Male	7 (21.88%)	14 (43.75%)	11 (34.38%)	
Race				χ^2 (2, 189) = 2.81, p = .25
Non-White	21 (48.84%)	14 (32.56%)	8 (18.60%)	
White	51 (34.93%)	57 (39.04%)	38 (26.03%)	
Monthly Income				χ^2 (4, 164) = 0.69, p = .95
< $600	24 (38.71%)	25 (40.32%)	13 (20.97%)	
$600-$1250	19 (34.55%)	21 (38.18%)	15 (27.27%)	
$1250+	18 (38.30%)	18 (38.30%)	11 (23.40%)	
Education				χ^2 (4, 191) = 2.26 p = .69
Less than HS	22 (43.14%)	19 (37.25%)	10 (19.61%)	
HS	20 (31.25%)	26 (40.63%)	18 (28.13%)	
Some college	30 (39.47%)	27 (35.53%)	19 (25.00%)	
Kids in Home				χ^2 (6, 191) = 5.36 p = .50
0	19 (35.19%)	20 (37.04%)	15 (27.78%)	
1	21 (35.00%)	23 (38.33%)	16 (26.67%)	
2	13 (31.71%)	19 (46.34%)	9 (21.95%)	
3+	19 (52.78%)	10 (27.78%)	7 (19.44%)	
Working				χ^2 (2, 191) = 0.14 p = .93
Yes	33 (37.08%)	33 (37.08%)	23 (25.84%)	
No	39 (38.24%)	39 (38.24%)	24 (23.53%)	
Another caregiver in home				χ^2 (2, 191) = 4.05 p = .13
Yes	33 (31.73%)	45 (43.27%)	26 (25.00%)	
No	39 (44.83%)	27 (31.03%)	21 (24.14%)	
Parenting variables				
Parenting Skills				
Support positive behavior	6.02 (0.86)	5.91 (1.11)	5.88 (0.97)	F (2, 186) = 0.36, p = .70
Proactive parenting	5.27 (1.58)	5.35 (1.59)	5.59 (1.35)	F (2, 185) = 0.63, p = .53
Setting limits	5.94 (1.35)	5.79 (1.48)	5.92 (1.30)	F (2, 185) = 0.23, p = .79
Parenting Stress				
Parent stress	25.90 (8.14)	26.99 (10.00)	23.63 (8.88)	F (2, 188) = 1.97, p = .14
Dysfunctional interactions	20.95 (5.99)	21.80 (6.49)	20.81 (6.62)	F (2, 188) = 0.47, p = .63
Difficult child	25.31 (7.06)	23.56 (7.56)	23.18 (7.51)	F (2, 188) = 1.52, p = .22
Total stress	72.15 (16.47)	72.36 (20.97)	67.63 (20.63)	F (2, 188) = 1.02, p = .36
Parent Child Relationship	54.69 (11.23)	50.65 (12.62)	51.48 (12.00)	F (2, 163) = 1.94, p = .15
Risk factors				
Parent Mental Health				

BSI Case				χ^2 (2, 191) = 0.44, p = .80
Yes	30 (37.50%)	32 (40.00%)	18 (22.50%)	
No	42 (37.84%)	40 (36.04%)	29 (26.13%)	
Substance Use				
Alcohol use last 12m				χ^2 (2, 186) = 1.90, p = .39
Yes	43 (40.19%)	41 (38.32%)	23 (21.50%)	
No	28 (35.44%)	27 (39.71%)	24 (30.388%)	
Illegal drug use last 12m				χ^2 (2, 189) = 1.66, p = .44
Yes	30 (42.25%)	27 (38.03%)	14 (19.72%)	
No	41 (31.75%)	45 (38.14%)	32 (27.12%)	
Tobacco use last 12m*				χ^2 (2, 189) = 6.07, p = .048
Yes	45 (32.37%)	57 (41.01%)	37 (26.62%)	
No	26 (52.00%)	14 (28.00%)	10 (20.00%)	
Drug problem				χ^2 (2, 169) = 0.23, p = .89
Yes	36 (35.29%)	40 (39.22%)	26 (25.49%)	
No	24 (35.82%)	28 (41.79%)	15 (22.39%)	
Partner violence				
Victim of psychological partner violence last 12m				χ^2 (2, 175) = 0.16, p = .92
Yes	42 (36.52%)	43 (37.39%)	30 (26.09%)	
No	23 (38.33%)	23 (38.33%)	14 (23.33%)	
Victim of physical partner violence last 12m				χ^2 (2, 169) = 2.66 p = .27
Yes	14 (31.11%)	21 (46.67%)	10 (22.22%)	
No	50 (40.32%)	41 (33.06%)	33 (26.61%)	
Environmental risk variables				
Resource Needs				F (2, 187) = 0.00, p = 1.00
Total resource need	9.72 (6.86)	9.62 (6.91)	9.68 (8.68)	
Support				
Social support	5.57 (1.57)	5.34 (1.62)	5.57 (1.53)	F (2, 188) = 0.46, p = .63
Concrete support	5.46 (1.38)	5.33 (1.75)	5.87 (1.29)	F (2, 187) = 1.91, p = .15
Home Chaos				
Chaos total	1.52 (0.33)	1.54 (0.34)	1.53 (0.35)	F (2, 185) = 0.09, p = .91

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