
Engaging Victims of Child Sex Trafficking: Training for Child Welfare Workers

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Child sex trafficking (CST) is the exploitation through commercial sex of a minor under 18. Federal law requires state child welfare agencies to respond and provide services to victims of CST. Social workers report lacking an understanding of state and federal law related to human trafficking, as well as resources for victims, and are often inadequately trained for identifying and serving survivors. As part of a CST awareness training including lecture, discussion, and game-based learning, child welfare workers were surveyed on their knowledge about CST and their self-efficacy in serving and engaging with survivors. Regression analyses showed that the training was associated with a positive change from pre- to posttest, on both knowledge ($R^2 = .472$) and self-efficacy ($R^2 = .381$), even when controlling for gender, race, experience, pretest knowledge, and position. Interactive trainings for child welfare workers on child trafficking survivor engagement that use a victim-centered, strengths-based lens are a promising practice.

KEY WORDS: *child sex trafficking; child welfare workers; gamification; professional development training*

Child sex trafficking (CST) is a form of human trafficking in which a victim under the age of 18 is exploited through commercial sex, when sex is exchanged for anything of value ([Victims of Trafficking and Violence Protection Act, 2000](#)). Since the passage of the Victims of Trafficking and Violence Protection Act in 2000, there has been a growing awareness of human trafficking in the United States and recognition that children and adolescents are particularly vulnerable to this crime ([U.S. Department of State, 2021](#)). Understanding the scope of CST in the United States is challenging as prevalence data are scarce and national estimates on child trafficking are guesses at best ([Fedina & DeForge, 2017](#); [Institute of Medicine & National Research Council, 2013](#); [Nemeth & Rizo, 2019](#)). Challenges to data collection include lack of awareness and knowledge of human trafficking, victim fear of self-incrimination, stigmatization of people involved in commercial sex, and siloes in information collection. These challenges are exacerbated with children and youth victims in the United States ([Finigan-Carr et al., 2019](#)). Every state has documented cases of CST; between 2004 and 2013, over

37,000 suspects were investigated and referred to federal prosecutors for the commercial sexual exploitation of children ([Williams & Flynn, 2017](#)).

CST is increasingly recognized as a child protection issue. In 2015, the United States' cornerstone child maltreatment legislation, the Child Abuse Prevention and Treatment Act was amended by the Justice for Victims of Trafficking Act to change the definitions of *child abuse and neglect* and *sexual abuse* to include children who are victims of human trafficking, regardless of who is the perpetrator of abuse ([Child Welfare Information Gateway, 2019](#); [Shared Hope International, 2016](#)). As the agencies responsible for child protection, state child welfare agencies have increasingly been tasked with identifying and serving youth victimized through human trafficking. The [Preventing Sex Trafficking and Strengthening Families Act of 2014](#) (P.L. 113-183) placed the responsibility for working with CST victims on these agencies, framing this type of sexual violence as a form of child sexual abuse. Under this law, state child welfare agencies were required to undertake multiple reforms to ensure that sex trafficking was appropriately identified and that youth involved with child welfare were not left

vulnerable to exploitation. The Preventing Sex Trafficking and Strengthening Families Act required states to demonstrate that they had

developed policies and procedures for identifying, documenting in agency records, and determining appropriate services with respect to, any child or youth over whom the state agency has responsibility for placement, care, or supervision who the state has reasonable cause to believe is, or is at risk of being, a victim of sex trafficking or a severe form of trafficking in persons. (Summary, para. 1)

The bill required “relevant training for case-workers” as part of these policies and procedures. Additionally, states were required to immediately report cases of sex trafficking of youth in their care to law enforcement, report annual numbers of identified CST victims to the U.S. Department of Health and Human Services, and implement protocols to locate and respond to youth who go missing from care, including determining whether the child is a victim of sex trafficking ([Preventing Sex Trafficking and Strengthening Families Act, 2014](#)).

LITERATURE REVIEW

Child Welfare’s Response to CST

The extant literature has established that children in the child welfare system are at a greater risk of sex trafficking ([Lillie et al., 2016](#)). On an individual level, youth involved in child welfare are at heightened risk for trafficking because of their history of abuse, neglect, and maltreatment; experiences of family conflict and disruption; and increased likelihood of homelessness, especially after aging out ([Institute of Medicine & National Research Council, 2013](#)). The exact prevalence of child welfare-involved youth victimized through sex trafficking is uncertain, as many child welfare agencies are still developing the tools to identify and report trafficked youth ([Gibbs et al., 2018](#)). However, some studies suggest that of those involved in child welfare systems, runaway youth from foster care are at significantly higher risk of being trafficked with nearly 70% of runaway youth from foster care reporting human trafficking allegations during the time of running away ([Latzman et al., 2019](#)). One study estimated nearly 86% of trafficked minors in the United States are or have been involved in the child welfare system ([Olender, 2018](#)). Recently,

there has been a shift toward ensuring that child welfare professionals increase their awareness and understanding of these issues as affecting child welfare-involved youth.

Professionals including social workers, law enforcement personnel, and healthcare providers have been trained over the past two decades to identify youth vulnerabilities and risk factors that may lead to sexual exploitation and/or make children more vulnerable to trafficking. These vulnerabilities include homelessness and unstable housing, poverty, the experience of child abuse or neglect, frequent running away, substance abuse, and other mental health concerns ([Choi, 2015](#); [Institute of Medicine & National Research Council, 2013](#)). Youth experiencing serious mental illness including mood and anxiety disorders, PTSD, and conduct disorders may be more susceptible to trafficking, as they are more likely to be placed in care or become homeless and disconnected from their families ([National Alliance to End Homelessness, 2011](#)). Youth with developmental or intellectual disabilities are at risk for trafficking, especially if they are isolated in an institution, dependent on others for personal care, or have trouble communicating ([Dank et al., 2017](#)).

Training Child Welfare Workers on CST

Calls for evidence-based CST training for child welfare system professionals have become more frequent in the past two decades ([Ahn et al., 2013](#); [Bales & Lize, 2005](#); [Ferguson et al., 2009](#)). Research on child welfare workers working with youth victims of sex trafficking has revealed examples of mislabeling, misidentification, and improper care, indicating a need for training ([Mace, 2015](#)). Social workers have also been shown to have low levels of knowledge of state and federal laws related to human trafficking as well as resources for victims ([Hardy et al., 2013](#)). Service providers have indicated that they have a lack of awareness of the prevalence and dangers of CST and are inadequately trained for identifying and serving this challenging population ([McClerkin-Motley, 2019](#); [Michael, 2009](#)), which can lead to victims remaining unidentified ([Macy & Graham, 2012](#)).

Training curricula and interventions vary based on state or agency, with most covering areas such as the prevalence of trafficking, characteristics of traffickers and victims of trafficking, identification

signs and symptoms, and suggested first response by child welfare workers (Powell et al., 2017). Increasing social workers' knowledge about commercially sexually exploited children has been shown to increase their ability to identify risk factors for CST, improve knowledge about services and local laws regarding CST, and increase willingness to refer survivors and children at risk to specialized services (McMahon-Howard & Reimers, 2013). Several trainings for child welfare workers have taught them to apply ecological systems theory, victim-centered care, and strengths-based approaches when working with survivors of sex trafficking (Busch-Armendariz et al., 2014; McIntyre, 2014). A multidisciplinary approach is steadily becoming the standardized model of practice when providing training for child welfare professionals (Ferguson et al., 2009).

Training Interventions for Child Welfare Professionals

While graduate and undergraduate social work education tends to be experiential and applied through the key method of supervised field education (Bogo, 2015; Egan et al., 2018), continuing professional education is often didactic in nature, with inconsistent standards and evidence base (Thyer & Pignotti, 2016). Surveys of social work continuing education programs are silent on the topic of teaching methods and pedagogy (Cochran & Landuyt, 2010), despite the National Association of Social Workers' (2003) standards for continuing education's requirement that "methodologies need to be diverse and encourage the active participation of the learner in the educational process" (p. 17).

Knowledge about the effectiveness and modalities of CST training remains a gap in the literature (Preble et al., 2020). Child welfare sex trafficking training evaluations are rare and often focus on didactic training, such as webinars or lecture-based workshops (Kenny et al., 2019; McMahon-Howard & Reimers, 2013). An exception was an evaluation of a successful interdisciplinary training for trainers with social workers, healthcare providers, and law enforcement together, including a mix of didactic and experiential components such as handouts, guest speakers, videos, role-plays, mock interviewing, and case studies (Ferguson et al., 2009).

Using games in training or educational contexts is a growing area of practice in experiential adult education and is sometimes referred to as

"gamification." In professional settings, games tend to promote the transfer and application of newly learned skills to real work situations, and this is especially true of games that employ exploratory learning through simulation-focused formats that reflect real-world scenarios (Thiagi Group, 2015). Learning strategies that employ game interaction, knowledge transfer, and application have been mapped to Kirkpatrick's (1959) third level of evaluation: the degree to which we can expect participants' behavior to change because of the training. Further, learners may be more likely to transfer their learning from the game to real-world application when they are also debriefed after the game, are encouraged to action plan for further learning, and engage in authentic reflection (Thiagi Group, 2015). Combined with storytelling, trainees can create empathetic connections to others' experiences, build familiarity and trust that can make them more open to learning, and receive complex content in approachable ways that allows them to access it from a variety of perspectives (Boris, 2017). Game design, particularly when paired with a story arc, can create an experience that elicits an emotive rather than transactional interaction that differs from more typical professional training experiences (Burke, 2014).

Study Aims

CST training is a critical need within the child welfare system and has been shown to improve identification of cases and services for survivors (Bales & Lize, 2005; Ferguson et al., 2009). Studies of training efficacy in this growing area are few, and none have studied trainings that apply a game component. The overall goal of the current study was to evaluate the implementation of a statewide training for state child welfare professionals on engaging with survivors of CST. The specific aim was to determine if a training that included an application component via game techniques leads to increased knowledge and self-efficacy. Given that there are very few empirical studies examining the impact of game-based interventions in this emerging field, no a priori hypotheses were made.

METHOD

Training Intervention

A training initiative was established by the University of Maryland School of Social Work in 2014

through a five-year grant from the Administration for Children & Families' Children's Bureau to support youth victims of sex trafficking involved in child welfare. The training was designed within the context of a broader cluster of activities that included creation of a statewide universal screening protocol, service provider capacity building through funding trauma-informed services for survivors of CST including trauma therapy, case management, crisis intervention, victim advocacy, and basic needs; enactment of five policy directives guiding child welfare staff on the proper response to suspected cases of CST; and advocacy for the passage of state antitrafficking legislation to protect youth from CST, including the successful CST Screening and Services Act of 2019, which established a Regional Navigator system. The act required that law enforcement officers who encounter victims of child trafficking notify a regional state-funded navigator that would provide trauma-informed victim services. Safe Harbor legislation was not passed in the Maryland General Assembly until 2023.

In 2015, the school collaborated with the state of Maryland's Department of Human Services and a national adolescent health nonprofit to develop an engaging full-day training to equip workers with the knowledge, skills, and confidence to work effectively with trafficked youth in a trauma-informed and victim-centered manner. The eight-hour training consisted of didactic content in the morning, with lecture, videos, and discussion, and the interactive game *Case by Case* in the afternoon. Content included definitions, case identification, risk factors, impacts of CST, applicable state and federal policies, and methods of trauma-informed engagement of survivors. The *Case by Case* game applied four unique case studies demonstrating common characteristics of CST cases in this geographic area. Participants were asked to work in small groups of two to four people and move along a game board, drawing cards and answering questions about screening and identification, case management, treatment, and ongoing care and support. Examples of case study-based prompts included "Name three critical components of effective safety planning with a child victim of trafficking like Mateo." Wild cards were reinforcement of earlier training content, for example:

Imagine your client is a foreign national trafficked in Maryland who is a key witness in the federal case against his trafficker. He is co-committed to Department of Juvenile Services and the Department of Social Services. There could be four attorneys representing your client in different roles; name the three out of the four possible types of attorneys.

An agenda for the full day-long training is presented in [Table 1](#).

Sample

Respondents ($N = 1,061$) were attendees of the day-long training curriculum, which was designed to train the entire public child welfare workforce in the state. The training was mandatory for child welfare workers and was delivered over the course of five years in local Departments of Social Services in the state of Maryland, with each date open to workers from any jurisdiction.

Procedures

Pre- and posttraining surveys were administered at the beginning and end of each day's training. Human subject protections for the survey and study were approved by the institutional review board of the University of Maryland, Baltimore, and responses were kept both confidential and anonymous.

Measures

The Human Trafficking Awareness Survey is a 27-item questionnaire utilized nationally by Children's Bureau for CST grantees ([Pullmann, 2017](#)). The pretraining survey asked training participants to answer five demographic and work history questions, including an open-ended question: "What is your gender?" Responses were recoded into a binary variable: male and female (there was one response of "transgender"). Race and ethnicity included African American, American Indian/Alaska Native, Asian/Pacific Islander, Caucasian, Hispanic/Latino(a), and other (write in). Analyses were limited to the Caucasian and African American respondents, since no other group comprised two or more percent of the sample. Tenure was measured in years and months. Current position listed 26 choices, ranging from caseworker to judge to foster parent. Knowledge and self-efficacy

Table 1: “Engaging Victims of Child Sex Trafficking” Training Overview

| Content | Instruction | Approximate Time |
|--|---|-----------------------|
| Section 1: Welcome and Introduction to Human Trafficking | | 9:10 a.m.–10:15 a.m. |
| • Introductions and Orientation | Lecture with slides and discussion | |
| • What Is Human Trafficking and Child Sex Trafficking? | Interactive vocabulary exercise | |
| • Human Trafficking Laws and Human Trafficking Landscape | Lecture with slides and discussion | |
| Section 2: Dynamics of Child Trafficking | | 10:15 a.m.–11:05 a.m. |
| • Types of Child Trafficking | Lecture with slides and discussion | |
| • Methods of Recruitment and Control | | |
| Section 3: Risk and Vulnerability | | 11:05 a.m.–11:45 a.m. |
| • Risk and vulnerability factors Contributing to Child Trafficking | Lecture with slides and discussion | |
| • Red Flags and Identifying Child Victims | | |
| Section 4: Responding to Victims | | 11:45 a.m.–12:20 p.m. |
| • Child Welfare Response and SSA Directives | Lecture with slides and discussion | |
| • Wrap-Up of Morning Session | Discussion | |
| Section 5: Afternoon Welcome and Transition | | 1:20 p.m.–1:40 p.m. |
| • Survivor’s Voices | Video testimonials | |
| • Brainstorm: Impacts of Sex Trafficking | Open brainstorming session | |
| • Case Mapping and Clinical Models | | |
| Section 6: Case by Case: Game Play and Application | | 1:40 p.m.–3:20 p.m. |
| • Case by Case: Working with Sex Trafficking Victims Instructions and Play | Board game with role plays and discussion | |
| • Case by Case Game Debrief | Discussion | |
| Section 7: Case Work Preparation and Q&A | | 3:20 p.m.–4:00 p.m. |
| • Personal Training Plan | Individual worksheet | |
| • Closure and Evaluation | | |

Note: SSA = Social Security Administration.

questions were identical in both the pre- and post-test surveys (results are presented in Table 2).

Knowledge. To measure self-reported knowledge, respondents were asked to rate themselves on a Likert scale ranging from 1 = no knowledge to 10 = complete knowledge/expert as to their knowledge level in 12 different areas or aspects of sex trafficking (e.g., “What is your level of knowledge about how sex trafficking impacts youth?”).

Self-Efficacy. The self-efficacy section asked participants rate their comfort level using a Likert scale ranging from 1 = not at all comfortable to 10 = completely comfortable in their ability to do a list of

six tasks related to CST response (e.g., “Identify youth victims of sex trafficking in my community”).

Analyses

Univariate descriptive data, bivariate analyses including *t* tests, Pearson’s correlations, and one-way analyses of variance (ANOVAs), as well as ordinary least squares (OLS) regression analyses were conducted using SPSS (Version 24; IBM Corporation, 2016). Bivariate analyses compared gender, race, tenure, and position with change in knowledge and change in self-efficacy. The main analyses were OLS regressions of posttest knowledge on pretest

Table 2: Knowledge and Self-Efficacy Item Responses with Pre–Post Change *t* Tests

| Item | Pretest <i>M</i> | Posttest <i>M</i> | Change | <i>t</i> | <i>p</i> |
|---|------------------|-------------------|--------|----------|----------|
| What is your level of knowledge about the items below? | | | | | |
| The federal and state definitions of sex trafficking | 3.75 | 6.62 | +2.88 | −41.49 | <.001 |
| Terminology related to sex trafficking (e.g., commercially sexually exploited youth, prostitution, pimp, etc.) | 4.46 | 6.89 | +2.43 | −42.16 | <.001 |
| Factors that put youth at risk of sex trafficking | 4.95 | 7.05 | +2.10 | −38.08 | <.001 |
| Factors that protect youth against sex trafficking | 4.45 | 6.74 | +2.29 | −40.94 | <.001 |
| Strategies used to recruit youth into sex trafficking | 4.54 | 6.97 | +2.43 | −43.35 | <.001 |
| How sex trafficking impacts youth | 4.92 | 7.06 | +2.15 | −37.64 | <.001 |
| Prevalence of sex trafficking among youth in my community | 4.01 | 6.62 | +2.61 | −43.04 | <.001 |
| Ways to identify sex-trafficked youth | 4.00 | 6.93 | +2.93 | −50.28 | <.001 |
| Ways to engage with sex-trafficked youth | 3.52 | 6.69 | +3.17 | −53.39 | <.001 |
| Your agency's process for identifying sex-trafficked youth | 3.69 | 6.37 | +2.68 | −41.25 | <.001 |
| Your agency's referral process for sex-trafficked youth | 3.73 | 6.45 | +2.73 | −41.86 | <.001 |
| Services available in your community to treat sex-trafficked youth | 3.34 | 6.06 | +2.72 | −41.52 | <.001 |
| With your current level of experience, how comfortable do you feel about your ability to do the following: | | | | | |
| Have a conversation with a youth to identify if they are currently being sexually exploited or at risk of sexual exploitation | 5.59 | 7.31 | +1.71 | −25.48 | <.001 |
| Directly ask a youth if they are trading sex for money, survival needs, or other items of value | 5.92 | 7.29 | +1.37 | −19.38 | <.001 |
| Identify youth victims of sex trafficking in your community | 4.98 | 7.18 | +2.20 | −32.00 | <.001 |
| Identify youth at risk of being sex trafficked in your community | 5.25 | 7.34 | +2.09 | −30.15 | <.001 |
| Respond appropriately when victims of sex trafficking are identified (e.g., documentation, referral, supervisor notification, etc.) | 5.72 | 7.51 | +1.79 | −24.04 | <.001 |
| Refer a youth to local resources and services | 6.08 | 7.51 | +1.43 | −18.24 | <.001 |

knowledge controlling for gender, race, months in field, and position, and of posttest self-efficacy on pretest self-efficacy controlling for gender, race, months in field, and position.

RESULTS

The sample is described in Table 3. Participants were predominantly female, like child welfare workers in general, at 87.6% of those trained. Caucasian respondents were 48.9% of the sample, and African American or African respondents were 36.7% of the sample. Hispanic/Latino, Asian/Pacific Islander, and American Indian/Alaska Native trainees made up 1.9, 1.2, and 0.1% of respondents. Those surveyed were quite experienced on average,

having been in their fields for a mean of 130.55 months, or nearly 13 years, ranging up to 41 years. Child welfare supervisors made up 54.3% of respondents, and child welfare workers were 16.7%, with a substantial 11.4% in other roles, the largest categories of which were mental health providers and child advocate attorneys.

Knowledge and Self-Efficacy

Item responses (on a scale of 1 to 10) were diverse, and means (displayed in Table 2) ranged from a pretest mean of 3.34 regarding level of knowledge about “services available in your community to treat sex-trafficked youth” to 6.08 regarding the degree to which respondents’ were comfortable in

Table 3: Summary Statistics

| Variable | N | Freq. | % | Range | M (SD) |
|-----------------------------------|-------|-------|------|-------|-----------------|
| Gender | 1,061 | | | | |
| Male | | 93 | 8.4 | | |
| Female | | 967 | 87.6 | | |
| Transgender | | 1 | 0.1 | | |
| Race | 985 | | | | |
| African American | | 405 | 36.7 | | |
| American Indian/Alaska Native | | 1 | 0.1 | | |
| Asian/Pacific Islander | | 13 | 1.2 | | |
| Caucasian | | 540 | 48.9 | | |
| Hispanic/Latino | | 21 | 1.9 | | |
| Other | | 2 | .2 | | |
| Multiple | | 3 | .3 | | |
| Missing | | 119 | 10.8 | | |
| Months in the field | 1,045 | | | 0–497 | 130.55 (110.35) |
| Job role | 910 | | | | |
| Worker | | 184 | 16.7 | | |
| Child welfare supervisor | | 600 | 54.3 | | |
| Other (therapist, attorney, etc.) | | 126 | 11.4 | | |
| Change in mean knowledge | 1,037 | | | 0–10 | 2.586 |
| Change in mean self-efficacy | 1,009 | | | 0–10 | 1.757 |

their ability to “refer a youth to local resources and services.” Knowledge-based questions generally started with lower pretest scores (around 3–5) and ended with lower posttest scores (around 6–7) than self-efficacy questions, which started around 5–6 and ended above 7. Degree of change in mean responses from pre- to posttraining surveys ranged from +1.37 (self-efficacy to “directly ask a youth if they are trading sex for money, survival needs, or other items of value”) to +3.17 (knowledge of “ways to engage with sex-trafficked youth”).

Bivariate Analyses. Change in knowledge and change in self-efficacy were each compared with demographic and employment variables using Pearson correlations, *t* tests, and one-way ANOVAs, with results displayed in Table 4. A modest correlation was found for change in knowledge with fewer months in the field ($r = -.073$, $p = .022$). Mean change in knowledge did not vary significantly by gender ($t = 0.057$, $p = .955$), or by African American or Caucasian race ($t = 0.607$, $p = .534$). Change in knowledge showed a statistically significant difference between the job role groups of worker, supervisor, or other [$F(2, 862) = 26.109$, $p < .001$]. Change in knowledge and change in self-efficacy were also correlated with each other ($r = .373$, $p <$

.001). Change in self-efficacy was significantly correlated with fewer months in the field ($r = -.066$, $p = .039$). Mean change in self-efficacy varied significantly by gender ($t = 2.277$, $p = .006$), and by African American or Caucasian race ($t = -2.248$, $p = .022$). Change in self-efficacy did not show a statistically significant difference between the job role groups of worker, supervisor, or other [$F(2, 840) = 1.174$, $p = .310$]. Pearson’s correlations showed that pre- and posttest knowledge scores were correlated ($r = .647$, $p < .001$) as were pre- and posttest self-efficacy scores ($r = .590$, $p < .001$).

Regression Analyses. OLS regression of posttest knowledge levels on pretest knowledge levels (controlling for male or female gender, African American or Caucasian race, months in the field, and position) showed a statistically significant association between pre- and posttest scores ($\beta = .620$, $p < .001$) and a large effect size ($R^2 = .472$), as shown in Table 5. Regression of posttest self-efficacy scores on pretest self-efficacy scores (also controlling for gender, race, tenure, and position) showed a statistically significant association between pre- and posttest scores ($\beta = .618$, $p < .001$) and a medium effect size ($R^2 = .381$), as shown in Table 6.

Table 4: Bivariate Analyses of Change in Knowledge and Self-Efficacy

| Variable | <i>n</i> | <i>t</i> | Pearson's Correlation (<i>r</i>) | One-Way ANOVA (<i>F</i>) | <i>p</i> |
|------------------------------------|----------|----------|------------------------------------|----------------------------|----------|
| Change in knowledge | | | | | |
| Gender (male/female) | 1,001 | 0.057 | | | .955 |
| Race (African American/Caucasian) | 897 | 0.607 | | | .544 |
| Months in the field | 1,037 | | -.073 | | .022 |
| Position (worker/supervisor/other) | 864 | | | 26.109 | <.001 |
| Change in self-efficacy | 993 | | .373 | | <.001 |
| Change in self-efficacy | | | | | |
| Gender (male/female) | 982 | 2.277 | | | .006 |
| Race (African American/Caucasian) | 879 | -2.248 | | | .025 |
| Months in the field | 1,045 | | -.066 | | .039 |
| Position (worker/supervisor/other) | 842 | | | 1.174 | .310 |

Note: ANOVA = analysis of variance.

Table 5: Regression of Posttest Knowledge on Pretest Knowledge Controlling for Gender, Race, Months in Field, and Position

| Variable | <i>B</i> | <i>SE</i> | β | <i>t</i> | <i>p</i> |
|-------------------|----------|-----------|---------|----------|----------|
| Pretest knowledge | .740 | .033 | .620 | 22.194 | <.001 |
| Gender | .108 | .168 | .017 | 0.643 | .521 |
| Race | -.065 | .107 | -.016 | -0.605 | .545 |
| Months in field | -.001 | .000 | -.068 | -2.488 | .013 |
| Position | -.591 | .098 | -.172 | -6.027 | <.001 |

Notes: $R = .687$; $R^2 = .472$; adjusted $R^2 = .468$; standard error of the estimate = 1.46376.

Table 6: Regression of Posttest Self-Efficacy on Pretest Self-Efficacy Controlling for Gender, Race, Months in Field, and Position

| Variable | <i>B</i> | <i>SE</i> | β | <i>t</i> | <i>p</i> |
|-----------------------|----------|-----------|---------|----------|----------|
| Pretest self-efficacy | .497 | .023 | .618 | 21.327 | <.001 |
| Gender | -.144 | .164 | -.025 | -0.881 | .378 |
| Race | -.025 | .104 | -.007 | -0.245 | .807 |
| Months in field | .000 | .000 | -.006 | -0.209 | .835 |
| Position | -.109 | .092 | -.035 | -1.192 | .234 |

Notes: $R = .620$; $R^2 = .385$; adjusted $R^2 = .381$; standard error of the estimate = 1.41188.

DISCUSSION

OLS regression and bivariate analyses showed that the training was associated with a change from pre- to posttraining levels of both knowledge ($R^2 = .472$) and self-efficacy ($R^2 = .381$), even when controlling for gender, race, experience, and position. The statistically significant positive pre- and posttest mean score changes indicate that participation in the training was associated with increased knowledge of CST and self-efficacy in talking with and identifying youth at risk of or currently involved in CST. Although the changes in pre- and posttest scores for knowledge and self-efficacy varied in clinical application with individual item change scores ranging from +1.37 to +3.17 across the two subscales, the overall impact size of the training on change scores was large for knowledge and medium for self-efficacy when controlling for demographic variables. The quantitative results

indicate that the one-day training event improved knowledge and made some difference in the level of self-efficacy immediately following.

The application of a game-based format as a CST training component is a highly unusual choice, and it served six key purposes. First, gamification increased the trainees' participation and voice in the training, so that they could take more ownership of their learning, in line with social work education's long commitment to experiential learning. Second, this modality of training improved interaction among trainees to promote collaboration and diversity of thought on complex and challenging cases. Third, the game allowed for delivery of highly nuanced and situational material in a reflective case-study format, applying the day's learnings to the specifics of a single realistic case (see Pate et al., 2021). Fourth, use of gamification incorporated very brief role plays, asking participants to say what they would say to the

case study youth in a given situation, promoting confidence and more sustained learning. Fifth, it also allowed trainers to assess learning so that they could fill in gaps in content, listening in and helping each group. Sixth, the format lightened the atmosphere in a day-long training on an exceedingly dark, heavy topic, so that trainees could continue to engage with the material throughout the afternoon.

The training's strengths and weaknesses were further described by write-in responses to the open-ended questions at the end of the survey, answered by a subset of the respondents. The game was praised as interactive, fun, and good at reinforcing key learnings. It was also criticized by some participants, who wished it were shorter and a few of whom thought it made those with less content knowledge feel badly. In terms of pedagogy, several people asked for more role-plays, practice, skill building, discussion, and work in pairs. Survivor stories were the most praised aspect of the training and were most requested as an addition. Focus groups with past trainees further supported these findings (see [Burruss-Cousins et al., in press](#)). Overall, the quantitative analyses and open-ended responses show that the training format and curriculum were effective in increasing knowledge and self-efficacy among child welfare workers.

Strengths and Limitations

This study addresses a critical need and benefits from a large sample, allowing the analysis of outcomes to control for demographics, tenure, and role, which are important in understanding training efficacy. Since all data were collected from a single state during a large, densely timed training rollout with manualized content, the internal validity of the study is strong. Due to the single training event and no follow-up assessments, it is unknown how long these increases in knowledge and comfort level lasted for the participants. Future studies utilizing this type of training format with child services workers could benefit from follow-up assessments and potentially even refresher courses. Research has shown that long-term retention of knowledge and changes in self-efficacy due to a single-day training diminish over time with a need for refreshers at least one year after the initial event ([Vadnais et al., 2012](#)). Thus, additional research with follow-up touch points outside of the initial training would add to the results found to gauge application and longer-lasting impacts. Also,

formal education levels of respondents were not collected or analyzed, which may be an important covariate in future models examining training impact. In addition, with all data collected in a single, small, well-funded state, external validity regarding similar trainings' potential success in other states or countries is diminished. Finally, since the components of the training were not evaluated separately, the increased knowledge and self-efficacy among trainees cannot be attributed to the game alone, but only to the training as a whole.

Implications

These data indicate that the training, with its use of traditional lectures and increased interaction, application, and engagement, may be a promising model. Previous literature on CST training for child welfare workers has indicated that this training contains content similar to other trainings nationally ([Powell et al., 2017](#)), delivered through an increasingly common ecological, victim-centered care, and strengths-based lens ([Busch-Armendariz et al., 2014](#); [Finigan-Carr et al., 2019](#); [McIntyre, 2014](#)). The innovative format and pedagogy of the training seem to promote trainees' knowledge and confidence. Since research on similar trainings has indicated that increased knowledge leads to better case identification and case referrals by child welfare caseworkers ([McMahon-Howard & Reimers, 2013](#)), the model could improve the child welfare system's services to survivors. Practice implications may include incorporation of similar game-based strategies in child welfare sex trafficking trainings created by other universities and state departments of human services, especially where trainees are of mixed experience levels and rank. Policy implications include support for statewide rules mandating CST training for the child welfare workforce.

Conclusion

A day-long training for child welfare workers on definitions, case identification, risks, and impacts of CST, including a game-based component, was associated with increases in knowledge and self-efficacy related to child welfare services for survivors of trafficking, even when controlling for race, gender, and time in the field. The training curriculum and game-based teaching in this area are promising practices as part of the urgent effort to quickly improve child welfare workers' knowledge and self-

efficacy in identification of trafficking and trauma-informed engagement with survivors. **SWR**

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