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**Final Report:
Program Evaluation of Mississippi's CAST Initiative**

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November 2021

**Prepared for:
Children's Advocacy Centers of Mississippi™**

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Tables of Contents

Executive Summary.....	i
Chapter 1: Introduction to Mississippi’s CAST Initiative.....	1
Chapter 2: Methods	7
Implementation Study	7
Outcome Study	8
Project Forecast Sub-Study.....	12
CAST Graduate Pilot Interview Sub-study	13
Chapter 3: Instructors and Administrators’ Perspectives on the Implementation and Impact of CAST	14
Development of CAST	14
Implementation of CAST	16
Impact of CAST	22
The Future of CAST	26
Faculty Aspiring to Implement CAST.....	28
Summary of Implementation Evaluation.....	28
Chapter 4: Students’ Evaluation of CAST Courses and Programs.....	30
Students’ Evaluation of their CAST Courses and Program.....	30
Students’ Interest in Working with Children and Families Affected by Child Maltreatment...	31
Responses to Open-Ended Questions about their CAST course and program.....	32
CAST Course	32
CAST Program	42
Summary and Discussion	45
Chapter 5: Comparing CAST and non-CAST Students at the Beginning of the Semester	47
Comparison of CAST and Non-CAST Students from Two-Year Schools at the Beginning of the Semester	47
Comparison on Individual Child Protection Knowledge Items on Pre-scores for Two-Year Schools	52
Comparison of CAST Pre-Scores and Non-CAST Post-Scores for Four-Year Schools.....	53
Comparing CAST Pre-Surveys and non-CAST Post-Surveys on Child Protection Items for Four-Year Schools	55
Summary and Discussion	56
Chapter 6: Comparing CAST and non-CAST Students at the End of the Semester	57
Comparison of CAST and non-CAST Students at the End of the Semester	57

Comparison on Individual Child Protection Knowledge Items	62
Summary and Discussion	63
Chapter 7: Outcomes for CAST Certificate/Minor Students.....	65
Comparison of the Three Groups on Outcomes.....	67
Comparison on Individual Child Protection Knowledge Items	70
Summary and Discussion	72
Chapter 8: Differences on CAST Outcomes by Type of School.....	74
Comparison of Three Types of Schools.....	74
Summary and Discussion	78
Chapter 9: Change in Outcomes During a CAST Course	80
Characteristics of the CAST Repeated Measures Sample.....	80
Analysis of CAST Students' Change Over the Course of the Semester.....	80
Changes on the Answers to the Child Protection Knowledge Score Questions.....	84
Analysis of CAST Certificate/Minor Students' Change Over the Course of the Semester	85
Assessing Change Using Independent Samples.....	86
Summary and Discussion	88
Chapter 10: CAST Students' Change Across Semesters.....	90
Results.....	90
Summary and Discussion	91
Chapter 11: Evaluation of Project FORECAST in Mississippi.....	97
Results.....	98
Discussion.....	99
Chapter 12: CAST Graduate Pilot Sub-Study.....	101
CAST was chosen based on prior interest in serving children	101
Teachers have personal qualities and skills that are helpful to CAST students	102
Instructors helped students deal with the emotional demands of CAST.....	103
Classroom discussion taught them about others' perspectives.....	104
CAST course reading helped them understand the experience of child victimization	104
Students appreciated the realism of simulations and other experiential learning and found them a valuable learning experience.....	105
CAST students learned about Children's Advocacy Centers.....	106
CAST taught interviewees about child protection, particularly by raising their awareness of the risks to children that they were unaware of given the interviewees' background	107

CAST increased their motivation to work with children and families	108
CAST has had an impact on their career goals	109
CAST has impacted their work life	109
CAST has made them a better person	110
Students dealt with personal trauma	111
The interviewees had different ideas about improving CAST	111
Advice to other students: Invest in CAST.....	112
Discussion.....	113
Chapter 13: Conclusion.....	115
The Development of Mississippi’s CAST initiative	116
CAST Students’ Appraisal of their CAST Course and the CAST Program	116
Results on CAST Outcomes	117
Change on CAST Outcomes.....	118
Outcomes for CAST Certificate and Minor Students	120
Opportunities for Improvement	120
The Emotional Effect of CAST Courses.....	121
Simulations and CAST Students Understanding and Skills Related to Trauma	121
The CAST Graduate Pilot Sub-Study.....	122
Implications of the Program Evaluation for the Future of the Mississippi CAST Initiative	122
References	124
Appendix A: Semi-Structured Interview Protocol for Administrators and Faculty of CAST Programs	126
Appendix B: Semi-Structured Interview Protocol for CAST Graduates	129
Appendix C: Theme comparison of two researchers.....	130

Executive Summary

Below we summarize a number of important learnings from the evaluation:

- CAST is firmly established and highly valued in a range of different colleges and universities in Mississippi.
- CAST implementation has been expanding and enrollment increasing.
- Multiple university departments are involved in implementing CAST.
- Partnerships between CAST programs and community agencies have been established.
- Most CAST students rated their CAST courses highly on multiple dimensions.
- In response to open-ended questions, many CAST students:
 - Provided testimonies about how CAST enhanced their knowledge about child maltreatment and helped with career choice and preparation.
 - Reported the benefit of hands-on experience through simulations.
 - Recommended emotional preparation when asked what advice about the course and program they would offer.
- Both at the beginning and end of their CAST course, around three-quarters of CAST students reported being interested or very interested in working with children and families affected by child maltreatment.
- CAST students scored higher than non-CAST students on a range of outcomes measuring knowledge and judgment in responding to child maltreatment.
- CAST students had an advantage over non-CAST in knowledge and judgment even at the beginning of the CAST course during which we surveyed them.
- Students who are pursuing CAST certificates and minors had substantially better knowledge and judgment than other CAST students.
- CAST students in four-year schools had substantially better knowledge and judgment about child maltreatment than CAST students in two-year schools, and somewhat better knowledge and judgment than CAST students in graduate school, though CAST students in all three types of schools had knowledge and judgment about child maltreatment that were superior to comparable non-CAST students.
- CAST students had a moderate to large increase on average, from the beginning to the end of a CAST course, in their self-rating of their skills in responding to child maltreatment.
- CAST certificate and minor students had a large increase on average, from the beginning to the end of a CAST course, in their self-rating of their skills in responding to child maltreatment, and also improved significantly in response to two vignettes asking them to make judgments about the likelihood of child maltreatment.
- On the other hand, the entire sample of CAST students had little or no change on most other outcome measures from the beginning to the end of the semester in this study, and a few changes were in the undesired direction.
- There is room for improvement in CAST students' knowledge, as only minorities of CAST students provided a correct answer on knowledge questions on such important topics as mandated reporting and commercial child sexual exploitation.

- Six CAST students, who we tracked across semesters, had large and statistically significant improvements on average in their self-appraisal of their skills and their judgment in response to a vignette about possible child sexual abuse.
- CAST students participating in simulations through Project FORECAST reported that their knowledge of core trauma concepts increased markedly, and their self-appraisal of their trauma-informed skills increased substantially.
- In a pilot interview study of six CAST students who had recently graduated or were nearing graduation we found that:
 - They reported a positive impact of each element of the CAST program we asked them about.
 - Several reported that CAST had an impact on their career goals and preparation.
 - Several credited CAST with helping them be a better person.

Chapter 1: Introduction to Mississippi’s CAST initiative

We as a society need commitment, knowledge and skill to deal with the substantial risk of child abuse and neglect and the enormous harm thousands of children suffer from it. Yet training on child abuse and neglect in higher education is meager. Child Advocacy Studies Training (CAST) is a national programmatic response to the deficit in education in child maltreatment (Vieth et al., 2019). Colleges and universities throughout the United States provide CAST courses and certificate or minor programs to educate undergraduate and graduate students about child maltreatment and help prepare many for careers in child-serving professions, especially child protection. Starting in 2014, Mississippi introduced a paradigm shift by creating the first statewide program to implement CAST in multiple schools throughout the state. This report presents the results of Mississippi’s CAST initiative, a statewide effort to help undergraduate and graduate students learn about child maltreatment and develop the abilities to respond to child victims.

In 2014, Mississippi was the one state in the country to win an award from a private donor to develop a systemic response to improve education on child maltreatment. Assisted by this seed money, the Mississippi CAST partners invited all 38 institutions of higher learning to a discussion of implementing CAST programs at their school, and had an enthusiastic response. Mississippi and national CAST leaders partnered to supplement this with a “road show” outreach; they travelled to every Mississippi public university and other schools to learn about their needs and promote the CAST idea. At a conference, over 100 representatives of 16 Mississippi schools were introduced to the CAST idea and given curricula, syllabi, and other materials to help them implement CAST. Seven Mississippi colleges and universities offered CAST courses for the first time in the spring of 2016. More schools have added CAST courses every year since. CAST training has been provided yearly since 2015.

Children’s Advocacy Centers of Mississippi™ (CACM) has taken numerous actions to support and promote CAST, including online networking, webinars, and technical assistance on course development. CACM also helped develop an agreement allowing credit for the introductory CAST course to be transferred from two-year schools to four-year schools. One important enhancement is the participation of many CAST schools in Project FORECAST, a program that trains faculty to provide experiential learning using child protection simulations. A number of

Mississippi schools now include FORECAST simulations as part of their CAST courses. In August 2019, CACM opened the Child Advocacy Training Institute (CATI), a training facility that includes three mock houses, a mock courtroom, a training room, a mock early childhood or elementary classroom, a mock medical exam room, a mock office or waiting room, two mock forensic interview rooms, two mock hotel rooms, and a mock dorm room. Both students and professionals receive simulation training at CATI. Most colleges and universities in Mississippi have had some involvement in CAST, and a number of schools regularly teach CAST courses every academic year. Hundreds of students in Mississippi have taken CAST courses.

Chapter 2: Methods

Implementation Study. This part of the evaluation sought to explore the development of the CAST initiative in Mississippi and examine its implementation. Two methods were used for the implementation study: document review and key informant interviews. Evaluators reviewed a comprehensive set of documents that Children’s Advocacy Centers of Mississippi™ provided evaluators related to implementation of the CAST initiative. An interview with the Executive Director of Children’s Advocacy Centers of Mississippi™ aimed to capture the history of the development of the CAST initiative. Interviews (n=8) were also conducted with faculty who were teaching CAST courses and/or administrating CAST programs in Mississippi college and universities. We also interviewed faculty who had received CAST training but teach at schools that had not yet implemented CAST (n=4).

Outcome Study. The CAST Outcome Survey was developed in the autumn of 2019. It had multiple sections: questions regarding students’ CAST courses and program (CAST students only), questions evaluating their CAST courses and program (CAST students only), questions regarding their interest in working with children and families, self-ratings on knowledge and skills regarding child maltreatment, vignettes testing students’ ability to recognize child maltreatment, a Child Protection Knowledge Scale, and a child sexual abuse case vignette in which students were asked questions about the professional response.

The CAST Outcome Survey was developed in the autumn of 2019 and first fielded at the end of the 2019-2020 autumn semester to capture students’ experience, knowledge, and skills related to child maltreatment at the end of the course. We then administered the survey in subsequent semesters as a pre-test (in the second week of classes) and post-test (at or near the last class session). The survey was administered in the following semesters: Autumn 2019-2020 (post-survey only), Spring 2019-2020 (pre- and post-survey), Summer 2019-2020 (pre- and post-survey), Autumn 2020-2021 (pre- and post-survey), Spring 2020-2021 (pre- and post-survey).

We used comparison of means procedures to compare groups: independent sample t-tests and univariate analysis of variance (ANOVA). The primary group comparison contrasted the CAST and non-CAST groups but other groups were compared as well (e.g., CAST certificate/minor students vs. other CAST students vs. non-CAST students). Because the CAST and non-CAST groups differed on racial composition and on school type (i.e., how many students were in two-year schools, four-year schools and graduate school), we often controlled for race and school type and calculated simple effects comparing groups within race and school type as appropriate.

We also conducted repeated measures ANOVA to assess CAST students' change in outcomes over the course of the semester. Because only eight non-CAST students completed pre-surveys and post-surveys in the same semester, we omitted non-CAST students from the repeated measures ANOVA. A number of CAST and non-CAST students completed either a pre-survey or post-survey but not both in the same semester, so we also used independent samples with univariate ANOVA to compare pre-scores and post-scores for both CAST and non-CAST students. In addition, to assess change across semesters, we used line graphs and paired sample t-tests to track CAST students who had completed the CAST outcome survey three or more times.

Project Forecast Sub-Study. A number of Mississippi CAST schools participated in Project FORECAST, in which trainers from Children's Advocacy Services of Greater St. Louis trained faculty to provide special FORECAST simulations to students in CAST courses. Students from four Mississippi schools participated in the FORECAST evaluation via an online survey between 2017-2020. Three different measures were used in the survey: 1) Knowledge of Core Concepts; 2) Trauma-Informed Experiential and Reasoning Skills (TIERS); 3) Attitudes Towards Trauma Informed Care (ARTIC).

CAST Graduate Pilot Sub-Study. We conducted semi-structured interviews with six recent CAST graduates or graduating seniors in CAST programs. The interviews asked CAST students and recent CAST graduates to describe their experience with the CAST program and its impact on deciding on career goals, getting jobs, developing work skills and developing as a person. We used Braun and Clarke's (2006) thematic analysis methods to analyze the transcripts.

Chapter 3: Instructors and Administrators' Perspectives on the Implementation and Impact of CAST

This chapter explores the implementation of Mississippi's CAST initiative. The source of data is interviews with instructors and administrators in eight schools that implemented CAST courses and four schools that aspired to offer CAST courses, but had not yet implemented CAST at the time of the interview.

The development of CAST at a college or university typically depended on a champion who had attended a CAST training or engaged with CAST leaders on their visits to campus. Yet one person could not implement CAST by themselves. Most interviewees reported that their school administration and faculty supported the development of CAST, and in some schools the administration actually played a leadership role. Support from the school's administration and faculty facilitated the implementation of CAST courses, though champions also encountered some skepticism.

Multiple academic departments are involved in CAST within schools, though complications involving multiple departments needed to be dealt with, and some departments hung back, perhaps out of concern about the program's demands. Instructors needed knowledge and experience in the field as well as teaching ability; which meant that recruiting, monitoring, and maintaining CAST instructors required considerable effort and involved some uncertainty. Though enrollment in CAST courses was small in some schools, in others it had grown substantially. Rising enrollment could make it challenging to do simulations and tended to

introduce more students who were not committed to child-serving careers, and might have a different level of interest and different values than other CAST students. A number of CAST programs have strong partnerships with community organizations. These partnerships enrich the education of CAST students and sometimes engage community professionals in learning opportunities. Resource limitations, academic requirements, questions about prerequisites, and the challenges of doing online as well as in-person courses all influenced the implementation of CAST.

Interviewees consistently talked about the value of CAST for providing useful knowledge and experience for students seeking to work in children's services. They also noted students' enthusiasm for CAST. Two aspects of CAST that demanded attention were dealing with CAST students who do not seem suited to working with children and families, and responding to disclosures of CAST students who have had a history of victimization. Interviewees felt that simulations provided valuable experiential learning. Most interviewees anticipated that their CAST program would grow in different ways, including development of a certificate program or minor, increased connection with other academic departments or universities, and greater engagement with community professionals. The interviewees in schools that had not yet implemented CAST were enthusiastic about the program and working through the organizational steps needed to move toward implementation. One of the four has now implemented CAST at the time of this writing.

Chapter 4: Student's Evaluation of CAST Courses and Programs

In this chapter we present results on CAST students' appraisals of the CAST course they had just taken and the CAST program as a whole.

Students' Evaluation of their CAST Courses and Program. CAST courses received high average scores on each question (between 3.99 and 4.31 on a 5-point positive scale), indicating that most students had a high positive appraisal of their CAST course. These scores might underestimate students' positive ratings of CAST, since some students made positive comments about CAST, but apparently rated their course as "very unhelpful" by mistake. Students in CAST programs also rated the program highly: an average of 4.76 and 4.81 on a 5-point positive scale.

Students' Interest in Working with Children and Families Affected by Child Maltreatment. In both the pre- and post- versions of the CAST Outcome Survey, we asked CAST students to rate their interest in working with children and families affected by child maltreatment. In the pre-survey sample, 75.2% of the responses reported being interested to very interested in working with children and families at the beginning of the course. The post-survey results were similar: 75.5% were interested to very interested in working with children and families at the end of the course. We also used a sample of 98 CAST students who did both pre- and post-surveys in the same semester. Of the repeated measure sample, 80.2% of responses were interested to very interested in working with children and families at the beginning of the semester and 78.2% at the end of the semester.

Responses to Open-Ended Questions About their CAST Course and Program. In the post-test survey, we asked about the strengths of the CAST course and program, how to improve both the course and program, and what advice respondents had for future CAST students. Students

provided positive testimonies about how CAST enhanced their knowledge about child maltreatment and helped with career choice and preparation. Many students endorsed the course and program by saying “Take it” and advised students to “Pay attention.” Simulation apparently also has a substantial impact on student’s learning experience, as many mentioned the benefit of the hands-on experience and requested more simulations. Emotional preparation is an important theme when asked what advice about the course and program they would offer.

Chapter 5: Comparing CAST and non-CAST Students at the Beginning of the Semester

The CAST students we surveyed may have differed from non-CAST students even at the beginning of the semester in which we surveyed them. We need to consider their prior knowledge and skills in order to assess the effect of a semester CAST course. For this reason, this chapter compares CAST and non-CAST on their knowledge and skills at the beginning of the semesters we studied. We pooled pre-survey data from four semesters: Spring 2019-2020, Summer 2019-2020, Autumn 2020-2021, and Spring 2020-2021 to conduct this analysis. The comparison of CAST and non-CAST students on pre-scores only includes students from two-year schools, because we had only two pre-surveys from non-CAST students in four-year schools, and we lacked graduate students from non-CAST schools.

Comparison of CAST and Non-CAST Students from Two-Year Schools at the Beginning of the Semester. The results showed that CAST and non-CAST two-year students differed significantly on four measures on the pre-survey once we controlled for race. The CAST group had significantly higher scores than non-CAST students on identifying types of evidence in a sexual abuse case scenario, and on identifying organizations likely to be involved in a child sexual abuse case scenario. In one of the vignettes asking respondents to rate their suspicion of child maltreatment in a given situation, CAST students gave higher scores indicating greater suspicion of neglect than non-CAST students. However, it would be reasonable to have lower suspicion of neglect in response to this vignette, because the vignette depicts a father who is having difficulty caring for his children simply because of lack of money, which is generally not substantiated as neglect by child protective services.

Comparison on Individual Child Protection Knowledge Items on Pre-scores for Two-Year Schools. We compared CAST and non-CAST students in two-year schools on their ability to provide the correct answer on each pre-score item on the Child Protection Knowledge Scale (25-item scale). On five items, CAST students had a higher percentage of correct answers than non-CAST students and these differences were statistically significant. These five items concerned mandated reporting, perpetrators, multidisciplinary teams, and resilience of child victims.

Comparison of CAST Pre-Scores and Non-CAST Post-Scores for Four-Year Schools. We had too few pre-scores from four-year non-CAST schools to compare CAST and non-CAST four-year schools at the beginning of the semester. Using comparison of means procedures, and also controlling for differences in racial composition, we compared pre-scores from four-year CAST schools to post-scores from four-year non-CAST schools. If the CAST pre-scores were significantly better than non-CAST post-scores, then it is likely that CAST and non-CAST four-year school students differed at the beginning of the semester. Compared to non-CAST

students at the end of the semester, CAST students at the beginning of the semester rated their skills higher, demonstrated greater child protection knowledge, successfully identified more types of evidence and organizations involved in a child sexual abuse scenario, and demonstrated better judgment about the likelihood of maltreatment on three vignettes. On a fourth vignette presenting indicators that suggest possible child abuse and neglect, non-CAST students actually had significantly higher suspicions of child maltreatment than the CAST students. When comparing CAST pre-surveys and non-CAST post-surveys from four-year schools to assess differences in their knowledge on each question on the Child Protection Knowledge Scale, the CAST group had a significantly higher percentage correct on 10 questions compared to non-CAST students at the end of the semester.

CAST students in two-year schools had some advantages in knowledge and skills over non-CAST students even at the beginning of the semester in which they were taking their CAST course. Looking at four-year schools, CAST students' pre-scores were significantly better than non-CAST students post-scores for four outcomes, once we controlled for differences in racial composition. These results suggest that CAST students in both two-year and four-year schools had advantages in knowledge and skill over non-CAST students even before their CAST course started. They may have had more personal experience and investment, and may have seen more (e.g., videos and documentaries), read more, listened more, and talked more about child maltreatment compared to other students. Four-year school students may also have taken previous CAST courses.

Chapter 6: Comparing CAST and Non-CAST Students at the End of the Semester

To understand how, at the completion of a CAST course, CAST students differed on knowledge and skills from non-CAST students, we compared CAST and non-CAST on the post-CAST Outcome Survey. We pooled post-survey data from five semesters: Autumn 2019-2020, Spring 2019-2020, Summer 2019-2020, Autumn 2020-2021, and Spring 2020-2021 to conduct this analysis. The sample was about evenly divided between CAST and non-CAST students.

Comparison of CAST and Non-CAST Students at the End of the Semester. The results showed that the CAST and non-CAST group differed significantly on six outcomes on the post-survey once we controlled for race and program type. The CAST group rated their knowledge and understanding of child maltreatment significantly higher than the non-CAST group did. The CAST group also had significantly higher scores than non-CAST students on the Child Protection Knowledge Scale, on identifying evidence in a sexual abuse case scenario, and on identifying organizations likely to be involved in a child sexual abuse case scenario. In two vignettes asking respondents to rate their suspicion of child maltreatment in a given situation, CAST students showed better judgment than non-CAST students. One of these vignettes presented a situation in which there was emotional conflict between a mother and teen-age daughter that led to a mild accidental injury, but no evidence of abuse. Another vignette asked about the appropriateness of brief swaddling of a toddler, a practice that is normative in some cultures and not considered abusive. On both vignettes, CAST students appropriately rated their suspicion of child maltreatment as lower than non-CAST students.

Comparison on Individual Child Protection Knowledge Items. We compared CAST and non-CAST students on their ability to provide the correct answer on each item in the Child Protection Knowledge Scale. On 12 out of 25 questions, CAST students had a significantly higher percentage correct than non-CAST students.

The findings suggest that students who have completed CAST courses are indeed better prepared than comparable non-CAST students to deal with child maltreatment in their future professional and personal lives. The findings come from multiple CAST schools, and apply both to two-year and four-year schools. This suggests that the CAST advantage is widespread across the statewide CAST initiative.

Chapter 7: Outcomes for CAST Certificate/Minor students

CAST certificate and minor students must complete several CAST courses, providing more comprehensive instruction in child protection, and CAST minors must complete a capstone project. This chapter analyzes whether CAST certificate/minor students have advantages over other CAST students as well as non-CAST students. We compared three groups: 1) non-CAST students, 2) CAST students who were not pursuing a certificate or minor program, and 3) CAST students pursuing a certificate or minor program. To make appropriate comparisons, we limited the sample to students from four-year schools because CAST certificates and minors are only available in CAST programs in four-year schools.

Comparison of the Three Groups on Outcomes. Compared to both non-CAST students and other CAST students, CAST certificate/minor students had higher scores on the following outcomes: child protection knowledge, types of evidence correctly identified in a sexual abuse scenario, and number of organizations correctly identified in a sexual abuse scenario. The CAST certificate/minor students also showed significantly better judgment on Vignette 5 compared to other CAST and non-CAST students. To help further with controlling for differences in racial composition, we compared the three groups on outcomes using simple effects ANOVAs within race. Black CAST certificate/minor students demonstrated significantly better judgment than other Black students on Vignettes 5 and 6, showing that they were better able to identify appropriately explanations other than child neglect in these vignettes. Black CAST certificate/minor students had better outcomes than other black students on child protection knowledge and on Vignettes 5 and 6. Non-Black CAST certificate/minor students had better outcomes on child protection knowledge, types of evidence correctly identified in a sexual abuse scenario, and types of organizations correctly identified in a sexual abuse scenario, compared to other non-Black students.

Comparison on Individual Child Protection Knowledge Items. On 12 out of 25 questions of the Child Protection Knowledge Scale, the difference between the percentages correct amongst the three groups was statistically significant. In 11 out of those 12 questions, the CAST certificate/minor students had an advantage over both non-CAST and CAST students. On 1 of those 12 questions, both CAST certificate/minor students and other CAST students had a small percentage correct, but the percentage correct for non-CAST students was zero. It is revealing to look at the percentage correct across questions for the CAST certificate/minor students. On 14 out of the 25 questions, 75% or more of the CAST certificate/minor students got the correct

answer. On another four questions, 50% to 75% of CAST certificate/minor students got the correct answer.

Looking at students in four-year schools, CAST certificate/minor students demonstrated greater knowledge and skills than both non-CAST students and other CAST students not pursuing a certificate or minor. The findings suggest that students in the CAST certificate/minor are better prepared to deal with child maltreatment in their future professional and personal lives, even better than other CAST students who have not committed to pursuing a certificate or minor. The results help support the efforts of Children’s Advocacy Centers™ of Mississippi to help four-year schools develop certificate and minor programs, and national efforts to develop a CAST curriculum encompassing multiple courses and standards for completing a certificate or minor program. There are caveats to consider in interpreting these results. The data for CAST certificate/minor students came mostly from one school. Differences favoring CAST certificate/minor students may reflect general differences between the student bodies and education at different schools, rather than advantages specific to CAST certificate/minor programs.

Chapter 8: Differences on CAST Outcomes by Type of School

Multiple two year and four-year colleges offer CAST courses, and two graduate schools have incorporated CAST into instruction in relevant courses, using both CAST content and simulations. These types of schools differ in the nature of their student population and the structure of the educational experience. This chapter assesses differences on CAST outcomes by type of school, comparing two-year schools, four-year schools, and graduate schools.

There were significant differences on several outcomes. The graduate students rated their skills significantly lower than students in two-year and four-year schools. Students in four-year schools had significantly higher scores on the Child Protection Knowledge Score compared to students in two-year schools. On Vignette 5 (a non-child maltreatment case), students in four-year schools were significantly less likely to judge that neglect had occurred than were students in two-year schools and graduate schools, meaning that they were better able to distinguish child poverty from neglect. On Vignette 6, students in four-year schools were less likely to judge that neglect had occurred than students in two-year schools—this was a vignette in which students needed to be aware of accepted child-rearing practice in other cultures and not judge that a child was being neglected.

Simple effects analysis found that differences in outcomes within race and sex mostly paralleled results for the sample as a whole. Within the group of students who were not Black (i.e., they were White, Asian, etc.), the three school types continued to differ significantly on the self-rating of skills, on the Child Protection Knowledge Scale, and on Vignettes 5 and 6. Among Black students, the school types differed significantly on the Child Protection Knowledge Scale, and on Vignettes 5 and 6 (note that this is mostly a function of differences between two-year and four-year schools for Black students, because very few Black students were in the graduate school group). Among female students, the three school types differed significantly on the self-rating of skills, on the Child Protection Knowledge Scale, and on Vignettes 5 and 6. Among male students, the three school types differed significantly on the self-rating of skills.

It is not surprising that students in four-year schools had significantly better scores on several measures than students in two-year schools. Students in four-year schools may have started with an academic advantage, and they also have the opportunity to take multiple CAST courses and make a bigger commitment to CAST by pursuing a certificate or minor.

Chapter 9: Change in Outcomes During a CAST Course

We anticipated that CAST students' knowledge and judgment would improve from the beginning to the end of a CAST course because of what they were learning. We were able to compare CAST students' pre-surveys and post-surveys to estimate change in their knowledge and judgment over the course of a semester. We first compared pre-survey and post-survey scores using paired samples (pre- and post-scores from the same students who took the survey at both time points). Our ability to measure change among non-CAST students using this method was limited because we had only 8 non-CAST students who completed both a pre- and post-survey in the same course, and we did not include non-CAST students in this analysis. Over the course of four semesters, 101 CAST students completed both the pre-survey and the post-survey in the same semester. These 101 students formed a repeated measures sample, enabling us to assess CAST students' change over time on outcomes.

Analysis of CAST Students' Change Over the Course of the Semester. CAST students self-rated their skills significantly higher at the end of the semester than at the beginning; this change had a moderate to large effect size. There was also a decrease in the Child Protection Knowledge Score of about half a point on average on this 25-point scale, a difference that was statistically significant but had a small effect size. There were also statistically significant changes on Vignette 3 and Vignette 5, both of which had small effect sizes. On Vignette 3, this meant that CAST students appropriately became slightly more suspicious of maltreatment in a vignette that included indicators of possible physical abuse and neglect. On Vignette 5, CAST students actually became slightly more suspicious of maltreatment in a vignette in which the risk to children is best attributed to poverty.

Changes on the Answers to the Child Protection Knowledge Score Questions. We conducted an analysis of the individual questions on the Child Protection Knowledge Scale to see specific topic areas on which CAST students' knowledge may have improved over the course of the semester. For each question, we conducted McNemar's chi-square test that calculated a) the number of students who changed from having an incorrect answer on the pre-survey to a correct answer on the post-survey (those students who improved on a question), and b) the number of students who changed from having a correct answer on the pre-survey to an incorrect answer on the post-survey (those students who did worse on a question). Of 25 questions, only two questions showed a significant change from pre-survey to post-survey. On both these questions, more students did worse (changed from a correct to an incorrect answer) than improved (changed from an incorrect answer to a correct answer). It should be noted that a majority of CAST students did answer these questions correctly at both time points, even though there was not a significant improvement from the beginning to the end of the course.

Analysis of CAST Certificate/Minor Students' Change Over the Course of the Semester. We also conducted repeated measures ANOVAs to examine whether CAST Certificate and Minor

students (N=17) changed on outcomes between the pre-survey and post-survey. CAST minor/certificate students' self-rating of skills increased by almost a full point on average from the beginning to the end of the course, this change representing a large effect size. The CAST minor/certificate students also changed significantly in their judgment in response to Vignettes 1 and 2, demonstrating improved judgment.

Assessing Change Using Independent Samples. We conducted supplemental analyses in which we use independent samples of the pre-survey and post-survey responses with two-year schools only, because we had only two non-CAST pre-surveys for four-year schools and we had no non-CAST graduate students. To maintain independent samples, we avoided including the same students twice in the analysis by eliminating those students who had completed both the pre-survey and the post-survey (they were included in the repeated measures analyses above). We found that post-scores on the self-rating of skills were significantly higher than pre-scores. This indicated that two-year school students at the end of the CAST course felt more able to respond effectively to child maltreatment than did students at the beginning of the CAST course.

The biggest change on outcomes from the beginning to the end of a CAST course was a moderate to large increase on average in students' self-rating of their skills in responding to child maltreatment, in both the repeated measures sample and the independent samples. This increase in their self-rating of skills could reflect the impact of what they learned in the CAST course. A possible counter explanation is a practice effect—that taking the pre-survey in itself might have sensitized students to issues of child maltreatment, leading them to rate their skills more highly the second time they completed the measure on the post-survey. However, the fact that the effect sizes for the comparison of pre- and post- group were so much larger for the CAST students than the non-CAST students suggests that this improvement represented growth related to the CAST course and not simply a practice effect. The fact that CAST students rated their skills more highly at the end of the course speaks to the positive experience they have and is likely to reflect important increases in their self-efficacy in their response to child maltreatment. That is a very important impact to achieve for a program that aims to prepare young adults for careers working with children who have been victimized.

On other measures we saw little or no difference on pre-scores and post-scores across the entire CAST repeated measures sample and among the independent samples of CAST students. In the repeated measures CAST sample, there were four statistically significant changes in the undesired direction. When we designed the CAST Outcome Survey, we did not closely reference specific content taught in each CAST course in the study, most of which were introductory courses. The outcome measure thus may not have been sensitive to specific increases in knowledge and insight in these courses. Another possibility is that an initial CAST course may function primarily as consciousness-raising and an orientation to the world of child victims and the trauma they experience. It may take multiple courses and a longer-term commitment to CAST for students to develop the knowledge and judgment measured by the CAST Outcome Survey. In addition, the effect of the COVID-19 pandemic may have limited change on outcomes in the semesters studied.

Chapter 10: CAST Students' Change Across Semesters

Several four-year CAST schools offer multiple CAST courses. CAST certificate and minor students must take multiple CAST courses, and other students may take multiple CAST courses as well. We would expect CAST students' knowledge and skills to increase across semesters as they take multiple CAST courses. In this chapter, we explored change across semesters in CAST students' knowledge and skills. Six CAST students completed the CAST Outcome Survey on three or four occasions, counting all the pre-surveys and post-surveys across all semesters we studied. All six of the students completed their three or four administrations in two CAST courses. Because of the small sample size, the research in this chapter should be considered as a pilot study of CAST students' change over the course of multiple semesters.

All six students rated themselves higher on skills at the final time point compared to the first time point, with a very large effect size and statistical significance despite the small sample size. The six students also demonstrated improved judgment on a vignette in which students had to be alert to genuine indicators of possible child sexual abuse, a statistically significant result with a large effect size. Other changes were in the right direction and had encouraging effect sizes, but were not statistically significant because of the small sample size, so it is difficult to draw further conclusions about CAST students' change across semesters.

A caveat for interpreting the results of this chapter is that they are not independent of the results in Chapter 9. We must also be tentative about drawing conclusions because of the small sample size. Nevertheless, these results point out the value of further research on CAST students' change across semesters.

Chapter 11: Evaluation of Project FORECAST in Mississippi

Project FORECAST is a program at the University of Missouri - St. Louis' Children's Advocacy Services of Greater St. Louis (CASGSL) and the University of Illinois at Springfield, funded by the federal Substance Abuse and Mental Health Services Administration (SAMHSA; CASGSL, 2019). Trainers from Project FORECAST developed simulation training experiences tailored to CAST students' needs. As part of its SAMHSA grant, CASGSL is evaluating Project FORECAST. Students from four Mississippi schools participated in the FORECAST evaluation via an online survey.

A comparison of the pre-assessment and post-assessment scores showed that students made gains on each of these measures. The Knowledge of Core Concepts mean score increased markedly, with a large effect size. The Trauma-Informed Experiential and Reasoning Skills (TIERS) score also increased substantially, with a moderate-to-large effect size. Students also had a modest but statistically significant increase in their average Attitudes Towards Trauma Informed Care (ARTIC) score toward having more favorable attitudes toward trauma-informed care. Students who experienced two simulations did not differ significantly from students who experienced one simulation. These results provide further evidence for the positive impact of CAST in producing graduates who are trauma-informed as they enter the work force. The absence of a comparison group reduces the rigor of this evaluation, but it seems unlikely that students would improve in their scores on these three measures without the exposure to trauma concepts and simulation of trauma-informed care that these CAST courses provided.

Chapter 12: CAST Graduate Pilot Sub-Study

To learn more about CAST students' experiences in the program, we added a pilot sub-study in which we conducted semi-structured interviews with recent CAST graduates or graduating seniors in CAST programs. This must be considered a pilot because our sample size was small, and we did not sample systematically. The interviewers asked CAST students and recent CAST graduates to describe their experiences with the CAST program and its impact on deciding on career goals, getting jobs, developing work skills and developing as a person. Six interviews were conducted. Three interviewees graduated the previous year and the other three interviewees were graduating seniors. Fifteen findings were identified from the transcripts of the interviews: 1) CAST was chosen based on prior interest in serving children; 2) Teachers had personal qualities and skills that are helpful to CAST students; 3) Instructors helped students deal with the emotional demands of CAST; 4) Classroom discussion taught them about others' perspectives; 5) CAST course reading helped them understand the experience of child victimization; 6) Students appreciated the realism of simulations and other experiential learning and found them a valuable learning experience; 7) CAST students learned about Children's Advocacy Centers; 8) CAST taught interviewees about child protection, particularly by raising their awareness risks to children that they were unaware of given the interviewees' background; 9) CAST increased their motivation to work with children and families; 10) CAST has had an impact on their career goals; 11) CAST has impacted their work life; 12) CAST has made them a better person; 13) Students dealt with personal trauma; 14) The interviewees had different ideas about improving CAST; 15) The interviewed students advise other students to invest themselves in CAST.

Across multiple different questions about CAST, interviewees emphasized the way that CAST changed their awareness of child victimization and the emotional changes they experienced through their CAST course. In Chapter 4, CAST students answering open-ended items from the CAST Outcome Survey reported similar experiences. Perhaps the most important impact of CAST may be to make students aware of what normally stays hidden and denied: abuse, exploitation and neglect by adults of those children who they are supposed to cherish, nurture and protect. Given how much this violates our understanding of the relationship between adults and child and how it is hidden in daily life, this represents a culture change that requires students to change their world view. Overall, the results teach us what students can experience with CAST, although we are limited in determining how typical these students' accounts are. According to our interviewees, CAST can engage students, expand their awareness of child victimization, challenge them emotionally while steering them toward a valuable experience despite the emotional rigors, help them develop their capacity to serve children, and help them develop as a person.

Chapter 13: Conclusion

The evidence from this evaluation suggests that CAST is a program that is enduring and is valued by university administrations, faculty and students in a range of different colleges and universities in Mississippi. The vast majority of CAST students reported a positive experience with their CAST course and the CAST program. CAST students had a significant advantage over comparison students on a set of 10 CAST outcomes, both before and after taking a CAST course.

They may start their CAST course with an advantage over non-CAST students due to their prior experience and learning. Part of the CAST effect may be to attract students who already understand child maltreatment better than their peers. CAST students rated their skills more highly at the end of the semester compared to the beginning, indicating an improvement in their perception of their skills during the CAST course. The CAST sample as a whole did not demonstrate improvement on most outcome measures over the course of a semester CAST course. Data from six CAST students who completed the outcome measure in multiple semesters also showed a significant increase in self-rating of skills with little change on most other outcomes and a significant improvement in judgment in response to a child sexual abuse vignette, but any conclusions about this pilot analysis must be tentative because of the small sample size. CAST certificate/minor students had the largest increase in their self-rating of skills from the beginning to the end of a semester CAST course, and improved significantly on two vignettes in which they needed to make judgments about the likelihood of child maltreatment. Possible explanations for the lack of change in many outcomes include limitations of the CAST Outcome Survey and the effects of the COVID-19 pandemic. Results from the FORECAST evaluation suggest that Mississippi students in CAST classes with FORECAST simulations made several gains over the course of the semester in their understanding and skills related to trauma.

CAST certificate/minor students' development of skills is an important achievement that highlights the value of CAST, though most CAST students are not certificate/minor students. We recommend that CAST leaders devote more thought to goals for the majority of CAST students who do *not* pursue a certificate and minor, and what outcomes should be expected for this group. CAST leaders in Mississippi and nationally may also want to consider what steps if any should be taken to address the knowledge gaps revealed by this evaluation.

In their open-ended comments and in the CAST graduate interviews, many CAST students mentioned the emotional challenges of CAST. Encountering and dealing with the emotional demands with the help of the instructor was part of the value of the CAST course. Though it was a pilot sub-study with limitations, interviews with six CAST students who had graduated or were near graduation suggested the potential impact of the CAST program. Interviewees described how CAST engaged them, expanded their awareness of child victimization, provided a positive experience despite the emotional rigors, and helped them develop their capacity as future child serving professionals and as persons.

The results of the program evaluation suggest that the Mississippi CAST initiative is a promising program that deserves to be maintained and expanded. CAST students' advantages over non-CAST studies provide evidence that the CAST program is valuable. Further exploration is needed on greater specification of knowledge and skill objectives, and more work is needed to support the contribution of CAST to practice in child-serving organizations in Mississippi. More research is needed on such topics as: the contribution of multiple disciplines to CAST programs, the implementation and impact of partnerships between CAST programs and community agencies, the relationship between the national CAST curriculum and instruction in CAST courses, factors that promote or impede the development of child protection knowledge and

skills, students' change in CAST courses over time, the emotional impact of CAST, the value of CAST for students who do not pursue a certificate or minor, the long-term impact of CAST on field practice, the relationship between CAST and the development of Mississippi state and local programs in child protection.

Mississippi's Child Advocacy Studies Training Initiative has accomplished a great deal in a short period of time, but most of the impact of the program lies ahead. Mississippi now has an experienced community of CAST advocates, instructors and students to lead the way.

Chapter 1: Introduction to Mississippi's CAST Initiative

We as a society need commitment, knowledge and skill to deal with the substantial risk of child abuse and neglect and the enormous harm thousands of children suffer from it. Commitment, knowledge, and skill are critical because children's needs are often a low priority, and their victimization is usually hidden. They often cannot tell us that they are being hurt or they are too frightened or ashamed to speak up. We need people who see and work with children to recognize potential signs of maltreatment, know how to respond to it, and understand how to assist children's recovery from it. This report presents the results of Mississippi's Child Advocacy Studies Training (CAST) initiative, a statewide effort to help undergraduate and graduate students learn about child maltreatment and develop the abilities to respond to child victims.

Training on child abuse and neglect in higher education is meager (Vieth, et al., 2019). Few undergraduate or graduate courses are offered across the country. A 2006 study at Winona State University analyzed the web sites of 1,416 universities and colleges, and found that only 29% had any course work related to child maltreatment (Vieth, et al., 2019). These courses were typically in sociology or psychology departments, meaning that many professionals in social work, criminal justice, education and other fields had no opportunity to learn about child maltreatment within their programs. None of the universities had a concentration or minor on child maltreatment. Education on trauma generally is also limited. Cook and colleagues (Cook, Simiola, Ellis, & Thompson, 2017) found that only one in five doctoral programs in psychology offers a course in trauma psychology as well as a practicum in working with a traumatized population.

CAST is a national programmatic response to the deficit in education in child maltreatment (Vieth et al., 2019). Colleges and universities throughout the United States provide CAST courses and certificate or minor programs to educate undergraduate and graduate students in child maltreatment and help prepare many for careers in child-serving professions. Vieth and colleagues (2019) describe the history of CAST. It originated as a program of the National Child Protection Training Center (NCPTC) at Winona State University in Minnesota. CAST was supported by funds from the federal Office of Juvenile Justice and Delinquency Prevention starting in Fiscal Year 2003. When federal funding ended, NCPTC joined the Gundersen Health System; later the private non-profit Zero Abuse Project inherited the staff and assumed the responsibilities of NCPTC. The Zero Abuse Project runs the Center for Child Advocacy Studies (C-CAST), which partners with colleges and universities throughout the United States that are providing CAST curricula. In less than two decades, 73 different CAST programs have been developed in colleges and universities in 20 different states.

Several studies have explored the effects of CAST. Knox, Pelletier, and Vieth (2013) and Pelletier and Knox (2017) studied first year medical students who took a Child Advocacy (CAST) elective and a comparison group of other first-year medical students. In pre- and post-tests, students were presented with vignettes depicting situations in medical settings involving the identification and report of child maltreatment. CAST students had a significantly greater increase in their ability to identify and report child maltreatment than comparison students, with large effects. Knox, Pelletier and Vieth (2014) studied 16 first-year medical students who

took a Child Advocacy elective course. On a pre- and post-test, students improved significantly (with a large effect size) in their self-report of their preparedness for a number of different actions: identifying signs of child maltreatment, reporting a case of suspected child maltreatment, reporting a case of suspected maltreatment even if they are not sure, and recommending or securing services for a maltreated child. Parker and colleagues (Parker, McMillan, Olson, Vieth, & Ruppel, 2019) compared CAST graduates and CAST seniors to child protection professionals on their response to vignettes presenting cases requiring a child maltreatment investigation. In response to a complex polyvictimization scenario, the CAST graduates did significantly better than child protection workers on identifying disciplines that respond to child maltreatment and in identifying psychological abuse. Osgood (2017) surveyed both current students and graduates of a CAST minor program, and found that the majority of respondents valued their CAST education. Some graduates had a negative experience because of the difficulties of fulfilling their minor requirements. These studies suggest the potential of CAST.

The History of Mississippi's CAST Initiative

Starting in 2014, Mississippi introduced a paradigm shift by creating the first statewide program to implement CAST in multiple schools throughout the state. Previously CAST developed one college or university at a time. We learned about the history of Mississippi's CAST initiative from several documents (e.g., Beam & Steckler Tye, 2016; Vieth et al., 2019), as well as an interview we conducted with the Executive Director of Children's Advocacy Centers of Mississippi™ (CACM), a founding partner in the CAST initiative (along with the Mississippi Department of Child Protection Services and the Mississippi Office of the Attorney General). Figure 1.1 presents a timeline for the development of Mississippi's CAST initiative.

In 2014, the early development of CAST inspired a private donor to challenge the child protection field to develop a systemic response to improve education on child maltreatment. Mississippi was the one state in the country to respond to this challenge and win an award. Assisted by this seed money, the Mississippi CAST partners invited all 38 institutions of higher learning to a discussion of implementing CAST programs at their school, and had an enthusiastic response. Mississippi and national CAST leaders partnered to supplement this with a "road show" outreach; they traveled to every public university and other schools to learn about their needs and promote the CAST idea. An important strategy was to identify a champion to lead implementation at each school. A factor that helped catalyze CAST development was vocal support from the state Community College Board and the Mississippi State Institutions of Higher Learning, which wrote to schools encouraging them to listen to the CAST experts and take them seriously. Over 100 representatives of 16 Mississippi schools, including every public university, attended training at a conference in which they were introduced to the CAST idea and given curricula, syllabi, and other materials (provided in part by C-CAST) to help them implement CAST. In 2016, seven Mississippi colleges and universities offered CAST courses for the first time in the spring and more schools have added CAST courses every year since.

CAST training for instructors has been provided yearly since 2015. CACM provided online networking, webinars, and technical assistance on course development. Some of the technical assistance involved helping schools update what they were teaching as best practice and then

“building it up” to be a CAST course, and some of it involved helping schools market their CAST courses. Small grants from CACM to schools helped support CAST course development, by covering such costs as adjunct faculty or textbooks. CACM also met with college departments to help them develop their CAST courses.

Community colleges are able to implement the introductory CAST course. Some have developed an agreement with a four-year school to accept this course as part of a CAST minor if a student moves on to the four-year school after completing community college. Four-year institutions can implement multiple courses. Schools have the option to implement CAST certificate programs and CAST minors. Students in a school with a certificate program earn one by taking three required CAST courses (Zero Abuse Project, n.d.). In a CAST minor program, students need to take the three required courses, a specified number of elective courses, and an internship or Capstone project, which has been defined as a “multifaceted assignment that serves as a culminating academic and intellectual experience for students.”(Great Schools Project, 2014). Three schools in Mississippi have implemented certificate programs and three have implemented a minor program. Some interviewees who have implemented CAST courses aspire to create a certificate or minor program, and this development was in process in their university’s administration.

CACM worked with schools and helped troubleshoot problems that arose. One professor of law, for example, initiated a CAST course that had limited enrollment at first. A CAST leader used her contacts to reach out and talk to students in social work and education, and that sparked interest leading to greater enrollment. CACM also connected schools with other similar schools, either locally or nationally, that had implemented CAST successfully, law school to law school, for example, or medical school to medical school. One important step was CACM success in helping develop an articulation agreement that allowed credit for the introductory CAST course (CAST301) to be transferred to four-year schools. Moreover, in 2021, CACM began discussions with Florida and Tennessee to replicate Mississippi’s CAST model.

One important enhancement to Mississippi’s CAST initiative is the participation of many CAST schools in Project FORECAST, a program at the University of Missouri at St. Louis Children’s Advocacy Center funded by the federal Substance Abuse and Mental Health Services Administration (University of Missouri at St. Louis Children’s Advocacy Center, 2019). Trainers from Project FORECAST developed simulation training experiences tailored to CAST students’ needs, and traveled to Mississippi schools to teach faculty how to conduct simulations. A number of Mississippi schools now include FORECAST simulations as part of their CAST courses.

The partners in the CAST initiative saw the need for a training facility to promote simulation training, a key element of CAST education. They secured space scheduled for closure at the Mississippi State Hospital and in August 2019, opened the Child Advocacy Training Institute (CATI), a 10,000 square foot training facility that included three mock houses, a mock courtroom, a training room, a mock early childhood or elementary classroom, a mock medical exam room, a mock office or waiting room, two mock forensic interview rooms, two mock hotel rooms, and a mock dorm room. (Children’s Advocacy Centers of Mississippi™, 2019). CAST students at multiple CAST schools receive training at the facility, which is also used to provide CAST-inspired trainings to law enforcement, court, child protection, mental health, medical,

and other professionals. In 2021, CACM began working with child protective services in Mississippi to offer experiential learning to 1200 employees and all new hires at CATI. CACM also began discussions with professionals in Florida and Tennessee to replicate the CAST model in those states.

As of this writing, the CAST initiative is now approximately seven years old. Most colleges and universities in Mississippi have had some involvement in CAST, and a number of schools regularly teach CAST courses every academic year. Hundreds of students in Mississippi have taken CAST courses. In succeeding chapters in this report, we explore the process of implementation of CAST in Mississippi schools and examine its impact on students experience, knowledge and skills.

Figure 1.1
Timeline for the Development of Mississippi’s CAST Initiative

Year	Accomplishments
2014	Children's Advocacy Centers of Mississippi™ (CACM) and the Mississippi's Attorney General's Office (AGO) apply for and receive foundation grant to develop Mississippi's CAST initiative. CACM Board of Directors invests funds to match foundation grant to initiate the MS CAST program.
2015	An initial multidisciplinary work group develops strategies laying the foundation for the MS CAST program. CACM collaborated with the Gundersen National Child Protection Training Center (NCPTC) to plan initial CAST meetings and trainings; CACM successfully advocated for expanding the plan beyond one school to a statewide effort. Mississippi community colleges, Institution of Higher Learning (IHL), & Community College Board representatives meet and IHL sends letters of support for MS CAST to the presidents of all Mississippi universities. A team from CACM, AGO, and NCPTC conducts site visits with public universities and other stakeholders to educate them on the need for CAST in order to prepare the child welfare workforce. CAST coordinator is hired and conducts meeting with institutions to recruit more schools and identify champions. CACM holds Child Advocacy Studies Training Conference in Jackson with 71 attendees. University of Southern Mississippi offers CAST minor to build on existing CAST program.
2016	Seven Mississippi colleges and universities offer CAST courses for the first time in the spring. Additional schools offer CAST course in the autumn.

Figure 1.1 (continued)

Year	Accomplishments
2017	<p>CACM provides first CAST mini grants to cover costs of implementing CAST.</p> <p>CAST conference held with 48 attendees; schools that initiated CAST courses assisted schools beginning CAST.</p> <p>William Carey School of Osteopathic Medicine becomes the 1st med school in MS and 2nd nationally to offer CAST course.</p> <p>CACM develops goal to have all the community colleges in the state offer CAST 301.</p> <p>Belhaven University and University of Southern Mississippi implement articulation agreement to transfer CAST credits from community colleges.</p> <p>First CAST representative meeting held, resulting in formation of a committee to develop statewide simulation center.</p>
2018	<p>CACM provides additional CAST mini grants to 15 schools.</p> <p>8 colleges and universities participate in Module 2 of the federally-funded Project FORECAST that provided training to faculty to provide simulations for experiential learning.</p> <p>One Loud Voice Conference provides part 2 of Module 2 of Project FORECAST.</p> <p>Third CAST conference held for remaining schools who have not yet implemented CAST.</p> <p>By the end of August, 23 Mississippi colleges and universities had been trained to implement CAST.</p> <p>CACM and Mississippi State Hospital (MSH) reach an agreement to build a simulation training center on MSH campus.</p> <p>First student graduates with CAST minor (University of Southern Mississippi).</p> <p>CACM develops agreement with Mississippi State Hospital to use buildings for statewide simulation training center.</p>
2019	<p>First national CAST Symposium is held in conjunction with the One Loud Voice conference in Biloxi, Mississippi.</p> <p>CACM launches the CAST resource library on its website.</p> <p>Groups of students, churches, and organizations converge to transform cottage at MSH into simulation training center.</p> <p>CAST students from William Carey School of Osteopathic Medicine win a round of national SimWars competition when they are the only school to correctly identify child maltreatment as the causal factor in a medical simulation.</p> <p>CACM contracts with the University of Illinois to conduct a program evaluation of Mississippi's CAST initiative.</p> <p>Grand opening of the Child Advocacy Training Institute (CATI) simulation training center.</p> <p>CACM facilitates first two simulations at CATI, for Mississippi College students.</p> <p>University of Mississippi Medical College becomes 2nd medical school in MS to participate in a simulation at CATI.</p>

Figure 1.1 Continued

Year	Accomplishments
2020	<p>Delta State University implements first CAST course and Certificate program.</p> <p>Preliminary results from CAST program evaluation showed advantages for CAST over comparison students on appraisal of child maltreatment, child protection knowledge, and ability to apply knowledge to child maltreatment scenarios.</p> <p>Mississippi Law Enforcement Officers' Training Academy trained 60 recruits at CATI running 5 simulations at once.</p> <p>10 officers from Pearl, MS Police Department SWAT team received simulation training at CATI on 4 separate occasions.</p> <p>FBI ran simulations at CATI –14 people on two occasions.</p> <p>Second National CAST Symposium postponed to online version in September 2020 due to COVID-19 crisis.</p>
2021	<p>Filmed simulation and CATI tour for online classes at Copiah-Lincoln Community College.</p> <p>University of MS began work to expand CAST to a Child Welfare Minor.</p> <p>MSU Meridian Campus began work to offer CAST.</p> <p>Began discussions with Florida and Tennessee to replicate the CAST model.</p> <p>MSU social work class toured CATI.</p> <p>Began working with CPS to offer experiential learning to 1200 employees and all new hires CATI.</p> <p>The Mississippi Attorney General’s Office trained 8 staff at CATI</p> <p>The Pearl, MS SWAT team trained 14 staff on two occasions at CATI.</p> <p>Worked with MS Wraparound Institute to train at CATI.</p> <p>Mississippi State Hospital opened residency program and utilized CATI for simulations.</p>

Chapter 2: Methods

This is a mixed methods evaluation that includes both an implementation study using qualitative data and an outcome study using quantitative data.

Implementation Study

This part of the evaluation sought to explore the development of the CAST initiative in Mississippi and examine its implementation. Two methods were used for the implementation study: document review and key informant interviews.

Document Review. Evaluators reviewed a comprehensive set of documents that Children's Advocacy Centers of Mississippi™ provided that are related to implementation of the CAST initiative. Documents include memoranda, annual reports, PowerPoint presentations, proposals, brochures, press releases, and published articles about the CAST initiative (e.g., Beam & Steckler Tye, 2016; Vieth, et al., 2019).

Key Informant Interviews. The implementation study also employed interviews with the Executive Director of Children's Advocacy Centers of Mississippi™ and with faculty throughout the state. The primary faculty interviews (n=8) were conducted with faculty who were teaching CAST courses and/or administrating CAST programs in Mississippi college and universities. Two interviews included multiple CAST instructors from the CAST school that was the focus of the interview. One of those group interviews also included a director of a community children's services agency that had participated in that school's CAST program. We also interviewed faculty who received CAST training but teach at schools that had not yet implemented CAST (n=4). We hoped with this latter group to learn about obstacles of implementation and plans to overcome these obstacles and move forward.

The interview with the Executive Director of Children's Advocacy Centers of Mississippi™ aimed to capture the history of the development of the CAST initiative. The interviewee was asked to provide a verbal historical narrative of the program from its origins to the current day. Interviews with faculty members at CAST schools asked about the history of the CAST program at their institutions, the development of CAST courses at the school, and faculty members' appraisals of CAST and FORECAST (if they implemented it). Faculty who had attended the CAST training but not yet implemented CAST were asked about their school's reaction to CAST training, and about obstacles that may have impeded the development of CAST at the school.

Interviews were recorded and transcripts were made from these recordings. Information from the interview with the Executive Director was used directly in the description above in the recounting of the history of the development of the CAST initiative. We then used Braun and Clarke's (2006) thematic method to analyze the transcripts of the faculty interviews. The first author read the interview transcripts and created codes to identify themes in the transcript. Text from the interview was then assembled for each code, and evaluators then used this text to identify findings and report on them in the implementation evaluation component of this report.

Outcome Study

The outcome study sought to assess the impact of CAST on students' course experience, knowledge and abilities. It employed a quasi-experimental design comparing students who took a CAST course (or a course adapted from CAST) to a comparison group of students that had taken a non-CAST course in a related field at a college or university that did not offer CAST courses. In that way we were comparing students with involvement in CAST to comparable students who we could be reasonably sure had no exposure to CAST.

Evaluators obtained from CACM a list of instructors and administrators who had implemented CAST or a course adapted from CAST at their institution (the CAST list), and a list of instructors and administrators who had received CAST training but had not implemented CAST (the non-CAST list). A representative from CACM explained the evaluation to instructors on the CAST list through emails and through quarterly CAST network conference or Zoom calls. Evaluators also emailed and made telephone calls to both CAST and non-CAST instructors. CAST instructors were asked if evaluators could recruit students from their CAST classes to participate in the evaluation as part of the CAST group. Non-CAST instructors were asked if evaluators could recruit students from non-CAST classes to participate in the comparison group. Non-CAST classes included a variety of different classes in fields that match the fields of CAST students, for example, social work and criminal justice. Instructors were recruited for each semester, and surveys were administered each semester to CAST and comparison non-CAST courses that were offered each semester.

The evaluators developed two different versions of a CAST student outcome survey (see below)—one for CAST students and one for non-CAST students—and developed an online survey portal for students to use. The CAST and non-CAST versions of the survey differed only in that the CAST version included factual questions about CAST courses (e.g., which CAST they took) and about students' experiences in their CAST courses (non-CAST students' experience of their non-CAST course was outside the scope of this evaluation and we therefore did not ask questions about it). Pre-test and post-test versions of the survey were created that were identical in most respects.

The CAST Outcome Survey was developed in the autumn of 2019. Our hypothesis was that CAST students would have a positive experience of the CAST course and would have greater knowledge and judgment related to child maltreatment at the end of their course than non-CAST students had at the end of their course.

Our hope was to administer the survey as a pre-test and post-test in the autumn semester of 2019-2020, but the survey was not ready at the beginning of the semester. We therefore first fielded the survey at the end of the 2019-2020 autumn semester (at or near the last class session of the semester) to capture students' experience, knowledge, and skills related to child maltreatment at the end of the course. We then administered the survey in subsequent semesters as a pre-test (in the second week of classes) and post-test (at or near the last class session). In one section of the survey, each CAST student created an anonymous research identifier that masked their identity but allowed the researchers to track students' survey results from pre-survey to post-survey and across semesters.

The survey was administered in the following semesters: Autumn 2019-2020 (post-survey only), Spring 2019-2020 (pre- and post-survey), Summer 2019-2020 (pre- and post-survey), Autumn 2020-2021 (pre- and post-survey), Spring 2020-2021 (pre- and post-survey).

An email with the recruiting information and the link to the survey was sent to instructors, who were asked to forward the link to students in their class. The survey was open for approximately two weeks in each administration. Students were offered a \$25 electronic Amazon ecode for participating in the survey.

CAST Outcome Survey. The CAST Outcome Survey had multiple sections, as described below.

Information on Students in CAST (CAST students only). CAST students were asked questions designed to gauge the nature and extent of their involvement in CAST. Questions were asked about which CAST course they were taking (e.g., CAST 301, CAST 401), how many CAST courses or other courses focusing on child maltreatment they had taken, whether they were enrolled in a CAST minor or CAST certificate program, whether they had participated in simulations, and what FORECAST simulations (if any) they had participated in.

Evaluation of their CAST Course (CAST students only) and the CAST program. CAST students were asked for their appraisal of the quality of their CAST course. Questions were asked about whether the concepts in the course were clear, whether the respondent had learned skills, received clear constructive feedback, had productive class discussions, and received guidance on becoming a competent professional. In addition, respondents were asked for an overall rating of the helpfulness of the course, the helpfulness of the simulations, and the likelihood that they would recommend the course. They were also asked open-ended text questions about their perceptions of the strengths of the course and how it could have been improved, and what advice they would give to another student who was considering this course. There were also several questions in which they were asked to rate the CAST program as a whole. Cronbach's α for all these items was .84, indicating that there was substantial internal consistency among the items.

Self-Rating on Knowledge and Understanding. Students were also asked to rate themselves on 15 relevant skills that were important for CAST students to learn, as identified in CAST program documents (e.g., Gundersen National Child Protection Training Center, n.d.), using a scale employed in Osgood's (2017) previous research on CAST. The text on each skill presented an affirmative statement of what a student could do, for example, "I know how to identify possible instances of child maltreatment." Students rated how true each skill statement was of them, from 1–never true to 5–almost always true. The following skills were listed: 1) knowing how to identify possible instances of child maltreatment; 2) knowing their own role in responding to child maltreatment; 3) being able to advocate for children; 4) knowing how to respond to survivors of child maltreatment; 5) having an understanding of global child advocacy issues; 6) understanding the history of child maltreatment and child advocacy in the United States; 7) understanding the interpersonal dynamics of violence and abuse; 8) understanding the short-term impact of child maltreatment; 9) understanding the long-term impact of child maltreatment; 10) understanding factors that help maltreated children be resilient; 11) understanding the process of disclosure of child abuse; 12) understanding how a multidisciplinary team responds to child maltreatment; 13) understanding what kind of

evidence can corroborate a true disclosure of child maltreatment; 14) understanding how to work with non-offending caregivers of the child; and 15) understanding cultural and developmental factors affecting work related to child maltreatment. The Cronbach's α for these was .95, representing substantial internal consistency.

Interest in Working with Children and Families. Students were asked to rate their interest in working with children and families affected by child maltreatment and the same interest *before* taking the course, on a scale from 1-very not interested to 5-very interested.

Recognition of Child Maltreatment. The student outcome survey also used a measure adapted from Donohue, Alvarez, and Schubert's (2015) research, which included vignettes designed to assess students' abilities to recognize child maltreatment. Each vignette presented students with information from a hypothetical case that might or might not indicate possible maltreatment. For each vignette, students rated how likely they were to suspect child maltreatment, on a scale from 1-highly unlikely to 7-highly likely. Five of Donohue et al.'s (2015) vignettes were used and a sixth vignette dealing with a cultural issue was written for this study (based on information from Fontes, 2005). Two vignettes represented cases in which a knowledgeable reporter would be likely to suspect maltreatment. Four represented cases in which a knowledgeable reporter would be likely to believe there was an alternative explanation for the case facts other than maltreatment (e.g., the effects of poverty rather than child neglect). Cronbach's α was calculated to assess internal consistency across the six vignettes. Cronbach's $\alpha = .48$, indicating limited consistency among six vignettes. Because Cronbach's α was small, we analyzed the vignettes separately rather than calculating a score across vignettes.

Child Protection Knowledge Scale. Evaluators created a multi-item scale measuring students' child protection knowledge. The scale included a number of true-false and multiple choice questions assessing knowledge relevant to the knowledge goals of the CAST program, as documented in CAST literature (see Gundersen National Child Protection Training Center, n.d.). Among the topics covered by the Child Protection Knowledge Scale were mandated reporting of child maltreatment, child out-of-home placement, perpetrators of child abuse, medical evidence of abuse, commercial child sexual exploitation, the effects of child maltreatment, disclosure of child maltreatment, foster care, Children's Advocacy Centers, investigation of child maltreatment, and factors promoting resilience of victims of child abuse. The scale was designed to distinguish CAST students from non-CAST students, but also to distinguish more advanced CAST students from less advanced CAST students. For the latter reason, some of the items were written to be difficult for less advanced CAST students.

The evaluators took steps to enhance the reliability and validity of the outcome survey. They created the first version of the measure with an excess of items. Five experts on CAST (including two from Children's Advocacy Centers of Mississippi™) reviewed the content of the outcome survey and reported to evaluators their judgment on the extent to which: a) items would distinguish between CAST students and non-CAST students, and b) items would distinguish between less experienced and more experienced CAST students. Pilot versions of the test were tested with volunteer undergraduate and graduate students. Items were included in the final scale if CAST experts felt that the item would distinguish between CAST and non-CAST students

and between less and more experienced students, and if the items demonstrated adequate variability among students who piloted the measure.

The Cronbach's α for this scale was .59. This modest degree of internal consistency is probably a result of the diversity of questions on the scale asking about a wide range of topics related to child maltreatment. Although internal consistency was modest, in our judgment it was sufficient in order to compute and use an average score across items.

Responses in a child sexual abuse case. Two tasks were adapted from Parker et al.'s (2019) study of CAST students. These tasks assessed CAST students application of their knowledge to a case scenario. Participants read a brief vignette of a child sexual abuse disclosure and were asked to identify five types of evidence a criminal investigator should be looking for and seven different organizations likely to become involved in the investigation. To score responses to these two questions, the two authors read every response and scored each participant according to criteria stated by Parker et al. (2019). A final consensus score for each participant was determined in a meeting between the two researchers. We calculated our interrater reliability using the averages intraclass correlation coefficient. For the evidence variable, the averages intraclass correction coefficient was 0.86, representing a high level of interrater reliability. For the organizations variable, the averages intraclass coefficient was .97, representing a very high level of interrater reliability.

Note that there are multiple versions of the CAST Outcome Survey that differ slightly, though every version has almost the same content. The pre-survey version for CAST students does not include questions about CAST students' appraisal of their CAST course (this would have been premature), while the post-survey version for CAST students includes these questions. The pre-survey and post-survey versions for non-CAST students do not include questions asking for their appraisal of the comparison course they took. In most of the report, we speak of the CAST Outcome Survey generically, though we refer to specific versions as appropriate.

Data Analysis. We used comparison of means procedures to compare groups: independent sample t-tests and univariate analysis of variance (ANOVA). Effect sizes for group differences were calculated using Cohen's d statistic (see Cohen, 1992). The primary group comparison contrasted the CAST and non-CAST groups, but other groups were compared as well (e.g., CAST certificate/minor students vs. other CAST students vs. non-CAST students). Because the CAST and non-CAST groups differed on racial composition and on school type (i.e., how many students were in two-year schools, four-year schools and graduate school), we controlled for race and school type in different analyses and calculated simple effects comparing groups within race and school type as appropriate. See the individual chapters for more information on group comparisons and methods of statistical control.

We conducted repeated measures ANOVA to assess CAST students' change in outcomes over the course of the semester. Because only eight non-CAST students completed pre-surveys and post-surveys in the same semester, we omitted non-CAST students from the repeated measures ANOVA. We had a number of CAST and non-CAST students complete either a pre-survey or post-survey but not both in the same semester, so we also used independent samples with univariate analysis of variance to compare pre-scores and post-scores for both CAST and non-CAST students.

We also tracked CAST students who had completed the CAST outcome survey three or more times across semesters. We created line graphs to track student progress on outcomes over time. We also calculated paired sample t-tests to see if there was significant change in outcomes across semesters from their first survey to their last survey.

Project Forecast Sub-Study

A number of Mississippi CAST schools participated in Project FORECAST. This is a program at the University of Missouri - St. Louis' Children's Advocacy Services of Greater St. Louis (CASGSL) and the University of Illinois at Springfield that trains faculty to provide simulations to teach students trauma-informed child protection skills. As part of a Federal grant, CASGSL is evaluating Project FORECAST. Students from four Mississippi schools participated in the FORECAST evaluation via an online survey. The students provided demographic and background data. Students completed measures both before experiencing FORECAST simulations (pre-assessments) and after they had experienced the simulation (post-assessments). Three different measures were used:

- 1) *Knowledge of Core Concepts*, a self-report measure of how well students had learned core concepts related to trauma. Respondents were asked how confident they are in their understanding of each of 12 core concepts (1 = not confident, 5 = somewhat confident, 9 = completely confident). An example of a core concept item is "Children can exhibit a wide range of reactions to trauma and loss."
- 2) *Trauma-Informed Experiential and Reasoning Skills (TIERS)*, a self-report measure of how well students had mastered trauma-informed skills. Students were asked how well they could demonstrate each of 10 different skills (1 = I could not consistently demonstrate this skill, 5 = I could demonstrate this skill within a simulation or practice exercise, 9 = I could consistently demonstrate this skill in real-world settings). An example of a trauma-informed skill on the TIERS is "Utilizing trauma-informed decision-making processes to respond effectively to traumatic stress, as well as to report and investigate allegations of child abuse and neglect."
- 3) *Attitudes Towards Trauma Informed Care (ARTIC)*, a measure of attitudes toward providing trauma-informed care (Baker et al., 2016). Students indicated their agreement on 45 seven-point bipolar Likert items regarding their attitudes about clients. Each item included both a trauma-informed choice on one pole (e.g., "Clients' learning and behavior problems are rooted in their history of difficult life events") and a non-trauma-informed choice on the other pole (e.g., "Clients' learning and behavior problems are rooted in their behavioral or mental health condition"). Total score on the ARTIC provides an overall indication of favorable attitudes towards trauma-informed care; the maximum score is seven.

Paired sample t-tests were used to assess change on each measure from pre- to post-assessment. Independent sample t-tests on change scores were used to compare change for students who had participated one versus two simulations.

CAST Graduate Pilot Interview Sub-study

To learn more about CAST students' experience of the program, we added a pilot sub-study to the evaluation in which we conducted semi-structured interviews with recent CAST graduates or graduating seniors in CAST programs. The interviews asked CAST students and recent CAST graduates to describe their experience with the CAST program and its impact on deciding on career goals, getting jobs, developing work skills and developing as a person (see Appendix B for the protocol for this interview). Six interviews were conducted. Three interviewees graduated the previous year—one was employed in a children's service organization closely related to CAST instruction, one was looking for a job (which was complicated by the effects of Covid-19), and one was applying to graduate social work programs. Three interviewees were graduating seniors, two of whom were applying for graduate social work program and one to law school.

We used Braun and Clarke's (2006) thematic analysis methods to analyze the transcripts. This involved reviewing the transcript, coding units of meaning in the text, and inferring meaningful themes in the text. The first and second author independently coded the transcripts and identified themes, and then met to develop a consensus list of themes. More details on the method are provided in Chapter 12.

Chapter 3: Instructors and Administrators' Perspectives on the Implementation and Impact of CAST

This chapter explores the implementation of Mississippi's CAST initiative. The source of data is interviews with instructors and administrators in eight schools that have implemented CAST courses and four schools that aspired to offer CAST courses but had not yet implemented CAST at the time of the interview (one of the schools has since inaugurated CAST classes, starting in the summer of 2020). As noted in the Methods chapter, two of the CAST interviews included multiple CAST instructors and one of those two also included the director of a community children's services agency that had participated in a university CAST program. The chapter starts by examining key elements of developing a CAST program, reviews components of CAST implementation, continues by discussing the impact and future of CAST, and ends with a discussion of moving forward with CAST in schools that have not yet implemented it. A journal article (Cross & Chiu, 2021) was adapted from an earlier version of this chapter.

Development of CAST

Champions for CAST. The development of CAST typically began with one person on the faculty or in the administration who had attended a CAST training or engaged with CAST leaders on their visits to campus. That person became a champion for the program and worked to engage others.

One interviewee described how important it was to have a champion for CAST on campus to sustain the initiative to implement the program.

To me, the biggest part is having that champion to do it... Because it's definitely over and above... what's in the contract and what[']s in] the teaching schedule. And when you're trying to think about teaching and scholarship and service and all these other things that you have to do for tenure track, in particular, asking somebody to do this over and above, you've really gotta find somebody that has a heart for it, and that wants to continue it.

Yet one person could not do it alone:

It was much easier for me to start making some movement on this once I had a couple other colleagues in the school who had also been trained. But, you know, when it all falls on one individual to make it happen, that can be really challenging, and it's a lot harder to make that a priority for the entire department if there's only one person advocating for it, or working toward that, as opposed to, you know, several people who are advocating and working toward it.

Support from Administration and Other Faculty. Support from the school's administration and other faculty is needed to develop CAST courses, add them to the curriculum, and help build engagement in the program. Most interviewees reported that their school administration supported the development of CAST, and in some schools the administration actually played a leadership role.

This came from the top, and not just the current president but the previous one... the AVPAA [Associate Vice Provost for Academic Affairs] was the one who brought Victor Vieth [a national CAST leader] here. But it was also more recently from the provost, because the former department chair sent me an e-mail last year and said, "Are you still working on CAST?" and I

said, "Yeah." "Well, the provost wants to know what kind of interdisciplinary programs we have in the works."

Our associate dean of academics...was a PhD-level psychologist who had worked in the educational system for years, and specifically with children in the public school system. And so she had a huge wealth of knowledge and...personal background in the same area. And so I think she really had a heart for it as well. And so she was very, very interested, and actually immediately said anything that we needed to do to try to get it implemented, she would support.

Our administration...encouraged us to attend the first training to begin with.

But obstacles within higher education could also slow down the implementation of CAST. One interviewee encountered resistance that they attributed to a lack of understanding, but the interviewee was able to overcome this obstacle.

Mississippi community colleges are not reimbursed for a class unless it's approved by the chief academic officers. And so I had to work with the universities to get the documentation I need from them to show that it will transfer and that they'll [four year schools] accept it.... There was some push back in some of those meetings. And I think it was just not understanding. But we got it worked out, got it approved and had everything ready to go.

Interviewees generally described faculty as supportive of CAST. Several schools already had courses in their curriculum pre-CAST that fit well with CAST and could be adapted to be part of a CAST program, as the one interviewee explained:

We have a class in family studies...That's been offered here probably since like 2008. And I thought that would be perfect...CAST is very accepting of that, because they want you to integrate stuff into what's already there. So that course was already in existence. All I had to do was add some CAST-related content in there...a lot of the trauma stuff and the ACEs we already talk about, so it was a very good fit for that.

Yet CAST champions could face skepticism from university colleagues. One interviewee described colleagues who felt that starting CAST would create unnecessary duplication with another university's CAST program. This interviewee said, "There's a hesitancy to take on additional coursework and add work to our already over-extended teaching load if there are other institutions that are doing that work." Such skepticism made this CAST champion feel "like I was walking in cement." Our interviewee argued that duplication was actually valuable to make CAST available to students across the state. Having additional colleagues attend the CAST training the next year "definitely helped to start moving the process forward."

Multiple Departments' Involvement with CAST. CAST programs are based in one department in a school, but CAST is multidisciplinary and CAST programs seek to involve other departments. Interviewees generally described a positive response from other academic departments. One interviewee said, "They really are very welcoming to everything, and they all find it very interesting." In several schools, multiple academic departments offer CAST courses. Even when courses are not spread across departments, different departments have been referring students to CAST courses (the different majors involved are presented in the CAST outcome

survey chapter). Involvement of multiple departments made CAST multidisciplinary and added expertise in relevant topics. Public policy, forensics, and alcohol and drug use were specific areas of expertise from other departments that were mentioned as adding value to CAST.

One interviewee envisioned that having multiple departments more involved could lessen the burden on any one:

If I can get through this, and I have it where I want, then now we're going to be able to pull in...someone from the psychology department. We're going to be able to pull in nursing. We're going to be able to pull in early ed[ucation] and work together, and then essentially I would like to have it where we are able to sort of take turns, either teaching it or doing sections of it, in order to incorporate all aspects of CAST.

But collaboration across multiple programs could introduce both administrative and interpersonal challenges.

If we're wanting our students to get the certificate but a course isn't being offered, and that's supposed to be offered in another department...some of those challenges...are worth just consideration.

Getting multiple departments on board [is challenging]...We are not in the same college as [name of department], so it's not just multiple departments working together, but it's cross-college collaboration. But also just struggles, interpersonal challenges at times...the more people you're working with, and not everybody necessarily having a shared timeline or completing things in a timely fashion...each department or...school has its own priorities.

Some academic departments have held back; interviewees thought that their hesitation was due to anticipation of the demand that CAST courses and students would make on their program:

We talked to all of them, and everybody except for [name of department]—one of the groups that we think really should be participating—they said they didn't wanna have anything to do with it. I guess they didn't want other people in their [name of department] courses, is what the problem was.

We have tried to connect with a couple different folks over in that department, and, you know, one of them had a couple conversations...and he was interested in it, but it was very much..."I'm not going to take anything extra on, so if I can't get another course covered, then I'm not going to take on a new course"...I mean, it really came back to that teaching load issue.

We have tried numerous times to get the [two departments] folks on board with this, and they just really haven't seemed to be very interested in it, which has been very surprising to us, because it seems like their student population this is incredibly relevant for.

Implementation of CAST

Instructors. Instructors in CAST courses need to have a range of experience and skills. In schools participating in Project FORECAST, they must have the leadership and interpersonal skills to lead students in simulations as well as being capable classroom teachers. CAST instructors must also have real-world experience, to help students learn how to apply the

knowledge about child abuse and neglect students are learning in classes and simulations. As one interviewee said:

The trick...is finding the person to teach it. We've gotta have some practice experience to teach that course. You can't just have somebody come in and read a book and wing it.

In a number of schools, existing instructors were able to offer CAST courses, sometimes by adapting related courses they were already teaching. Some schools have reached out to community agencies to help find instructors and engage working, child-serving professionals:

One of the [state child maltreatment response organization] main administrative offices [is] here in [city]. So, we usually take referrals from that center as far as adjunct instructors. But we have the majority of them [who teach the CAST classes here] work in child welfare. For example, the professor, the instructor that's teaching now is a licensed practitioner. She's a child therapist in [name of city]. We've had other state child welfare workers. We have people from the actual [state child maltreatment response organization] teach here.

But recruiting, monitoring, and maintaining CAST instructors requires considerable effort and involves some uncertainty, as one administrator explained:

I don't have as much control over what happens once the semester gets going. Since we don't know all of these instructors, and it changes every semester, it's a lot to keep track of... they could very well tell me, "Okay, great idea," and then it gets down to the semester and I don't have an evaluative piece that says they actually covered it....And...sometimes these courses aren't offered, or faculty leave the university, or somebody new comes in and they adopt a course, and that requires us to constantly reintroduce CAST to all of these people, and it's just, it's a lot. That's just a lot.

Enrollment. Enrollment varied across schools. One community college had an enrollment of one or two students in their CAST course; the interviewee from that school attributed this to the course being an elective in a school in which students are in a hurry to complete their required courses. Other schools had substantial enrollment from the start:

One thing that was really good was that once the course was offered we had no problems with getting students to register for the courses. They were very interested in the courses.

Some schools had increasing enrollment over time:

We've...had an enormous response to our CAST courses. So, the first time that we taught the Global Child Advocacy course, I believe we had 27. We listed it for, I believe, 25, and we had a couple extra who wanted in. This past spring when we taught it, we had 45.

Another school anticipated greater enrollment as the CAST program became more established:

I anticipate that those [enrollment] numbers are going to continue to grow pretty substantially as we get the courses offered on kind of a regular rotation, and after they've been around longer.

Caps limited enrollment in at least one school:

The cap for the [one CAST class] has always been set at 15. I think [another CAST class] is 30, I'd have to look. And the [third CAST class], I'm not sure but I'm guessing probably around 20, because they do use the mock courtroom, and I think it relates to how many can fit in there.

A large enrollment can create its challenges. One is limits in the number of qualified instructors, as two professors explained:

Our students, the number of students that we have in our classes have continued to increase, but we haven't gotten additional faculty or instructors to help kind of balance that load.

The more the word gets out about CAST, the more people we have wanting to take the courses, and there's only a limited number of people teaching the required courses. So we can't just open up the floodgates. But there's been a tremendous amount of interest in it.

Larger enrollment also makes it more difficult to do simulations.

I don't know how to implement a problem-based learning simulation with 45 students in the classroom.

We have a simulation house....We work with our local child advocacy center, and we can run simulations through that house. But when I have 26 people in class, that makes it nearly impossible.

Increasing enrollment could also change the nature of the students taking CAST courses. With larger enrollments, the percentage of students aiming to translate CAST learning into career behavior could decrease. One interviewee explained the following:

We noticed some significant differences from the first year we taught it to the second year we taught it, and had a lot of conversations about how much increasing the class size contributed to that. I think also the first year it was really those students who were very, very interested in this topic who were in the course, whereas the second year that we taught it, we opened it up a little bit more broadly, and so we had a lot of students who weren't necessarily interested in child maltreatment who were just taking it to fill an elective....I think that also changed the dynamics of the class.

Instructors noted a values issue that arises with more casual CAST students who do not necessarily plan a child-serving career, or with CAST students who come from different disciplines:

In the global child advocacy issue course, we talk about corporal punishment, and how, you know, it's a risk factor for physical abuse. And in the South, corporal punishment is very widely accepted...it is really hard to push against and help students recognize...what research says about corporal punishment...one day, as we were talking about that in class, we had some students in the back of the room...made comments of "oh, well, no, you know, ain't nobody going to tell me I can't whoop my kid." ...So, I think that's some of the ways that we have seen it really change the dynamics of the class is just students who are taking it to take it and don't really have...aren't really taking an opportunity to entertain and think about this content from or with an open mind. Spending time addressing some of those kind of comments in class, which we did not have to deal with the first time that we taught that course, I think sometimes distracts from the content that we're really hoping the students are going to walk away with or

away from... Students who aren't necessarily interested in the content, and have that has maybe hindered our ability to be able to approach the class in the way that we would like to.

The criminal justice students in particular really spark a lot of conversation, because the ethics and agendas and their course lessons are so far different from social work, or actually anybody else's...the communication part has really been interesting....We had a criminal justice student that was going to interview a family member, doing one of the simulations for that Project FORECAST... the other students were like, "Hey, you can't just go in and talk to people like that. You're not gonna get any information. You're gonna really shut 'em down." So he learned a lot, and then they had to learn, too, from his perspective.

Partnership with Community Organizations. A number of CAST programs have strong partnerships with community organizations. This helps CAST meet the goals of providing exposure to multiple disciplines and preparing students for the real world of children's services. Partnerships benefited from faculty members' prior connections with community organizations. These partnerships could even benefit online courses—one instructor described how she had recruited a community professional colleague to do an online presentation in her course.

Some instructors have included a community service component as a requirement of their CAST classes:

We reached out to...the child advocacy center here, and we really quickly developed a partnership with them to use them...as a resource for us, and hopefully us for them as well...to be able to get all of our students who were gonna be taking that fourth-year elective over to [the Children's Advocacy Center] to spend time there, where they could really have a first-hand experience, where they could see forensic interviews, where they could interact with these children and their families, where they could see the investigation process, where they could be a part of the multidisciplinary team, and all of that. The other thing that we did was, here in our state there's only one forensic pediatrician....We reached out to [him]....We wanted to make sure that our students...were able to...spend some time with him, and really learn what a forensic medical exam looked like...[He] was really great, and very, very supportive, and worked with us to be able to get all of our fourth-year students on the elective up there with him to spend some time with him.

The same school collaborated with community organizations on a proposal to implement Project FORECAST:

So together all of us put in an application for Project FORECAST, and really made it like a...team. So it was representatives from both [one university] and [another university] social work, criminal justice, the medical school in those universities, and then also [a Children's Advocacy Center] and [a children's mental health provider agency]. And so we were able to get that grant, be awarded position as a team on the grant....And so instead of competing against them, we decided to give them a call and see if we could partner with them to really work together to build a strong application....We went from doing just a one-hour lecture to providing the one-hour lecture but in a multidisciplinary way, and then following it with problem-based learning simulation that our entire Project FORECAST team came and did.

They followed up by arranging for different types of practice experiences for their students at the Children's Advocacy Center:

And so we reached out to [name of Children's Advocacy Center] and said, "Hey, you're taking our fourth-year students for a four-week elective. How about letting us send you two medical students every week to do a two-hour observation?" and they were immediately on board with us on that. And so we followed that first-year lecture and problem-based learning simulation experience up with the opportunity for all of our first-year students to sign up and go spend two hours over at [name of Children's Advocacy Center], where they could actually watch a forensic interview, or they could actually sit down and sit alongside a victim's advocate, family advocate, and see how they worked, actually be able to sit in on a multidisciplinary team meeting to really see in practice the things that they had just heard about in lecture and seen simulated. And so we really grew it that way. We ended up finding out after the fact that some of them are calling [the Children's Advocacy Center] and asking if they could just come over and volunteer, just so that they could get more experience than their two-hour observation.

Several schools have students doing internships in child-serving organizations such as child protection agencies and Children's Advocacy Centers as part of their major, not as part of CAST *per se*. They have found that the CAST experience enriches students' experience of their internship.

They're actually working with children and they find the experience as another layer to what they see when they go into their internship. To an extent, I mean more so, more information and more knowledge than they would have gotten in just sitting in one of our social work classes.

One professor talked about their impression that these community placements would have a positive impact on employment.

This summer, two interns at [a local Children's Advocacy Center]...completed or [had] at least taken coursework in the trauma-informed child advocacy certificate. We...had a couple other student interns in [a different location] where they found different child advocacy organizations...I think that's going to help to start building more of that connection with employers who are specifically looking for professionals who have background and training in child advocacy.

Partnerships with community organizations also spawned initiatives to provide the CAST learning experience to professionals currently working in child-serving agencies. One interviewee who participated as an allied community professional in a group interview described how the CAST program faculty recruited their early childhood professionals as part of the program:

I...work with the Head Start and early Head Start programs...We service 907 children. And we have six programs across [name of county]....And we deal with sometimes child abuse, and we deal with cases from time to time, and that was something that we jumped to when [faculty member] called and she reached back out to me. I was like "Yes, yes. Wow, we want to be a part of it." And I immediately met with...one of my staff persons...and she was like, "Yes. Wow. I'm onboard. What do I need to do?" And so [faculty member] and her team put together a training that we attended on the [university] campus. We have over 37 resource workers, and

[name of agency administrator] brought them to the training, over half of them to the training. And they all bought into it: "Wow, this is exciting. This is new to us. We want to be a part of it." And that's why today we...want to be a part of it. And that's why right now we're here, and we're here to support the progress she's made, and we're here to support the CAST program.

Community partnerships were still a work in progress. One instructor had creative ideas for partnering with community organizations, but time constraints meant that she had not yet been able to implement them:

I have not yet [done any collaboration with employers in relation to the CAST program]. My goal, at some point this semester, was to do sort of do a community informational training. We have an Early Childhood program that's here on campus. And so, they had reached out to me and wanted me to do an informational session...And then if I was able to get enough interest in it, then I would potentially do a simulation with them, maybe over a, you know, a four-week period we could do a module each week or something like that. I've been in contact with some of the detectives that are here in [name of county]...the connections are there. I just haven't connected the dots.

Factors Affecting the Implementation of CAST. Interviewees discussed a number of factors that influenced the development of CAST at their schools. One factor is simply having the resources for faculty to participate in CAST training, as one interviewee explained:

We don't really have large travel budgets here and it's very hard for us to do a lot with very few resources....You have to make sure that if you're going to train and go to meetings and conferences that you have the resources that you need. And so, I think that was one of the limitations that I saw, in terms of not being able to fully participate in a lot of the activities to the extent that I wanted to.

CAST is offered in a context in which students need to meet requirements to obtain a degree. If they are community college students and hope to move on to a four-year school, they need to pay attention to what is needed to make that transition successfully. Classes they want might have enrollment caps that prevent some students from taking them. Students are constantly aware of the time and money their education requires.

One school found a way for CAST to fill a hole in their curriculum and to help students with requirements:

One of the reasons we started off with the global course is because we felt that met kind of a gap in our existing [name of department] curricula. We didn't have a course that really explicitly looked at development and particularly child development, but really development across the lifespan from a global or cultural perspective. And so, we felt like the global child advocacy course would help us kind of fill that gap. We have used several of the CAST courses as substitutes,...often there are courses that are offered in other departments that our students struggle to be able to get into. And so, we have informally incorporated them into those curricula to kind of fill and act as a substitute for other required courses.

A CAST minor provides richness, rigor and extra credentialing to students but also requires effort and attention to implement:

The additional 12 hours [for the minor] come from a multitude of disciplines. They have to be from at least two different disciplines that are not shared with the student's major or other minor requirements. So we were trying to make it truly interdisciplinary. We do not have the courses specifically within social work do to a full CAST minor, so we have to look elsewhere throughout the university...we have a variety of courses...the biggest problem is once it's gone through academic council, if somebody has dropped a course, or they have changed the syllabi, then that messes up our minor. And for us to make a change to the minor requirements, we have to go back through academic council, back through university council, and it's just a really big deal.

One of the other challenges that we found...is if we don't get our students involved in this minor from the very beginning of the time they enter the social work program, they won't have time to finish it. So a lot of the students heard about it, but they were in their last two semesters, and that didn't give them enough time. So now we're just really starting to see the cycle of people who are hearing about it when they do have enough time to finish the minor upon graduation.

Schools had to decide whether to have prerequisites for CAST courses, and they varied on what they required. Some had no prerequisites or had eliminated a previously established prerequisite. In other schools, student needed first to do an overall introductory course in the department hosting CAST. One school did not yet have one, but planned to make a course providing foundational knowledge on traumatic stress a prerequisite. In another school, the prerequisite was within the CAST sequence: students were required to take the introductory CAST301 class before taking more advanced CAST classes.

Some CAST classes are offered online. One challenge in online courses is the absence of any straightforward way to do simulations. One instructor told us about her wish to include a simulation in some form into the online course.

I feel like my online class is not going to get the same—at this point—out of, obviously, the simulations. But I'm wanting to sort of come up with a way to incorporate Hailey [one of the simulations] into it next semester.

Impact of CAST

We asked interviewees to describe the impact of CAST on students. They consistently talked about the value of CAST for providing useful knowledge and experience for students seeking to work in children's services:

I feel like the students are getting a very solid interdisciplinary perspective on what it's like working in the field of child advocacy, child maltreatment. So that part I'm confident in.

I've been kind of overwhelmed at the interest in it...this is something that they're going to be able to look back on and say that there was something that they really were able to use out of this class.

They know they're going into a career where they're gonna see children. And I think a lot of them have learned that there's a lot that they don't know...And they really wanna get a better handle on what to do if a case like that come their way. Because they realize now that it's out there, and they wanna be able to handle it in a competent way.

The field instructors, the people who are taking our students and internship, they're finding that the students are coming prepared to engage with and possibly participate in some problem solving or crisis management with children. Even as they're under supervision they're still able to come in and be able to participate in something that's going on.

I think they're more confident in their approach to topics about children period.

Last year a lot of students took the perspectives class, and some of them had had some of the other ones, like they'd had the global health one and the legal one. And those students, when they got into the [name of CAST course], seemed a little bit better, in terms of having better attitude and sort of more understanding of what trauma does, because they'd heard about trauma-informed practice and the 12 core concepts and all that multiple times by that point.

I'm thinking of one student in particular who's a pre-med student...she wants to be a pediatrician. She really has a passion for being able to work with children who have experienced maltreatment. And so, going through these courses she feels like this has really very well equipped her with knowledge and skills that she will use as a professional, in particular the...simulation where it's an emergency room simulation, and she actually played the doctor in that simulation. And she just, she raves about that experience and how valuable it was for her learning experience to prepare her for her professional role and duties.

Interviewees also talked about how CAST excited and motivated students.

Whenever the [student] takes it for the year, they come back so excited about it and tell all of their friends how it was the greatest thing that they've done.

[Some] students...have taken the courses because they seemed interesting, or they'd heard positive things about them, and really weren't planning on going into work related to child advocacy and preventing child maltreatment, and [it] just really ignited a passion in them, and that is now...what they're pursuing.

I think they're just as excited because they got some real-time information.

Faculty also anticipated a benefit for students' employment prospects, as one interviewee discussed:

We just got that approved the end of the spring semester, and were able to issue our first certificate at the end of this summer. And so, I anticipate that now that we have that in place, we've really been pushing that among our students that this is a way to set yourself apart on the job market by having this certificate that demonstrates you have been prepared to work with children and families who've experienced maltreatment and other kinds of adverse childhood experiences.

But another professor thought a positive impact of CAST on students' employment at child protective services had yet to develop:

CPS is the biggest employer that we've been working with, and trying to get [CAST education] implemented within their system as something special, as something they look for and could recruit for—[it has been] slow, slow, slow. CPS here in Mississippi has been under federal

oversight for quite some time, and they've undergone some transitions at the top. So they have bigger fires than thinking about the CAST minor.

Part of the positive impact of CAST is to overcome misconceptions:

When I'm talking with students, and you realize it's like...everything they know came out of a television show or a Lifetime movie...There isn't a semester that goes by that some student doesn't say, "Oh, I saw such-and-such on a movie, and this is what happened." That's not what happens in real life...They don't understand about child responses to maltreatment...having those modules really helps them...figure out what they don't know.

I don't think people realize that it's all as bad as it really is. I mean you just don't believe that people can do things like that to kids when you're not involved with it. [CAST students will] know what they're getting into before they invest a lot of time getting a degree.

One challenge has been dealing with situations in which students in CAST classes do not seem suited to working with children and families. Finding this out in a CAST course rather than on the job is a benefit of CAST. But it can be difficult if faculty see a need to steer a student who does not realize they are unqualified away from a child-serving career.

We have seen students...go through and complete a class or two and realize this is not the work for me, which we actually think is really good.

I said I want you to hear all of these awful things, and I want it to have an effect on you now, because you need to figure out now if this is what you want to do, because if you can't sit through this class, then you are not going to need to...you do not need to go into social work, because what's going to happen is you're going to go out there and you're going to get burnt out after two years, and you're going to want to quit, and then you're going to go find something else, and I don't want that.

We're looking for changes in attitude and like, "When are we gonna put the brakes on that?" Like to say, "Maybe you should think about something else." Like if a student repeatedly says, for example, "Oh, that mother's the worst mother in the world because she let her kid get abused, and how could any mother do that?" And you're looking at a woman who was abused herself, and they're not putting those pieces together, and they're blaming the mother who's also been traumatized. If they keep doing stuff like that, that may be a sign they don't need to be thinking about that as a career.

Sometimes students in CAST courses disclosed their personal history of victimization, and faculty had to be prepared for that.

I have them take the ACE [Adverse Childhood Experiences] survey at the beginning of the semester, and then I collect all that data...a lot of those students scored very high on that ACE survey, like 6, 7s, on up there. And so these same students feel like they've already dealt with their stuff, and then they get in the class, and we're talking about sexual molestation or physical abuse or neglect, and it all comes right back to them....And so this is their opportunity to say, "Okay, if I'm gonna work in this field, I gotta work on my own stuff." And they'll say, "I didn't know that this was still bothering me. I didn't know this would still be hard to talk about."

"Okay, well, this is a good time for you to work that out before you get into the field and you have a real family." So that's another good part of the course.

A faculty member talking about student disclosures noted that students' personal histories did not dissuade them from going forward professionally in children's services.

Even with the two disclosures, I mean, as heartbreaking as that was, but both of them want to do social work simply because of their personal experiences.

Impact of Project FORECAST Simulations. We asked about the effect of Project FORECAST in CAST courses, and several instructors talked positively about the impact of simulations.

So there's some really good, meaty topics to talk about through those simulations. I've loved using them. They're just so...They inform the rest of my semester. I take all of the learning issues, and that's what informs the modules later on... And then I'm able to bring it back in. "Do you remember when we did this during the simulation?"

I think [students participating in FORECAST] get it in a way that they wouldn't just by reading it, or even doing a case study or something like that, because they're responding in the moment that it's happening.

[Discussing the effect of beginning FORECAST simulations] it's like up to this point, it's just been information after information. You know, we've done the [FORECAST twelve] core concepts. We've done activities with each of the core concepts, and we've talked about tiers. And so, now, essentially, they're able to begin that process of understanding the way in which all of those things are connected with the cases. And so, as far as the students becoming more vocal and participation, the past two weeks [of simulations] have been so much more, because they're able to actually use all the information that they've learned up until this point and apply it to a case.

When you start adding these active pieces, like you get to go to simulation lab, or simulation center and actually see some role play and some other things going on, that's a more kinesthetic learning type thing. And they're able to really experience it at that point. To kind of reinforce what they're learning.

And then the students playing the part, too, they feel the frustration of what it's like dealing with professionals that don't really know what they're doing...it's really interesting watching them process everything that's happening...I got rid of the final project and had 'em do a second simulation instead for their final grade. So they had to really think about what they were doing, and why, in coming up with some rationale for why they were making those decisions and based on what they had learned during the semester...And it worked out really, really well. I enjoyed that process. And you could see how much they had grown. They felt more confident in their actions. And even though they weren't aware of what the simulation was going to be, they were still able to either implement their knowledge of sexual abuse or physical abuse, mandated reporting, signs and symptoms, talking to other disciplines.

We really feel like the simulations are what makes the biggest difference to the CAST courses. The content is important, but I think the opportunity for students to gain that experiential learning opportunity within the context of a classroom...we have these internships, but I don't

know that students are often well-prepared going into the internships. I think there needs to be kind of a baby step between traditional coursework and interning. And so, I really see the simulations as a way for us to give the students some of that same experiential learning, those same experiential learning opportunities, but under the guidance and facilitation of instructors at the university to help clarify misconceptions...And I think particularly the problem-based learning piece of it that forces students to slow down and not jump straight to what they think is happening. That forces them to really identify those facts, and then come up with hunches and hypotheses that are realistic given the fact that we have...Sometimes we have students that want to go off on this wild goose chase...And so, allowing them to engage in that process so that they see how they can slow themselves down and not just jump to conclusions that aren't necessarily true...The simulations have been incredibly helpful in students recognizing, "oh, I really thought the dad did it, and now I realize that was a bias, and that he wasn't, and there wasn't enough data or evidence to me to think that he was."

The Future of CAST

CAST programs evolve over time. They can grow in various ways. Schools can start with an individual CAST course, then develop more courses, and then build a certificate or minor program. Partnerships with other departments and with community organizations can develop over the course of years. We asked interviewees to describe their plans for their CAST program going forward.

Several interviewees talked about adding individual "pieces" to their CAST program: new faculty members trained, new courses and simulations added, or other learning options. One school was thinking of recruiting faculty from other schools to help provide more CAST instruction. The quotations below show other examples of specific options faculty were considering:

Maybe the university courses could be online.

So we've been looking at opportunities to add additional simulations into the second year as well as into the third year. There are already existing courses in place where I think they would fit nicely. Unfortunately we're not the course directors for those courses.

We have so many students that transfer to Ole Miss and Delta State and Mississippi State, and all, you know, because of where we're located. I do think that with the [community] college...the more that the universities are offering the upper level courses, the more likely we are to offer, ...the introduction...301 and maybe even 401, and them be able to transfer it and it carry over there so they can get their minor.

Several interviewees wanted to increase connections with other departments and universities:

Definitely Criminal Justice, Psychology, Education, and Nursing [departments interested in offering CAST courses]...My hope is that with the One Loud Voice conference, I'm going to be able to take one or two people with me from here so they...experience [it]...eventually get them through the training of it.

The other thing that we're trying to do is even take it beyond the walls of the medical school. Here at our own university we have a college of health sciences, which includes a nursing school,

a pharmacy school, a physical therapy school, health information management. We also have a huge school of education here. We have a huge psychology program here. And so we've been talking about opportunities and ways to take and involve some of them in what we're doing, and some interprofessional-type activities.... We've also reached out to the school of public health and things like that, and told them at any point in time we are more than happy and available to come and bring it to them.

One faculty member was active in recruiting another school to participate in FORECAST:

I met that family medicine program director up at the Child Advocacy Training Institute—I took her along with me and let her see that...She oversees our third-year simulation activities as well as helps with our second-year ones, too. And so I let her see all of that, and go through all of the Project FORECAST simulations and all of that. And I think she definitely was sold on the idea and was very supportive of seeing what she could do to try to help build some of those in.

I reached out to the program director of [name of program], and I knew that she was somebody who would be interested as long as I could get her to sit down and listen and look and see what was going on...I knew that she would have a heart for it if she just could hear the message. And so I invited her to come up and meet me at the Child Advocacy Training Institute, and took one of the trainers up there to meet with her. And we were able to not only show her the whole facility, but talk to her about Project FORECAST and go over the simulations that are available through it. And not only did she buy in, it was like, "How soon can I get my residents up here? They need to be up here...They need to be doing this all the time. This is gonna be something that they're gonna need to do every year, and we're gonna do it over and over until they really get it."

Several interviewees who did not yet have CAST certificate or minor programs were considering developing them:

Eventually maybe moving towards a minor would be good. I know one thing that might fit in really well, 'cause I know Indiana, University of Pennsylvania has the double-A CAAST [Child and Adult Advocacy Studies]. And at this point that might fit in really well, 'cause like I said, my area is woman abuse.

I would like to see this curriculum actually in a higher-level degree, like in a master's degree in a social work, a master's or higher.

One direction for the future of CAST programs is to offer more to community professionals. Faculty from one school wanted to invest more in training Head Start staff they had started to work with. Another interviewee talked about the following idea:

We would love to be able to put together a certificate through extension that would be targeting existing professionals.... We would really love to figure out a way that we can formalize and do a certificate that's not credit based, like it is for our students, but that will still, you know, cover the same kinds of content for existing professionals.

Well, this is the only class but I'd like for us to have enough interest that we could get some of our community people involved. For them to maybe give a little bit of a salary increase for

somebody who takes the CAST sequence....And we would start and then they could take their second and third class with another, with the university.

Faculty Aspiring to Implement CAST

We conducted interviews with four instructors that had received CAST training but who taught in schools that had not implemented CAST. Since our interviews (in the autumn of 2019), one of the four schools has begun offering CAST classes (in the summer of 2020). We asked these faculty members about their interest in CAST and about their assessment of the process of implementation of CAST in their schools. All of these interviewees were enthusiastic about CAST and hoped to implement the program in the school. They had encountered a variety of obstacles to implementation.

In one school, the interviewee had just learned about CAST in the beginning of 2019, less than a year before the interview. The faculty were excited and the university administration supported CAST; indeed, the interviewee reported “the president of the university asked me to spearhead the efforts.” The interviewee felt that the process went slowly, but at the time of the interview two CAST courses had been approved and were scheduled to be taught in the summer 2020, subject to the approval of the academic council, which our interviewee anticipated. At the time of this writing, these courses are currently being taught.

In another school, the relevant leadership was not responsive to CAST at the time the interviewee had received the CAST training, for reasons that were difficult to determine. The leadership had since changed. Our interviewee was working with the new leadership to try to implement CAST, and felt encouraged. Another limiting factor was the relevant department’s new initiative to increase online instruction, which limited the time available to take another new project.

An interviewee in another school “got all positive reactions” from faculty about CAST, but was working on some practical challenges in implementing it. They had a limited number of social work majors and most of their classes are online, and they needed to figure out how to adapt CAST to an online format. A change in university administration slowed the process of implementing CAST. An interviewee at a fourth school was also occupied with the question of how to implement CAST when most of their courses were online, and had been delayed in implementing CAST by other work demands.

Summary of Implementation Evaluation

The development of CAST at a college or university typically depended on a champion who had attended a CAST training or engaged with CAST leaders on their visits to campus. Yet one person could not implement CAST by themselves. Support from the school’s administration and faculty often facilitated the implementation of CAST courses, though champions also encountered some skepticism. Multiple academic departments are involved in CAST within schools, though complications involved with having multiple departments need to be dealt with and some departments hang back, perhaps out of concern about the program’s demands. Instructors needed knowledge and experience in the field as well as teaching, which meant that recruiting, monitoring, and maintaining CAST instructors requires considerable effort and involves some uncertainty. Though enrollment in CAST courses was small in some schools, in

others it had grown substantially. Rising enrollment could make it challenging to do simulations and tended to introduce more students who were not committed to child-serving careers, who might have a different level of interest and different values than other CAST students. A number of CAST programs have strong partnerships with community organizations, that could enrich the education of CAST students and/or community professionals who in some programs were engaged with CAST. Resource limitations, academic requirements, questions about prerequisites, and the challenges of doing online as well as in-person courses all influenced the implementation of CAST.

Interviewees consistently talked about the value of CAST for providing useful knowledge and experience for students seeking to work in children's services, and they also noted students' enthusiasm for CAST. Two aspects of CAST that demanded attention was dealing with CAST students who do not seem suited to working with children and families and responding to disclosures of CAST students who have had a history of victimization. Interviewees felt that simulations provided valuable experiential learning.

Most interviewees anticipated that their CAST program would grow in different ways, including development of a certificate program or minor, increased connection with other academic departments or universities, and greater engagement with community professionals. The interviewees in schools that had not yet implemented CAST were enthusiastic about the program and working through the organizational steps needed to move toward implementation. One of the four has implemented CAST in the summer of 2020 and also developed a CAST certificate program. Moreover, the content of this chapter has been transferred into a journal article and published in 2021 (Cross & Chiu, 2021).

Chapter 4: Students' Evaluation of CAST Courses and Programs

In this chapter we present results on CAST students' appraisals of the CAST course they had just taken and the CAST program as a whole. We also asked students about their interest in working with children and families affected by child maltreatment, a variable that is conceptually related to enthusiasm for CAST. We pooled data from four administrations of the CAST Outcome Pre-Surveys and five administrations of Post-Surveys between 2019 and 2021.

Students' Evaluation of their CAST Courses and Program

Students in CAST courses were asked a series of questions about their satisfaction with the CAST course and program as part of the CAST Outcome Post-Survey. Across the five administrations, 153 CAST students participated in the post-survey. Some participated in more than one post-survey; the sample yielded 204 responses. Table 4.1 presents these questions and the average score for each across students. Note that not every participant responded to every question.

Table 4.1

Mean scores on CAST Course and Program Satisfaction Questions (N=204)

	N	Mean	sd
CAST Course			
How often were concepts in the course clear? ^a	193	4.29	0.85
How often did you learn skills in the course? ^a	193	4.19	0.96
How often did you receive clear constructive feedback in the course ^a	194	3.99	1.20
How often did you have productive class discussion in the class? ^a	194	4.07	1.16
How often did you receive guidance on becoming a competent professional? ^a	192	4.14	0.97
How helpful was the course? ^b	186	4.31	1.14
How helpful were the simulations in the course this semester? ^{b,c}	139	4.25	1.08
How likely are you to recommend this course to other students? ^d	186	4.27	1.15
Average score across questions	194	4.16	0.85
CAST Program ^e			
How would you rate your experience overall with the CAST program? ^f	54	4.76	0.55
How likely are you to recommend the CAST program to other students? ^g	53	4.81	0.52

Note. ^a Scale: 1 never, 2 rarely, 3 sometimes, 4 often, 5 always, ^b Scale: 1 very unhelpful, 2 unhelpful, 3 neither unhelpful nor helpful, 4 helpful, 5 very helpful (6 not applicable or don't know was a missing value), ^c missing=31.9% because some CAST students did not experience simulations, ^d Scale: 1 Very unlikely 2 Unlikely 3 Neither likely nor unlikely 4 Likely 5 Very likely (6 not applicable or don't know was a missing value) ^e 26% of participants reported being in 'a CAST program consisting of multiple CAST courses,' ^f Scale: 1 very bad, 2 bad, 3 neither good nor bad, 4 good, 5 very good (6 not applicable or don't know was a missing value); ^g Scale: 1 Very unlikely 2 Unlikely 3 Neither likely nor unlikely 4 Likely 5 Very likely (6 not applicable or don't know was a missing value).

Table 4.1 shows results for questions about the CAST course and CAST program. CAST courses received high average scores on each question (between 3.99 and 4.31 on the 5-point scale), indicating that most students had a positive appraisal of their CAST course. The standard deviations indicate that some questions had greater variability in students' answers than other questions. For example, on the question of how helpful the CAST course was, 60.8% of responses rated the course as very helpful but 8.1% rated it as very unhelpful. Similarly, on the question of how likely they were to recommend the CAST course, 60.8% of responses reported that they were very likely to recommend the course to other students, but 6.5% reported that they were very unlikely to recommend the course to other students. The CAST program received very high appraisals among those students enrolled in a CAST program, with means approaching 5 on the 5-point scale.

Fifteen students or 7.8% of the sample rated their CAST course as "very unhelpful." In a review of their open-ended comments, we found that a few of these 15 also made open-ended comments indicating a negative experience. One student wrote, "A complete reworking of the course is necessary to help me become an educated and competent mandated reporter." Another wrote, "The course had no interactive component, nor any direct applications. Everything that was taught was abstract." However, several of these 15 made positive comments about the course that suggests that their rating of "very unhelpful" was unintended. Here are some of the comments of those who selected the answer that the class was "very unhelpful":

Do not hesitate to take this class, but be prepared for the intensity of the subject material.

It's fine how it is. The research is amazing and you will learn a lot

Good quality information about child abuse and neglect. I literally had the best teacher.

This is a really fun class and it makes you more aware.

Sometimes it makes you want to reconsider because of the things you see but it's all worth it.

It was a great class

The course is helpful for healthcare workers regardless of areas of practicing.

Take it because it was very interesting

These do not seem like the comments of students who found the class "very unhelpful." Perhaps some of these 15 students may have mentally reversed the poles of the scale by mistake. By choosing the first choice they may have thought they were giving the class the most positive rating rather than the most negative. If such mistakes occurred, they may have artificially decreased the means listed in Table 4.1 and CAST students' appraisal of their course may have been even more positive than Table 4.1 shows.

Students' Interest in Working with Children and Families Affected by Child Maltreatment

In both the CAST Outcome Pre- and Post-Surveys, we asked CAST students to rate their interest in working with children and families affected by child maltreatment, on a scale from 1=very

uninterested to 5=very interested (see Table 4.2). In the pre-survey sample, 75.2% of CAST students reported that they were interested to very interested in working with children and families at the beginning of the course. The average score was 4.00 on the 5-point scale. In the post-survey sample, we obtained a very similar result: 75.5% were interested to very interested in working with children and families at the end of the course.

Table 4.2

Students' Interest in Working with Children and Families Affected by Child Maltreatment

	Pre-Survey Sample (N=286)		Post-Survey Sample (N=204)		Repeated Measure Sample (N=101)			
	N	%	N	%	Pre-survey		Post-Survey	
					N	%	N	%
Very interested	98	34.3%	72	35.3%	34	33.7%	36	35.6%
Interested	117	40.9%	82	40.2%	47	46.5%	43	42.6%
Between uninterested and interested	53	18.5%	33	16.2%	18	17.8%	17	16.8%
Uninterested	10	3.5%	10	4.9%	2	2.0%	3	3.0%
Very uninterested	8	2.8%	7	3.4%	0	0.0%	2	2.0%
Mean (SD)	4.00	0.96	3.99	1.01	4.12	0.77	4.07	0.91

We also used a sample of 98 CAST students who completed both a pre-survey and post-survey in the same semester to measure change in their interest in working with children and families affected by child maltreatment. Several CAST students took more than one CAST course and completed both pre- and post-surveys each semester. Therefore, the sample yields 101 responses. Of the repeated measure sample, 80.2% of responses reported being interested to very interested in working with children and families at the beginning of the semester. The percentage was about the same at the end of the semester, 78.2%. The average interest score was about the same at the beginning of the semester (4.12) and the end of the semester (4.07). A paired sample t-test showed that the decrease was not statistically significant.

Responses to Open-Ended Questions about their CAST course and program

In the post-test CAST survey, we also asked several open-ended questions regarding participants' experience of the CAST course and program. We asked about the strengths of the CAST course and program, how to improve both the course and program, and what advice respondents had for future CAST students. This section identifies themes that emerged in these comments, both for the CAST course they took and the CAST program as a whole.

CAST Course

Strengths. The first open-ended question asked, *What are the strengths of the course?* There were 142 responses. The most common strengths mentioned related to the value of learning about child maltreatment (n=83, 58%). Among the 83 responses, students frequently mentioned the course was teaching "real life" or "real world" situations:

*The courses deal with **real life situations**, give hands-on experience, and allow you to better understand how trauma affects individuals and how to best help them.*

*It gives us exposure to **real life situations** that we may not have faced or witnessed in our personal lives prior to attending the course*

*It teaches you **real life situations** that you would actually see in the field.*

*Providing both information through lecture and **real-world representation** of the concepts learned through lecture.*

*Immerging you into **real cases** and making it to where you apply critical thinking.*

*The course really provided an insight into learning about child abuse and neglect. We learned a lot of the **harsh reality** of what some children are subject to and it really helped strengthen my understanding of the entire situation.*

*You're able to experience mock situations and understand what the situations are like, such as home visits and interviews, before going out into a **real situation**.*

Specific concepts child maltreatment or application of child protection were mentioned:

It gives you skills in recognizing the signs and symptoms of child maltreatment, and teaches you about the resources available to help children and families in these situations. It teaches very clearly about professional and non-professional mandated reporting. It also helps you to understand the processes and problems that may be involved in the agencies that deal with child maltreatment. It also teaches you about some of the laws regarding the issue of child maltreatment.

We were able to have fun and have engaging lectures and assignments that truly helped us to grasp the material and learn different perspectives about child maltreatment.

I truly enjoyed learning how to properly identify and report abuse. I also learned that there are different types of abuse and that it is not always physical like one may think.

This course helps students learn how to keep an open mind and an unbiased opinion on people and children from different cultures.

The strengths of this course are learning all the 12 core concepts and knowing how to see the signs.

The course provides a basic foundation regarding child abuse. It also provides an opportunity to know different areas regarding how to react, contacts info, and so on.

This course teaches you how to notice child abuse, and what to do when you suspect child abuse.

Helped me learn how to deal with situations where child abuse is suspected and how to communicate during the situation to ensure the safety of everyone involved.

The strengths of the course was learning how to recognize child abuse and maltreatment, along with knowing your responsibilities to report it.

Broad explanation of what trauma is and how to professionally respond to individuals who have experienced trauma.

The strength of the course is gaining knowledge of the different signs that could be signs of abuse and the various risk factors that may cause someone to be abused or become an abuser.

Recognizing child abuse as a physician and what we should do as a physician if faced with child abuse.

It taught skills that may change or even save a life in my future doctor's office.

Several participants made comments that personalized their learning about child maltreatment.

This course shows the truth about child abuse and neglect without sugarcoating anything. This makes it a more eye-opening experience that helps me understand the importance of taking a course like this.

This course opened my eyes to how child advocacy is all around me and how my day-to-day actions affect it. The global child advocacy course has shown me many topics for future research and exposed to me aspects of cultures and countries.

The course provided me with the essentials I need in the professional field of social work when it comes to child maltreatment and what has to be done to identify and investigate cases of child maltreatment.

I believe that this course has helped me to learn how to better view my role as a health professional in preventing child abuse and coming to recognize how to understand the signs that can commonly be seen. I also believe that other skills were developed that allowed me to better understand how the healthcare system works as a whole.

Being able to pick up on clues for child maltreatment and abuse is a skill that I will need in the future.

The second most commonly identified type of strength concerned instructors' skills in designing and teaching the course. Among the specific strengths mentioned were in-class discussions, the execution of teaching objectives and methods, guest speakers (n=36, 25%).

There is lots of information. The teacher knows a lot about the subject and explains it very well to students.

The instructor was someone that worked in the field so they were able to give a lot of information about the topics that were discussed in class.

My teacher always made instructions clear and understandable as possible. I learned a lot through this course. My teacher also provided very good videos that helped me understand more about child abuse.

The strengths of this course were the open-ended discussions about the topics we discussed during class. Our professor allowed us to freely express our opinions and thoughts. I believe we all learned and grew from this teaching style.

I really enjoyed the chance for discussion within the classroom. It helped me learn by seeing other people's point of view.

In my opinion, the strengths include the discussions that you have with your classmates and having a teacher that really knows what she is talking about

I liked how the perspectives and skills from a professional's perspective were given.

The material taught is as objective as it can be and has both a theoretical and practical approach.

I think some of the strengths were in the breadth of the material we covered. We got to see a little piece of all sides and stages of the court process.

I thought that the course was best meeting its goals when we got to go out and see things first hand. These experiences were invaluable.

Compelling case studies and a first-hand account.

[The course] very well organized and presented information in a thoughtful and planned manner.

The gradual build up of evidence. Data input is organized. Predicaments placed that provoke thinking and solution seeking.

The examples and tools the professor used to explain the concepts.

We had several individuals who are professionals in their field come in to talk and present information to us. We were also given contact information so that we may contact them later with questions or interests.

I liked how the perspectives and skills from a professional's perspective were given.

The third most commonly mentioned strength was the experience of simulations (n=24, 17%). The participants valued their experiential learning and its connection to practice in the field.

The simulations in these courses are the biggest strength I would say. It is a completely different way to learn and so beneficial.

The simulations were extremely helpful because we were able to apply our learned knowledge to "real situations."

The simulations help students get the full picture; brings about awareness of child abuse; focuses on real life situations that happen every day.

The courses deal with real life situations, give hands-on experience, and allow you to better understand how trauma affects individuals and how to best help them.

You're able to experience mock situations and understand what the situations are like, such as home visits and interviews, before going out into a real situation.

I really appreciated every bit of information that I learned through reading and the simulations.

The simulations create a more productive learning environment.

The simulations are a major strength of this course. Getting to actually experience these first hand were extremely beneficial.

I think the simulations were an amazing way to learn and become more knowledgeable on the topics. It gave us a chance to really understand and learn.

How CAST Could be Improved. The second open-ended question asked “How could the CAST course you took be improved?” We identified three major themes from 135 responses: 1) no need for improvement (n=47, 35%); 2) simulation-related suggestions (n=43, 32%); 3) course-related suggestions (n=43, 32%). Several students provided specific reasons why they do not think the course needs any improvement:

I loved this course so I don't see anywhere that needed improvement because I have expanded my knowledge and learned a lot.

The course has its own unique way of teaching and advising you on things you need to know. From my perspective, the course does not need any improvement.

I learn a lot from this class and it is helping me when I get out into the real world especially helping with kids.

Most comments about simulation were positive, requesting more simulation or adding simulation in the course. Yet some students also provided specific advice about how to improve students’ simulation experiences:

I love the simulations, and so I wish we could have done one in global [an advanced CAST course], but I do not know if that would be possible and I am not overly sure how that would work.

I would have liked to have more stimulating activities in Global Child Advocacy.

Have the simulations be from beginning to end of the entire process. Not just one part of the process.

Have the simulations related to the lectures discussed at the same moment.

We often felt like we needed more information from the simulation before we could make any decisions and move on to the next step.

I believe this course could be improved in the area of the simulation. I highly enjoyed it, but I believe it could have been better explained.

Focus more on specific case scenarios or simulations with the criteria within simulations.

I think the expectations and procedures of the simulations could be more thoroughly explained prior to participating in the simulations.

I think the simulations could be slowed down, so that we are able to take smaller steps.

I think the simulation could have given more constructive criticism. Oftentimes we questioned whether we were doing the right thing and never really got feedback on the correct way to carry out the situation.

I would like to have found out more information about how the simulations ended.

The post-simulation evaluations were very lengthy and repetitive.

Course related comments touched on several areas. Some students felt the course content or instruction was not clearly explained or taught:

A complete reworking of the course is necessary to help me become an educated and competent mandated reporter. Important to integrate simulations, and also teach about the practical clinical applications

The way I would improve this course is by providing explanations of how knowledge is applied in real life. It feels like I learn a lot of facts and concepts, but not how this would affect my behavior.

I feel like it could be much longer. There were often things we had to speed through due to time constraints.

Taking more time to go through concepts (I felt rushed).

Less focus on acronyms and terminology I will never use, but more focus on applying concepts.

Better instruction.

More organized with structure PowerPoints with notes. More explaining.

Some students suggested having more in-class interaction and discussion:

The course had no interactive component, nor any direct applications. Everything that was taught was abstract, or was administrative but there was no practical use of how to recognize, identify, or approach the child advocacy/neglect/abuse, etc.

More collaborative learning, not just sitting and listening or reading.

I think more interaction would be nice. Keep the students engaged.

More discussion with the classmates

I believe the course was great the way it was. Maybe a discussion component may be worthwhile.

Three students would have liked to have more feedback from their teachers:

Although the instructor is clearly knowledgeable and is eager to teach this subject, we did not receive feedback outside of the class, which was an even bigger problem when we switched to online. Sometimes the class discussions felt as if they were going in circles. It would be improved if the time in class felt more productive.

More individual feedback and opportunities for discussion.

The teacher could communicate more. She posted 5 tests and that's it.

Two students felt that course information was repetitive:

Some PowerPoints were repetitive, and I wish that we could build on things in previous classes without reviewing. This would give more time for new topics and new information that isn't taught in other classes.

Some of the information in these courses was too repetitive.

Six respondents had suggestions related to the child maltreatment content in the class:

More detail about the different types of abuse.

It could provide more exercises to notice child abuse.

I think the course could be improved by going more in depth in maltreatment and abuse. Looking at specific statistics that are relevant to the state in which the student resides. I feel as if it would bring more of an urgency to the awareness.

This course could be improved by displaying more cases and learning the processes of these cases.

The course could focus more on the policies that are set in the area where the course is being taught.

Four students wanted more closure on the case they learned about in the class.

I really wanted more closure on the cases but I know that it couldn't be helped and sometimes there is no conclusion to the case.

I would like to have found out more information about how the simulations ended.

The conclusion of the case.

I wish there is a summary form of this that can easily be available after the course ended.

Several students mentioned how COVID affected their learning experience, for example:

I would love simulations and more hands on experience, but that wasn't possible due to COVID restrictions.

The course I took was very helpful, but it was however online (due to COVID) and I feel like that took some of the benefits away. However, I still learned so much and it opened my eyes a ton.

COVID made interaction and participation difficult. Being able to go back to a live presentation will be wonderful for the course.

COVID forced everything to be online, so it could be improved with in person learning experiences instead of watching bad recordings from the year before.

Advice. We asked CAST students to write down “What advice would you give to another student who is considering this CAST course?” Out of 140 responses, over half of responses (n=75, 54%) provided an endorsement of the course. Three phrases summarize the themes that emerged: “take it,” “take it seriously” and “pay attention.”

Take it! *Children in the system are commonly children that end up back in court in some shape or form. Understanding childhood traumas and abuses that are common in the youth justice system can help you better understand the person these victims then grow into.*

Take it! If you have any desire to be in any helping profession, whether you want to work with kids or not, take it!

Take it! Super great course.

Definitely **take it**. It is a great class and the information is extremely useful no matter your major.

Take this course! It is worth it in so many ways. I think everyone should have the opportunity to take a course like this to ensure we do our part in preventing child maltreatment.

This is a great class and a great way to learn what advocacy is around the world.

Do not hesitate to **take this class**, but be prepared for the intensity of the subject material. **Take it seriously**, and share the knowledge you gain with family and friends who might not have an opportunity to take such a class.

Please **take it seriously**. The skills and conversations we have in this class could go on to impact heavily upon a child's future.

Take the course seriously as you will probably encounter a child abuse situation in the future.

Some of the topics talked about in these classes can be extremely hard to hear. I would make sure to tell students to really **pay attention** when they talk about SUDS and **take it seriously**.

Do not just **take this class for granted**. There is valuable and relevant information that can be gained through this course.

Please **take it and pay attention**. It could really benefit you and the life of an abused child or children.

I would tell them to **pay attention** and to put in more in order to get out more. This is a class where participation can really make a difference.

Pay attention in class, read the assigned chapters, and try to soak up all the material. There is so much information given it can be overwhelming, but all of it is important. By the end of the semester, you can see how connected everything is.

To participate in the class discussions and just to **pay attention** because it is a good course.

Make sure to study and really **pay attention** to detail.

Additional comments related to applying recognition of the importance of child protection work, for example:

I would tell them that taking this class will open up your eyes to what all is going on in the world around us and how this class is very helpful in understanding the right actions to take when you suspect a child that's being abused or neglected.

Try to absorb as much information as you can so one day you can use it to help someone who needs your help.

Make it a priority because the material has the potential to change the lives of those you serve.

Definitely take it. It is a great class and the information is extremely useful no matter your major.

Absorb as much of the material as possible. Everything that is taught is valuable. Not many people get to experience a course like this let alone a course that focuses on letting the students experience the lessons being taught.

I would encourage them to truly try their hardest to learn the material and participate, because the information addressed in the course is important and applicable to all areas.

Definitely participate and try to learn what is being taught in the course because it is extremely useful knowledge clinically.

This is not an easy elective you should just speed through. This is the most important class I have taken thus far, it will probably be yours.

Many students also recommended those who would like to work with children should take the course, such as:

This course was very helpful if you plan on pursuing a career that involves children.

You definitely get out of this course what you put into it. If helping children that have experienced abuse or neglect is something that you are passionate about and you are willing to work hard and go the extra mile in terms of researching and seeking out knowledge, you will enjoy this class.

A number of respondents (n=31, 22%) suggested that future students prepare for experiencing discomfort in class, such as:

I would highly recommend this course, however, I would be advise them to be aware of the topics that will be discussed. These topics can be very harsh and are sometimes difficult to take in.

Prepare yourself mentally for understanding that trauma is not a light topic.

There will be a lot of hard truths so be prepared.

Prepare yourself mentally for understanding that trauma is not a light topic.

Yet, most of them paired that advice with a statement that the value of the course made it worth it to tolerate the discomfort:

It's very triggering. But it will help you overcome obstacles.

It's a good course, there may be somethings that are hard to swallow, but the course is a course worth taking.

I would advise other students to try to understand without using their feelings because these stories are very traumatizing.

The case reports and everything will be hard to get through, but it is absolutely worth it.

It's an emotional rollercoaster. But it was one of the best classes I have ever taken in my college career.

Sometimes it makes you want to reconsider because of the things you see but it's all worth it.

Don't lose your faith in people. Going through the material, it can be a little disheartening to realize this stuff really happens and how much falls through the cracks. But there are still good people and children are resilient.

Do not hesitate to take this class, but be prepared for the intensity of the subject material. Take it seriously, and share the knowledge you gain with family and friends who might not have an opportunity to take such a class.

Be very open-minded when taking this course, put your feelings in your pocket and remember the main reason your interviewing each person for the safety of someone but don't let your feelings over take the reality task.

It will be hard sometimes, and a lot of the things we talk about are harder to hear, but building a good relationship with your peers and your instructor will help you all be able to share the weight of this topic...Hearing that others are feeling the same things I was made it easier to take in the experience at its fullest.

Be diligent in learning, get everything you can from each course, and take care of yourself during the simulations. They are not easy but they are necessary and really teach you a lot.

Thirty two responses (23%) provided classwork-related advice, such as:

Stay active-minded in the lecture.

Work the projects as if they were a factual case.

Do some prior research on the individuals speaking and their jobs

Watch the provided videos! There is a lot of good information in them.

To participate in the class discussions [and] just to pay attention because it is a good course.

Start your assignments on time and do not procrastinate.

Read books separately from the course and ask a lot of questions

Be more present in the lecture and take notes on stats and warning signs because they are helpful when walking through the simulations.

Ask many questions as possible interact with the class/your peers. Everyone has different opinions about different things and all opinions together can be just what you needed.

Study ahead of time to keep up with the material!

Understand the big picture of the material, avoid getting caught up in the details

Don't be afraid to seek outside sources.

This course is not like other courses. It uses a self-learning approach. Make sure you take a teacher that will commit to helping you understand how to navigate the course.

Be prepared for the topics that are going to be discussed.

CAST Program

The same three questions were asked about the CAST program as a whole to those CAST students who participated in a CAST program. Twenty-eight of 91 CAST participants responded to these questions.

Strengths of the CAST Program. There were 38 responses to this question. The program strengths that were identified were similar to the CAST course strengths that were identified. The main CAST program strength was enhanced understanding of child protection (n=14, 37%).

Being able to gain knowledge about both the background/technical information related to child maltreatment and career options.

Our CAST program teaches about advocacy work from all domains of the issue, globally what advocacy is needed, what types of maltreatment that happens and how some maltreatment is unintentional, how to better our parenting practices to lower the risk of unintentional maltreatment, and just overall how we as professionals are supposed to act/report/follow up after maltreatment.

I like how the classes all kind of go together and continue to strengthen your knowledge of trauma and advocacy. They do not feel like you are learning the same thing over and over. They are very real world classes and I believe they can be applicable to most everyone in many majors

It teaches how children may be affected by trauma in many different settings such as on a global/national level and at a local level. It gives a look into the many careers that play a role in making sure children have an advocate for situations they can't help

it teaches students things that everyone should be educated on and better prepares us for working with children in the future especially with having the simulations

Real-world examples of concepts that we learn about are incredibly helpful!

Real life situations/occurrences bring about awareness of child abuse and give students knowledge of what to do in situations where child abuse may be present.

A strength is the information can be used throughout life, not just in a career. You can use the information to help a child in any situation.

Multidisciplinary, there is a need for child advocacy information, useful information

Several students mentioned that enhanced knowledge from CAST helps with career choice or preparation similar:

The CAST program is unique, and unlike other certificates or minors available. I think it makes me a stronger applicant for graduate school and the workforce, and is giving me hands-on experience in a field that I was previously unfamiliar with. I also think it is preparing professionals for a field that needs them, and where they can make a positive difference.

Other themes concerned program design (n=12, 38%) and simulations (n=10, 26%), for example:

I like how the classes all kind of go together and continue to strengthen your knowledge of trauma and advocacy. They do not feel like you are learning the same thing over and over. They are very real world classes and I believe they can be applicable to most everyone in many majors

The courses are strongly based in theory as well as research. The exercises and simulations are helpful in understanding the information and demonstrate the importance of applying the information.

They all correlate and go hand in hand with information.

The level of maturity that these classes put on college students is so rewarding. The way that you learn while taking these courses is so much different than a regular course memorizing things. It is so beneficial.

The program allows students to gain new information each class period.

All the classes that are offered to choose.

I believe the strength of this program is the very diverse courses that are offered.

All of the material for the courses can seem redundant, but it is such knowledgeable information, that learning it over and over it extremely helpful.

Simulations, universal teaching methods.

The CAST program is unique, and unlike other certificates or minors available. I think it makes me a stronger applicant for graduate school and the workforce, and is giving me hands-on experience in a field that I was previously unfamiliar with. I also think it is preparing professionals for a field that needs them, and where they can make a positive difference.

The knowledge it provides to us whether through the lessons itself or simulations.

Simulations and activities that are engaging and help to teach the topic and give real life experiences.

The qualities of the professors were mentioned specifically by a few students:

The teachers are so passionate about what they teach and that makes such a difference in such dark material.

The professors are trained professionals in the field.

Having great staff to teach students.

How to Improve the CAST Program. Like the responses to the same question about the CAST course, a large portion of respondents (n=11, 35%) gave an endorsement in response to this question, such as "I think it is great the way it is." Seventeen respondents (49%) had specific design suggestions for improving the CAST program:

I wish there were more classes offered at my university, and volunteer opportunities made more available/known to us.

More options for classes, for example classes that touch more on different areas of child advocacy.

I think it could use more classes. I would love it if we had more than 4 courses in our program because they were some of the most interesting classes I took.

Offer them in more terms.

Some would like have more practice opportunities, including simulations:

I wish we were able to work with people in the community to put our knowledge into practice.

I think that all the courses could have simulations.

There could be more simulations.

I wish we were able to work with people in the community to put our knowledge into practice.

I wish there were more classes offered at my university, and volunteer opportunities made more available/known to us.

More activities to apply our knowledge.

Other specific comments about the program designs included:

Less repetition in program design.

The CAST program could be improved by making perspectives and trauma informed practice seem like different classes. Right now they feel like a repetitive course, and the content taught in both is too similar.

The CAST program could focus more on the policies of the area where the course is being taught.

I would really love for the certificate program at my school to be made into a minor.

It should be offered for all fields that involve working with children. I should be offered especially for social work, criminology/law enforcement, medical students, and education students.

Maybe change the formatting of tests.

Couple respondents mentioned how to promote the program:

Be advertised to more students, make a clear list of approved courses available.

I believe this program could be promoted better, and the course requirements could be explained better.

Advice about the CAST Program. In response to the question about what advice the student would give to others about the program, again most of the respondents provided an endorsement, especially for those who plan to work with children (n=25, 66%).

I would tell them to definitely finish the program and take all of the classes no matter if they plan to work in a CAC or not because what you learn is relevant to life.

Get your certification. Even if you don't work with children, you never know when you will see a child and suspect maltreatment. You will be prepared and will know exactly what to do to help that child without re-traumatizing them again.

Joining this program will be a huge addition to your portfolio to set you apart in your future career. This program will help you gain so much knowledge as a person when working with children and their families from all parts of the world.

Highly recommended for those who want to help children in need or plan on working with children, period.

If you're considering going into a career that works with children, the CAST program is 100% worth it! You learn so much information that pertains to your future career.

If they are wanting to go into a career that works with children, I would definitely recommend the CAST program. Anyone that is passionate about helping children and wants to work hard will get a lot out of the program.

Do it. It's educational, it'll look good on a resume, everyone needs this information. Whatever your major is, this information is interesting and necessary.

I would recommend taking enough classes to get the certification. The classes are worth it if you are truly interested in the subject.

If you don't take these courses, you're missing out on a great learning opportunity.

The CAST program is incredible and teaches information that can and should be used in everyday life.

I would recommend the program and I think it is an enhancement to any major, especially if you will work with children in any capacity.

Few comments were related to self-care. A student said, *"To make sure you practice self-care and know when you are feeling too overwhelmed."*

Other advice about the program was classwork related:

Listen, read, learn all that you can. Find a way to compartmentalize the information and use your knowledge to help others.

I would advise them to really engage in the program and courses to fully get the CAST experience to enhance their learning experience.

Take one each semester. Never take 2 at once.

This program is based on how much you put into it. The more work you put into it and more you try to learn, the more successful you will be when completing it.

I would tell them to research the CPS process to learn some knowledge prior to the course.

Summary and Discussion

The vast majority of CAST students reported a positive experience. The results may have been even more positive except for apparent misinterpretation of the rating scales by some CAST students. Approximately three-quarters of CAST students were interested to very interested in working with children and families affected by child maltreatment, both at the beginning and end of the course. From all six open-ended questions, students provided positive testimonies about how CAST enhanced their knowledge about child maltreatment and helped with career

choice and preparation. Many students endorsed the course and program and the value of students' investment in it by saying "Take it" and "Pay attention." Simulation apparently also had a substantial impact on students' learning experience as many mentioned the benefit of the hands-on experience and requested more simulations. Emotional preparation is an important theme when asked what advice about the course and program they would offer. Various suggestions were made about how to improve the design of CAST course or program. The findings of this chapter were in harmony with the qualitative study of the CAST graduates (see Chapter 12). Students enjoyed CAST and felt changed by the experience, despite its emotional demands. Through CAST, students recognized the importance of the issue of child maltreatment and the work of child protection. They felt that they learned a great deal and were better prepared to serve child victims and their families.

Chapter 5: Comparing CAST and non-CAST Students at the Beginning of the Semester

The CAST students we surveyed may have differed from non-CAST students even at the beginning of the semester in which we surveyed them. They may have had greater prior personal experience and interest in child maltreatment. They may have taken previous CAST courses or other courses related to child maltreatment. And, they may have read more books and articles and watched more documentaries or news reports about child maltreatment. We need to consider their prior knowledge and skills in order to assess the effect of a semester CAST course. For this reason, this chapter compares CAST and non-CAST on their knowledge and skills at the beginning of the semesters we studied.

We administered the CAST Outcome Survey as a pre-survey at the beginning of the semester. To circumvent the demands posed in the very first week of a course, we administered the pre-survey in the second week of the semester. We pooled pre-survey data from four semesters: Spring 2019-2020, Summer 2019-2020, Autumn 2020-2021, and Spring 2020-2021 to conduct this analysis. The CAST Outcome Survey had not yet been developed in the beginning of the Autumn 2019-2020 semester, so we did not collect pre-surveys then. The distribution of the sample by semester is presented in Table 5.1. The comparison of CAST and non-CAST students on pre-scores only includes students from two-year schools, because we had only two pre-surveys from non-CAST students in four-year schools, and we lacked graduate students from non-CAST schools. In addition, we excluded the summer semester of 2019-2020 from further analysis in this chapter due to the absence of pre-surveys from CAST students in the summer.

Sample Characteristics. Table 5.1 shows the characteristics of the pre-survey sample of students from two-year schools. Non-CAST students made up a small majority of the sample. The average age was 20.5 years old. The majority of the sample was female. Black students slightly outnumbered White students. Few students were of Hispanic origin. Nursing was the most common major (less than a third of students), but many different majors were represented. The CAST group differed from the non-CAST group in terms of the semester their course was surveyed. The majority of CAST students in the sample took their CAST course in the autumn semester of academic year 2019-2020, while the majority of the non-CAST students took their course in the autumn semester of academic year 2020-2021. The CAST group differed significantly in racial composition from the non-CAST group: a majority of the CAST students were White while a majority of the non-CAST students were Black. The CAST and non-CAST groups also differed significantly on career plans, with the CAST group being more than twice as likely to plan to be a child maltreatment professional (e.g., child caseworker, forensic interviewer).

Comparison of CAST and Non-CAST Students from Two-Year Schools at the Beginning of the Semester

We conducted a series of independent sample t-tests and analyses of variance (ANOVAs) to compare CAST and non-CAST two-year college students on ten outcome measures shown in Table 5.2. We limited the analysis to community college students because we had only two pre-surveys from four-year non-CAST schools. We also omitted CAST graduate students because we lacked non-CAST graduate schools in the study; data from CAST graduate students are analyzed

in Chapter 8. Because the non-CAST and CAST groups differed on the proportion of White and Black students, and this factor could relate to outcomes, we included race in the analysis and computed both raw score means on outcomes for non-CAST and CAST students and adjusted means controlling for race. We also included semester as a control variable in one set of analyses because the number of CAST and non-CAST differed by semester, but semester was only significantly related to one outcome, and we present the results of analyses without this variable for greater parsimony. We also conducted simple effects analyses comparing non-CAST and CAST students within race. Conducting these analyses within race eliminates the possible confounding effects of this variable on the comparison between CAST and non-CAST students.

Table 5.1

Characteristics of the Two-Year School Pooled Pre-Test Survey Sample (N=193)

	All		Non-CAST		CAST	
	N	%	N	%	N	%
CAST						
No	109	56.5%				
Yes	84	43.5%				
Semester^a						
Spring 2019-2020	68	35.2%	6	5.5%	62	73.8%
Summer 2019-2020	29	15.0%	29	26.6%	0	0.0%
Autumn 2020-2021	71	36.8%	62	56.9%	9	10.7%
Spring 2020-2021	25	13.0%	12	11.0%	13	15.5%
Age Mean (SD)						
	20.5	(4.23)	20.5	(4.68)	20.4	(3.58)
missing	8	4.1%	4	3.7%	4	4.8%
Gender						
Female	154	79.8%	83	76.1%	71	84.5%
Male	32	16.6%	22	20.2%	10	11.9%
missing	7	3.6%	4	3.7%	3	3.6%
Race-White^b						
No	99	51.3%	71	65.1%	28	33.3%
Yes	88	45.6%	35	32.1%	53	63.1%
missing	6	3.1%	3	2.8%	3	3.6%
Race-Black^c						
No	91	47.2%	35	32.1%	56	66.7%
Yes	96	49.7%	71	65.1%	25	29.8%
missing	6	3.1%	3	2.8%	3	3.6%
Hispanic origin						

No	176	91.2%	100	91.7%	76	90.5%
Yes	3	1.6%	0	0.0%	3	3.6%
missing	14	7.3%	9	8.3%	5	6.0%
Major						
Arts or Humanities	8	4.1%	7	6.4%	1	1.2%
Biological or Life Sciences	2	1.0%	1	0.9%	1	1.2%
Criminal Justice	9	4.7%	3	2.8%	6	7.1%
Education	14	7.3%	7	6.4%	7	8.3%
Engineering	2	1.0%	2	1.8%	0	0.0%
Health Care or Health Sciences	12	6.2%	10	9.2%	2	2.4%
Math or Computer Science	1	0.5%	1	0.9%	0	0.0%
Medicine	4	2.1%	3	2.8%	1	1.2%
Nursing	57	29.5%	36	33.0%	21	25.0%
Other	16	8.3%	11	10.1%	5	6.0%
Other Social Science	4	2.1%	1	0.9%	3	3.6%
Psychology	18	9.3%	8	7.3%	10	11.9%
Social Work	23	11.9%	4	3.7%	19	22.6%
Undecided or Does Not Apply	10	5.2%	6	5.5%	4	4.8%
missing	13	6.7%	9	8.3%	4	4.8%
Career Plan^d						
Child maltreatment professional	10	5.2%	4	3.7%	7	8.3%
Other child-serving professional	11	5.7%	23	21.1%	20	23.8%
Other human services	22	11.4%	11	10.1%	11	13.1%
Other health care	72	37.2%	49	45.0%	23	27.4%
Criminal justice or law	7	3.6%	2	1.6%	5	6.0%
Other	20	10.4%	13	11.9%	7	8.3%
Undecided	8	4.1%	1	0.9%	7	8.3%
missing	10	5.2%	5	5.5%	4	4.8%

Note. ^a The CAST and non-CAST groups had significantly different numbers of students by semester, $\chi^2(1)= 85.67$, $p<.001$. Due to the absence of pre-surveys from CAST students in the summer of 2019-2020, the summer semester was excluded from further analysis in this chapter. ^b The CAST and non-CAST groups differed significantly by Race-non-Black, $\chi^2(1)= 19.36$, $p<.001$; ^c The CAST and non-CAST groups differ significantly by Race-Black, $\chi^2(1)= 23.97$, $p<.001$. ^d The CAST and non-CAST groups differed significantly by Career Plan, exact $p=.027$.

We conducted a multivariate ANOVA controlling for race to compare CAST students and non-CAST students at the beginning of the semester on the set of 10 outcome measures shown in Table 5.2. Across this set of outcome measures, CAST students differed significantly from non-CAST students in the direction of greater knowledge and skills, Wilks' $\lambda=.85$. $F(10,175) =3.10$, $p=.001$.

Then we calculated independent sample t-tests to assess whether CAST and non-CAST students differed significantly on individual measures at the beginning of the measure. The measures tested were: 1) participants' average scores on a multi-item self-rating measure of knowledge

and understanding of child maltreatment (skills self-rating), 2) participant's score on the project-developed measure of knowledge of child protection (child protection knowledge), 3) participants' score on a measure of their ability to identify up to five potential sources of evidence in a child sexual abuse vignette (sexual abuse evidence), 4) participants' score on a measure of students' ability to identify up to seven types of organizations likely to be involved in a child sexual abuse vignette (sexual abuse organizations), 5) six vignettes asking students to rate how likely they were to suspect child maltreatment in different situations (see Table 5.2). In addition to the t-tests, Cohen's *d* statistic was calculated as a measure of effect size for the difference between groups. Cohen's (1992) convention is that a $d=.20$ is a small effect size, $d=.50$ is a medium effect size, and $d=.80$ is a large effect size.

We also conducted univariate analyses of variance comparing CAST and non-CAST students on each measure, while controlling for race. Table 5.2 includes the adjusted mean differences between CAST and non-CAST from these ANOVAs and the results of the F-tests assessing the statistical significance of each adjusted mean difference. These last results represent a comparison of CAST and non-CAST students that controls for the effect of differences by race. When the adjusted mean difference is statistically significant, we also present the Cohen's *d* for the difference in raw group means.

The results showed that CAST and non-CAST two-year students differed significantly on four measures on the pre-survey once we controlled for race. The CAST group had significantly higher scores than non-CAST students on identifying types of evidence in a sexual abuse case scenario, and on identifying organizations likely to be involved in a child sexual abuse case scenario. In one of the vignettes asking respondents to rate their suspicion of child maltreatment in a given situation, CAST students gave higher scores indicating greater suspicion of neglect than non-CAST students. However, it would be reasonable to have lower suspicion of neglect in response to this vignette, because the vignette depicts a father who is having difficulty caring for his children simply because of lack of money, which is generally not substantiated as neglect by child protective services.

We examined the Cohen's *d* statistic to estimate effect size for the statistically significant differences, that is, the magnitude of the difference between CAST and non-CAST students. A Cohen's *d* of around $.20$ is considered a small effect. The benchmark for a medium effect size in most situations is a Cohen's *d* of about $.50$. Thus the difference between CAST and non-CAST on identifying types of evidence in the sexual abuse scenario was a medium effect. Cohen (1992, p. 156) has described a medium effect as "an effect likely to be visible to the naked eye of a careful observer." The effect sizes were small to medium for the difference between CAST and non-CAST on identifying organizations likely to be involved in a sexual abuse scenario and on the vignette related to child neglect.

To further rule out any effect of the differences in racial composition between the CAST and non-CAST groups, we conducted simple effects analyses of variance to assess the differences between CAST and non-CAST students within race. The simple effects ANOVAs used all the pre-

survey two-year school sample cases for statistical estimation, but isolated the CAST versus non-CAST comparisons within single racial groups. For the child protection knowledge measure, Black CAST students had an advantage over Black non-CAST students with a p value of .05, just on the verge of statistical significance. For non-Black students (e.g., White, Latinx, Asian), CAST students had significantly greater child protection knowledge than non-CAST students, $p=.006$. For identifying types of evidence in the sexual abuse scenario, CAST had a statistically significant advantage over non-CAST students for Black students ($p=.003$) and non-Black students ($p=.03$). For identifying the organizations likely to be involved in the sexual abuse scenario, Black CAST students had a significant advantage over Black non-CAST students ($p=.001$), but there was no significant difference between non-Black CAST and non-CAST students. For the vignette depicting a father having difficulty caring for his children because of lack of money, Black CAST students had significantly higher ratings on suspecting neglect on the pre-survey than Black non-CAST students ($p=.029$), but there was no significant difference between non-Black CAST and non-CAST students.

Table 5.2

Comparison between non-CAST and CAST Students in Two-Year Schools on Pre-scores on Ten Outcomes (N=193)

	<u>Non-CAST</u>			<u>CAST</u>			t^a	Adjusted mean difference	F^b	Cohen's d
	N	Mean	sd	N	Mean	sd				
Skills Self-Rating Mean	109	3.46	0.96	84	3.53	0.94	-0.49	-0.17	1.35	-
Child Protection Knowledge	109	11.98	2.86	84	13.31	3.14	-3.03**	-0.67	2.44	
Sexual Abuse Scenario: Types of Evidence	109	0.25	0.45	84	0.56	0.73	-3.42**	-0.29*	10.35**	.51
Sexual Abuse Scenario: Organizations Involved	109	1.76	1.59	84	2.40	1.67	-2.70**	-0.50*	4.15*	.39
Vignette 1 ^c	107	5.96	1.35	83	6.25	1.01	-1.70	-0.23	1.55	-
Vignette 2 ^d	109	4.43	1.79	83	4.16	1.74	1.07	-0.32	0.02	-
Vignette 3 ^c	108	5.44	1.67	83	5.71	1.17	-1.29	-0.30	1.79	-
Vignette 4 ^d	109	4.20	1.95	83	4.61	1.72	-1.55	-0.38	1.77	-
Vignette 5 ^d	108	3.10	1.76	83	3.72	2.04	-2.21*	-0.72*	6.07*	.33

Vignette 6 ^d	109	4.16	1.98	83	4.30	1.91	-0.51	-0.38	1.62	-
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Note. Guidelines on magnitudes of Cohen's d (Cohen, 1992): Small = .20; Medium = 0.5; Large = 0.8, ^a from independent sample t-test, ^b from ANCOVA analysis controlling for race, ^c Higher score indicates better judgment about suspicion of child maltreatment, ^d Lower score indicates better judgment about suspicion of child maltreatment, *p < .05; **p < .01; ***p < .001

Comparison on Individual Child Protection Knowledge Items on Pre-scores for Two-Year Schools

We compared CAST and non-CAST students in two-year schools on their ability to provide the correct pre-score answer on each item on the Child Protection Knowledge Scale. This gives us a sense of the specific areas of knowledge in which CAST students in two-year schools have an advantage over non-CAST students in two-year schools at the beginning of a semester, when CAST students are just starting their CAST course. It also suggests areas in which CAST students' knowledge could be improved. Table 5.3 shows the results for each item; each item is identified by the topic that it addressed. On five items, CAST students had a higher percentage of correct answers than non-CAST students and these differences were statistically significant. These five items concerned mandated reporting, perpetrators, multidisciplinary teams, and resilience of child victims.

Table 5.3

Pre-score Percentage Correct on Individual Child Protection Knowledge Questions CAST and non-CAST Students in Two-Year Schools (N=193)

Topic	Non-CAST	CAST
Child placement	40.4%	53.6%
Perpetrators	76.1%	82.1%
Mandated reporting-teacher*	2.8%	11.9%
Forensic medical examination	11.0%	11.9%
Commercial child sexual exploitation	23.9%	21.4%
Perpetrators*	51.4%	70.2%
Effects of child maltreatment	81.7%	79.8%
Resilience of child victims	92.7%	97.6%
Mandated reporting*	69.7%	85.7%
Disclosure of abuse	30.3%	32.1%
Disclosure of abuse*	38.5%	22.6%
Disclosure of abuse	50.5%	57.1%
Disclosure of abuse*	71.6%	57.1%
Multidisciplinary teams*	37.6%	52.4%
Child placement and permanency	9.2%	11.9%
Mandated reporting	67.0%	64.3%
Mandated reporting*	34.9%	52.4%
Effects of child maltreatment	62.4%	60.7%
Effects of child maltreatment*	52.3%	70.2%
Effects of child maltreatment	61.5%	61.9%
Effects of child maltreatment	79.8%	84.5%

Effects of child maltreatment	49.5%	61.9%
Children’s Advocacy Centers	39.4%	40.5%
Child maltreatment investigation	8.3%	8.3%
Resilience of child victims**	56.0%	78.6%

Note. *p < .05, **p<.01.

Sometimes the CAST advantage was substantial. On one item about mandated reporting for example, CAST students were almost five times more likely than non-CAST students to choose the correct answer. On two questions, non-CAST students were significantly more likely than CAST students to give the correct answer on the pre-survey. One question on which non-CAST students differed significantly from non-CAST students, in retrospect, could be seen as a tricky question, though that was not the intention. It was a true-false question concerning whether most children recant their disclosure of child sexual abuse at some point in the process, even if it is only temporary. CAST students may be more likely to understand the dynamics of recantation among true victims, and they might be more likely to expect some level of recantation as normal. Indeed, recantation is not an unusual occurrence, but research shows that nevertheless only a minority of child sexual abuse victims recant (London, et al., 2005), so this statement is false due to the word “most.” This might be an explanation for why only 22.6% of CAST students gave the correct answer on this item compared to 38.5% of non-CAST students. The results are harder to explain for another item on which a higher proportion of non-CAST students got the correct answer. This item asked whether it was true or false that children who disclose often reveal more and more about the abuse over time. This statement is consistent with literature that suggests that disclosure is a process that can occur over time (DeVoe & Faller, 1999), and therefore ‘true’ was scored as the correct answer. However, this is a more advanced question that students just starting a CAST course in a two-year school may have difficulty answering correctly.

Comparison of CAST Pre-Scores and Non-CAST Post-Scores for Four-Year Schools

We had too few pre-scores from four-year non-CAST schools to compare CAST and non-CAST four-year schools at the beginning of the semester. However, we were able to make another comparison that suggests how CAST and non-CAST students in four-year schools might differ at the beginning of the semester. We compared pre-scores from four-year CAST schools to post-scores from four-year non-CAST schools. If the CAST pre-scores were significantly better than non-CAST post-scores, then it is likely that CAST and non-CAST four-year school students differed at the beginning of the semester. It would be implausible that non-CAST students would have had better scores at the beginning of the semester than at the end of the semester. We statistically controlled for difference in racial composition between the CAST and non-CAST groups.

Table 5.4 shows the results for the comparison of CAST pre-scores and non-CAST post-scores for four-year schools. Compared to non-CAST students at the **end** of the semester, CAST

students at the **beginning** of the semester rated their skills more highly, demonstrated greater child protection knowledge, successfully identified more types of evidence and organizations involved in a child sexual abuse scenario, and demonstrated better judgment about the likelihood of maltreatment on three vignettes. On a fourth vignette presenting indicators that suggest possible child abuse and neglect, non-CAST students actually had significantly higher suspicions of child maltreatment than the CAST students.

Simple effects ANOVAs revealed that the differences we found between CAST and non-CAST students on self-rating skills, Child Protection Knowledge Score, and Vignettes 5 and 6 applied both to Black and non-Black students. However, the difference on Vignette 3, was only statistically significant for non-Black students, while the difference on Vignette 2 was only statistically significant for Black students. On the child sexual abuse scenario, Black CAST students were better able than Black non-CAST students to identify organizations likely to become involved.

Table 5.4

Comparison of CAST Pre-Scores to Non-CAST Post-Scores for Four-Year Schools

	<u>Non-CAST</u>			<u>CAST</u>			t ^a	Adjusted mean difference	F ^b	d
	N	Mean	sd	N	Mean	sd				
Skills Self-Rating Mean	51	4.21	0.73	105	3.61	0.90	4.44***	-0.62	15.04***	.71
Child Protection Knowledge	51	12.64	3.62	105	15.13	2.73	4.34***	1.37	8.24**	.82
Sexual Abuse Scenario: Types of Evidence	51	0.10	0.30	105	0.28	0.53	2.68**	0.16	3.48	
Sexual Abuse Scenario: Organizations Involved	51	1.67	1.81	105	2.41	1.92	2.36*	0.47	1.81	
Vignette 1 ^d	50	6.32	1.20	105	5.95	1.12	1.82	-0.35	2.72	
Vignette 2 ^e	49	4.69	1.79	105	4.06	1.76	2.07*	-0.33	1.01	
Vignette 3 ^d	49	6.10	1.14	105	5.49	1.37	2.93**	-0.49	4.28*	.47
Vignette 4 ^e	49	4.53	1.96	105	4.03	1.78	1.53	0.47	1.96	
Vignette 5 ^e	49	3.71	2.05	105	2.53	1.59	3.56**	-1.02	9.48**	.68

Vignette 6 ^e	49	4.59	2.06	105	2.84	1.59	75.82***	-1.34	18.06***	1.0
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Note. Guidelines on magnitudes of Cohen's d (Cohen, 1992): Small = .20; Medium = 0.5; Large = 0.8, ^a from independent sample t-test, ^b from ANOVA analysis controlling for race, ^d Cohen's d. Higher score indicates better judgment about suspicion of child maltreatment, ^e Lower score indicates better judgment about suspicion of child maltreatment, *p < .05; **p < .01; ***p < .001

Comparing CAST Pre-Surveys and non-CAST Post-Surveys on Child Protection Items for Four-Year Schools

We also compared CAST pre-surveys and non-CAST post-surveys from four-year schools to assess differences in their knowledge on each question on the Child Protection Knowledge Scale (see Table 5.5). Again, we assumed that, if the CAST pre-survey results were significantly better than non-CAST post-survey results, it would be likely that CAST and non-CAST students in four-year school students differed at the beginning of the semester

Table 5.5

Pre-Score Percentage Correct on Individual Child Protection Knowledge Questions: Comparison of CAST Pre-Surveys and non-CAST Post-Surveys in Four-Year Schools

Topic	Non-CAST Post-Survey (n=51)	CAST Pre-Survey (n=105)
Child placement*	49.0%	65.7%
Perpetrators	82.4%	83.8%
Mandated reporting-teacher	13.7%	19.0%
Forensic medical examination	19.6%	18.1%
Commercial child sexual exploitation	25.5%	39.0%
Perpetrators	64.7%	72.4%
Effects of child maltreatment**	80.4%	94.3%
Resilience of child victims*	90.2%	98.1%
Mandated reporting	78.4%	81.3%
Disclosure of abuse	41.2%	39.0%
Disclosure of abuse	33.3%	26.7%
Disclosure of abuse	45.1%	51.4%
Disclosure of abuse	64.7%	60.0%
Multidisciplinary teams	49.0%	50.5%
Child placement and permanency	19.6%	27.6%
Mandated reporting ^a	64.7%	79.0%
Mandated reporting*	45.1%	65.7%
Effects of child maltreatment***	52.9%	85.7%
Effects of child maltreatment	62.7%	75.2%
Effects of child maltreatment*	60.8%	78.1%
Effects of child maltreatment**	76.5%	92.4%
Effects of child maltreatment	52.9%	62.9%
Children's Advocacy Centers*	29.4%	46.7%
Child maltreatment investigation*	00.0%	08.6%
Resilience of child victims***	62.7%	91.4%

Note. *p < .05, **p < .01., ***p < .001. ^a p = .054

Among students in four-year schools the CAST group had a significantly higher percentage correct on 10 questions compared to non-CAST students at the end of the semester. On an eleventh question (on mandated reporting), CAST students had an advantage that verged on statistical significance ($p=.054$). These results highlight specific topic areas on which CAST students in four-year schools had greater knowledge than non-CAST students in four-year schools at the beginning of the semester.

Summary and Discussion

CAST students in two-year schools had advantages in knowledge and skills over non-CAST students even at the beginning of the semester in which they were taking their CAST course, controlling for differences in racial composition CAST students had higher scores on the child protection knowledge scale on average, with a medium effect size. They were significantly more likely to provide the correct answer on five different questions on mandated reporting, perpetrators, multidisciplinary teams, and resilience of child victims. Two-year school CAST students were also better able to identify potential types of evidence in a child sexual abuse scenario. On this child sexual abuse scenario, Black CAST students in two-year schools were better able than Black non-CAST students in two-year schools to identify organizations likely to become involved. Some significant differences did not favor CAST students in two-year schools. For some questions, this may reflect CAST students vigilance about protecting children. It is quite possible that CAST students taking the pre-surveys were poised to learn the correct answers to the items in the CAST course they had just started.

Looking at four-year schools, CAST students' pre-scores were significantly better than non-CAST students post-scores for four outcomes, once we controlled for differences in racial composition. They had a higher percentage correct at the beginning of the semester on at least ten child protection questions compared to non-CAST students at the end of the semester. It is implausible that non-CAST students' scores were better at the beginning of the semester than at the end of the semester. These results therefore suggest that CAST students in four-year schools were also superior to non-CAST students on knowledge and judgment regarding child maltreatment even before they had taken the CAST course. A CAST advantage for students in four-year schools was consistent for Black and non-Black students.

These results suggest that CAST students in both two-year and four-year schools had advantages in knowledge and skill over non-CAST students even before their CAST course started. They may have had more personal experience and investment, and may have seen more (e.g., videos and documentaries), read more, listened more, and talked more about child maltreatment compared to other students. If they were in four-year schools, they may also have taken previous CAST courses. In Chapter 13, we explore further the implications of the differences between CAST and non-CAST students at the beginning of the semester.

Chapter 6: Comparing CAST and non-CAST Students at the End of the Semester

To understand how, at the completion of a CAST course, CAST students differed on knowledge and skills from non-CAST students, we compared CAST and non-CAST on post-survey data from the CAST Outcome Survey. We pooled post-survey data from five semesters: Autumn 2019-2020, Spring 2019-2020, Summer 2019-2020, Autumn 2020-2021, and Spring 2020-2021 to conduct this analysis. The distribution of the sample by semester is presented in Table 6.1. We excluded CAST graduate students from this analysis because we lacked non-CAST students in graduate schools; data from CAST graduate students are analyzed in Chapter 8.

Sample Characteristics. Table 6.1 shows the characteristics of the post-survey sample. The sample was about evenly divided between CAST and non-CAST students. Just over half of students were from two-year schools and just under half from four-year schools. Only a small percentage of the students were enrolled in a CAST minor or certificate program. The average age was 22.4 years old. The majority of the sample was female. Black students slightly outnumbered White students. Few students were of Hispanic origin. Although the most common major was Social Work, a wide array of majors was represented. Most of the CAST students took CAST 301, the introductory CAST course. Just under half of CAST students participated in or witnessed Project FORECAST simulations.

The non-CAST and CAST post-survey samples differed significantly on several characteristics. The two groups differed in the proportion of surveys completed by semester. A majority of non-CAST students were in two-year schools, while a majority of CAST students were in four-year schools. A majority of the non-CAST students were Black, while a majority of the CAST students were White. As we discuss below, we took these group differences into account in our comparison of CAST and non-CAST students on outcomes. CAST and non-CAST students also differed significantly on career plans, with CAST students being more than twice as likely to be a child maltreatment professional (e.g., family advocate, forensic interviewer).

Comparison of CAST and non-CAST Students at the End of the Semester

As we did for the pre-survey (see Chapter 5), we conducted a series of independent sample t-tests and analyses of variance (ANOVAs) to compare the mean scores of CAST and non-CAST students on ten outcome measures shown in Table 6.2. Because non-CAST and CAST students differed on the proportion in two-year and four-year schools and the proportion of White and Black students, and these factors could relate to outcomes, we included these factors in the analysis and computed adjusted means on outcomes for non-CAST and CAST students, controlling for these factors. We did not find any differences on post-survey outcomes by semester, so we did not control for the differences in the participation of CAST and non-CAST students by semester. We also conducted simple effects analyses comparing non-CAST and CAST students within each type of school and racial group. Conducting these analyses within school type and racial group mitigates the possible confounding effects of these variables on the comparison between CAST and non-CAST students.

Table 6.1*Characteristics of the Pooled Post-Survey Sample (N=278)^a*

	All		Non-CAST		CAST	
	N	%	N	%	N	%
CAST						
No	146	52.5%				
Yes	132	47.5%				
Semester						
Autumn 2019-2020	67	24.1%	24	16.4%	43	32.6%
Spring 2019-2020	108	38.8%	70	47.9%	38	28.8%
Summer 2019-2020	7	2.5%	1	0.7%	6	4.5%
Autumn 2020-2021	38	13.7%	20	13.7%	18	13.6%
Spring 2020-2021	58	20.9%	31	21.2%	27	20.5%
School type						
Two-year schools	152	54.7%	95	65.1%	57	43.2%
Four-year schools	126	45.3%	51	34.9%	75	56.8%
Involvement with CAST						
Non-CAST	146	52.5%				
CAST Course(s) Only	96	34.5%				
CAST Minor/Certificate	36	12.9%				
Age Mean (SD)						
missing	14	5.0%	9	6.2%	5	3.8%
Gender						
Female	232	83.5%	115	78.8%	117	88.6%
Male	34	12.2%	23	15.8%	11	8.3%
missing	12	4.3%	8	5.5%	4	3.0%
Race-White						
Yes	117	42.1%	44	30.1%	73	55.3%
No	151	54.3%	96	65.8%	55	41.7%
missing	10	3.6%	6	4.1%	4	3.0%
Race-Black						
Yes	142	51.1%	90	61.6%	52	39.4%
No	126	45.3%	50	34.2%	76	57.6%
missing	10	3.6%	6	4.1%	4	3.0%
Hispanic origin						
Yes	8	2.9%	2	1.4%	6	4.5%
No	254	91.4%	132	90.4%	122	92.4%
missing	10	3.6%	6	4.1%	4	3.0%

Major						
Arts or Humanities	11	4.0%	9	6.2%	2	1.5%
Biological or Life Sciences	14	5.0%	5	3.4%	9	6.8%
Criminal Justice	7	2.5%	4	2.7%	3	2.3%
Education	19	6.8%	10	6.8%	9	6.8%
Health Care or Health Sciences	10	3.6%	8	5.5%	2	1.5%
Law	6	2.2%	3	2.1%	3	2.3%
Math or Computer Science	1	0.4%	0	0.0%	1	0.8%
Medicine	4	1.4%	4	2.7%	0	0.0%
Nursing	40	14.4%	25	17.1%	15	11.4%
Other	15	5.4%	10	6.8%	5	3.8%
Other Social Science	9	3.2%	1	0.7%	8	6.1%
Physical Sciences	4	1.4%	4	2.7%	0	0.0%
Psychology	29	10.4%	13	8.9%	16	12.1%
Social Work	87	31.3%	42	28.8%	45	34.1%
Theology or Religion	1	0.4%	0	0.0%	1	0.8%
Undecided or Does Not Apply	5	1.8%	1	0.7%	4	3.0%
missing	16	5.8%	7	4.8%	9	6.8%
Career Plan						
Child maltreatment professional	32	11.5%	11	7.5%	21	15.9%
Other child-serving professional	64	23.0%	32	21.5%	32	24.2%
Other human services	45	16.2%	19	13.0%	26	19.7%
Other health care	61	21.0%	43	29.5%	18	13.6%
Criminal justice or law	18	6.5%	9	6.2%	9	6.8%
Other	29	10.4%	17	11.6%	12	9.1%
Undecided	14	5.0%	6	4.1%	8	6.1%
missing	15	5.4%	9	6.25%	6	4.5%
Participation in FORECAST simulations						
Non-CAST – no simulations	146	52.5%				
CAST – no FORECAST simulations	71	25.5%				
FORECAST simulations	61	21.9%				
Taking CAST 301	73	26.3%				
Taking CAST 302	23	8.3%				
Taking CAST 401	13	4.7%				

Note. The CAST and non-CAST groups differ significantly by Race-White, $\chi^2(1)=17.82, p<.001$; by Race-Black, $\chi^2(1)=15.03, p<.001$; by School Type, $\chi^2(1)=13.4, p<.001$, and by career plan, $\chi^2(7)=15.5, p=.028$ Major was not tested because of the large number of cells. ^a CAST graduate students are excluded from this analysis. Their data are analyzed in Chapter 8. ^b witnessed or participated in simulations

We conducted a multivariate ANOVA to compare CAST students and non-CAST students at the end of the semester on the set of 10 outcome measures shown in Table 6.2. Because non-CAST and CAST students differed on the proportion in two-year and four-year schools and the

proportion of White and Black students, and these factors could relate to outcomes, we included these factors in the analysis to control for their effects. Across this set of outcome measures, CAST students differed significantly from non-CAST students in the direction of greater knowledge and skills, Wilks' $\lambda = .827$, $F(10, 254) = 5.30$, $p < .001$.

Then we calculated independent sample t-tests to assess whether CAST and non-CAST students differed significantly on individual outcomes. The outcomes tested were: 1) participants' average scores on a multi-item self-rating measure of knowledge and understanding of child maltreatment (skills self-rating), 2) participants' scores on the Child Protection Knowledge Scale, 3) participants' scores on a measure of their ability to identify up to five potential sources of evidence in a child sexual abuse vignette, 4) participants' scores on a measure of students' ability to identify up to seven types of organizations likely to be involved in a child sexual abuse vignette, 5) six vignettes asking students to rate how likely they were to suspect child maltreatment in different situations (see Table 6.2). In addition to the t-tests, Cohen's d statistic was calculated as a measure of effect size for the difference between groups. Cohen's (1992) convention is that a $d = .20$ is a small effect size, $d = .50$ is a medium effect size, and $d = .80$ is a large effect size.

We also conducted univariate ANOVAs comparing CAST and non-CAST students on each of the outcomes, while controlling for school type and race. Table 6.2 presents the adjusted mean differences between CAST and non-CAST from these univariate ANOVAs and the results of the F-tests assessing the statistical significance of each adjusted mean difference. These last results represent a comparison of CAST and non-CAST students that controls for the effect of differences in race and in type of college program. When the adjusted mean difference is statistically significant, we also present the Cohen's d for the difference in raw group means.

The results showed that the CAST and non-CAST group differed significantly on six outcomes on the post-survey once we controlled for race and program type. The CAST group rated their knowledge and understanding of child maltreatment significantly higher than the non-CAST group did. CAST students also had significantly higher scores than non-CAST students on the Child Protection Knowledge Scale, on identifying evidence in a sexual abuse case scenario, and on identifying organizations likely to be involved in a child sexual abuse case scenario. In two vignettes asking respondents to rate their suspicion of child maltreatment in a given situation, CAST students showed better judgment than non-CAST students. One of these vignettes presented a situation in which there was emotional conflict between a mother and teenage daughter that led to a mild accidental injury, but no evidence of abuse. Another vignette asked about the appropriateness of brief swaddling of a toddler, a practice that is normative in some cultures and not considered abusive. On both vignettes, CAST students appropriately rated their suspicion of child maltreatment as lower than non-CAST students.

We examined the Cohen's d statistic to estimate effect size for the statistically significant differences, that is, the magnitude of the difference between CAST and non-CAST students. The benchmark for a medium effect size in most situations is a Cohen's d of about .50. Cohen (1992,

p. 156) has described a medium effect as “an effect likely to be visible to the naked eye of a careful observer.” The benchmark for a large effect size is a Cohen’s *d* of about .80, which represents an obvious and striking difference. The Cohen’s *d* for the six statistically significant effects ranged from .48 (types of evidence in a sexual abuse scenario) to .68 (child protection knowledge). Thus, the differences between CAST and non-CAST students had medium to large effect sizes.

Because the CAST and non-CAST groups differed on the proportion of students in two-year and four-year schools and on the proportion of White and Black students, we conducted simple effects analyses of variance to assess the differences between CAST and non-CAST students within school type and within race. The simple effects ANOVAs used all the post-survey sample cases for statistical estimation, but isolated the CAST vs. non-CAST comparisons within single groups. These analyses revealed that CAST and non-CAST students were still significantly different within groups ($p < .01$ or $p < .05$) on all six outcomes mentioned in the last paragraph; that is, when we looked just at students in two-year schools, at students in four-year schools, at non-White students (i.e., those who self-identify as Black, Latinx, Asian, or other, rather than White), and at White students (except that the CAST advantage for Black students on identifying evidence in a sexual abuse case scenario was a statistical trend rather than statistically significant, $p=.082$).

Table 6.2

Comparison between non-CAST and CAST Students on Post-scores on Ten Outcomes (N=278)^a

	<u>Non-CAST</u>			<u>CAST</u>			<i>t</i> ^b	Adjusted mean difference	<i>F</i> ^c	Cohen's <i>d</i>
	N	Mean	sd	N	Mean	sd				
Skills Self-Rating Mean	146	3.89	0.87	132	4.26	0.58	-4.18***	-0.28	8.65**	.50
Child Protection Knowledge	146	12.23	2.99	132	14.43	3.50	-5.60***	-1.25	10.69**	.68
Sexual Abuse Scenario: Types of Evidence	146	0.17	0.41	132	0.45	0.70	-3.94***	-0.31	17.84***	.48
Sexual Abuse Scenario: Organizations Involved	146	1.57	1.66	132	2.82	2.05	-5.55***	-0.98	17.80***	.67
Vignette 1 ^d	145	6.21	1.24	132	6.10	1.06	0.79	0.10	0.43	-

Vignette 2 ^e	144	4.54	1.71	131	3.52	1.71	4.95***	0.71	10.58**	.60
Vignette 3 ^d	144	5.74	1.35	132	5.82	1.24	-0.48	0.01	0.00	-
Vignette 4 ^e	143	4.38	1.78	132	4.04	1.77	1.62	0.27	1.33	-
Vignette 5 ^e	144	3.62	1.99	132	3.06	1.89	2.38*	0.44	3.07	
Vignette 6 ^e	144	4.53	1.98	130	3.42	1.92	4.71***	0.69	7.85**	.57

Note. Guidelines on magnitudes of Cohen's d (Cohen, 1992): Small = .20; Medium = .50; Large = .80, ^a CAST graduate students are excluded from this analysis. Their data are analyzed in Chapter 8. ^b from independent sample t-test, ^c from ANOVA analysis controlling for race (non-White vs. White) and for school type (two years vs. four years) ^d Higher score indicates better judgment about suspicion of child maltreatment, ^e Lower score indicates better judgment about suspicion of child maltreatment, *p <.05; **p < .01; ***p < .001

Comparison on Individual Child Protection Knowledge Items

We compared CAST and non-CAST students on their ability to provide the correct answer on each item in the Child Protection Knowledge Scale. This gives us a sense of the specific areas of knowledge in which CAST students have an advantage over non-CAST students. It also suggests areas in which CAST students' knowledge could be improved. Table 6.3 shows the results for each item; each item is identified by the topic that it addressed. On 12 out of 25 questions, CAST students had a significantly higher percentage correct than non-CAST students. Sometimes the CAST advantage was dramatic. For example, CAST students were almost four times more likely than non-CAST students to choose the correct answer for a question about mandated reporting, and more than twice as likely to choose the correct answer on questions about commercial child sexual exploitation and child placement and permanency.

Table 6.3

Post-Survey Percentage Correct on Individual Child Protection Knowledge Questions for CAST and non-CAST Students (N=278)

Topic	Non-CAST	CAST
Child placement***	43.2%	67.4%
Perpetrators	72.6%	76.5%
Mandated reporting-teacher***	6.8%	25.8%
Forensic medical examination	13.7%	19.7%
Commercial child sexual exploitation***	20.5%	41.7%
Perpetrators*	57.5%	71.2%
Effects of child maltreatment*	78.1%	90.2%
Resilience of child victims	92.5%	95.5%
Mandated reporting*	74.7%	84.8%
Disclosure of abuse	34.2%	43.2%
Disclosure of abuse*	38.4%	26.5%
Disclosure of abuse	50.0%	45.5%
Disclosure of abuse	67.1%	58.3%
Multidisciplinary teams	45.9%	50.8%
Child placement and permanency**	13.0%	28.8%

Mandated reporting*	63.0%	75.0%
Mandated reporting**	37.0%	57.6%
Effects of child maltreatment	58.9%	66.7%
Effects of child maltreatment	66.4%	66.7%
Effects of child maltreatment*	58.2%	72.0%
Effects of child maltreatment	75.3%	83.3%
Effects of child maltreatment	49.3%	56.1%
Children’s Advocacy Centers**	35.6%	51.5%
Child maltreatment investigation	12.3%	8.3%
Resilience of child victims***	58.9%	80.3%

Note. *p < .05, **p<.01.

The one question on which non-CAST students had a higher percentage correct could be seen, in retrospect, as a tricky question, though that was not the intention. It was a true-false question concerning whether most children recant their disclosure of child sexual abuse at some point in the process, even if it is only temporary. CAST students may be more likely to understand the dynamics of recantation among true victims, and they might be more likely to expect some level of recantation as normal. Indeed, recantation is not an unusual occurrence, but research shows that, nevertheless, only a minority of child sexual abuse victims recant (London, et al., 2005). So, this statement is false due to the word *most*. This might be an explanation for why only 26.5% of CAST students gave the correct answer on this item compared to 38.4% of non-CAST students.

Even though CAST students had a significant advantage on many questions, many questions had a number of incorrect responses from CAST students. Indeed, on eight items, less than half of CAST students got the correct answer. Some questions seemed to be outside the knowledge of all but a few CAST students, as only small percentages got the correct answer.

Summary and Discussion

At the completion of their CAST course, CAST students had numerous advantages in knowledge and skills over non-CAST students. The CAST group rated their knowledge and understanding of child maltreatment significantly higher than the non-CAST group, and had higher scores on the Child Protection Knowledge Scale, on identifying evidence in a sexual abuse case scenario, and on identifying organizations likely to be involved in a child sexual abuse case scenario. CAST students showed significantly better judgment regarding likelihood of maltreatment in two vignettes. They had a significantly higher percentage correct on 12 individual child protection knowledge questions. The results were understandable on one question CAST students were less likely to get correct—their appropriate understanding of the dynamics of recantation may have led them to anticipate its occurrence, without realizing it occurs in only a minority of cases. The CAST advantages held true for students in both two-year schools and four-year schools, and for both Black and non-Black students.

These findings suggest that students who have completed CAST courses are indeed better prepared than comparable non-CAST students to deal with child maltreatment in their future professional and personal lives. The findings come from multiple CAST schools, and apply both to two-year and four-year schools. This suggests that the CAST advantage is widespread across the statewide CAST initiative.

Finding advantages for CAST students on the post-survey does not tell us how much knowledge and skill CAST students gained in the CAST course they were just completing. As we saw in Chapter 5, CAST students had advantages over the non-CAST students even at the beginning of their CAST course. CAST students may have begun their course with greater knowledge and skills than non-CAST students, and that advantage may have carried over to the end of the course. As mentioned above, we examine in Chapter 9 how CAST students change over the course of a semester, from pre-survey to post-survey.

Chapter 7: Outcomes for CAST Certificate/Minor Students

Pursuing a CAST certificate or minor is a much bigger commitment than taking a single CAST course. CAST certificate and minor students must complete several CAST courses, providing more comprehensive instruction in child protection, and CAST minors must complete a capstone project. Engaging in a CAST certificate or minor program connects a student to much of the entire CAST curriculum and many, if not all, of the knowledge and judgment areas assessed by the current study's outcome measures. Because of the greater commitment of CAST certificate and minor students and their greater exposure over time to the CAST curriculum, we anticipated that CAST certificate and minor students would have advantages over other CAST students as well as non-CAST students. This chapter reports on the comparison of these three groups and tests whether CAST certificate/minor students have advantages over other CAST students as well as non-CAST students.

On the CAST version of the CAST Outcome Survey, CAST students were asked whether they were in a CAST minor or in a CAST certificate program. Using this question, we were able to separate the post-survey sample into three groups 1) non-CAST students, 2) CAST students who were not pursuing a certificate or minor program, and 3) CAST students pursuing a certificate or minor program. Note that the CAST certificate/minor group included students who were taking their first CAST course but planned to complete a certificate or minor, so some of these students had not yet taken more CAST courses than the CAST students who were not pursuing a certificate or minor. To compare CAST certificate/minor students to the other two groups, we limited the sample to students from four-year schools, because CAST certificates and minors are only available in CAST programs in four-year schools. Including students in two-year schools and graduate schools would have confounded the comparison of CAST certificate/minor students to other students. Our sample in this chapter included all students in four-year schools who had completed a post-survey.

Sample Characteristics. Table 7.1 compares the three groups on student characteristics. The distribution of the students across the semester differed significantly by group. Non-CAST students were significantly older than CAST students (25.6 years old vs. 22.7 and 21.4 years old). The majority of each group was female. The three groups differed significantly in racial composition: a majority of the CAST certificate/minor students were White (77.8%); while the other two groups had a majority of Black students (64.7% and 61.5% respectively). Few students were of Hispanic origin. Students' majors and career plans in each group varied. More than three-quarters of the non-CAST group and almost half of the CAST other group majored in Social Work. More than half of the CAST certificate/minor students planned to work in child-serving careers (e.g., child maltreatment professional, child therapist, child care provider), a larger percentage than in the other groups. More than three-quarters of the CAST certificate/minor students had participated in FORECAST simulations compared to just over one-quarter of the other CAST students (FORECAST simulations are a feature of some CAST courses and are thus not available to non-CAST students).

Table 7.1*Characteristics of CAST Certificate/Minor Students vs Other Four-Year School Students*

	Non-CAST		CAST-Other		CAST cert./minor	
	n	%	n	%	n	%
Semester^a						
Autumn 2019-2020	24	47.1%	9	23.1%	17	47.2%
Spring 2019-2020	8	15.7%	4	10.3%	6	16.7%
Summer 2019-2020	0	0.0%	5	12.8%	1	2.8%
Autumn 2020-2021	13	25.5%	12	30.8%	0	0.0%
Spring 2020-2021	6	11.8%	8	23.1%	12	33.3%
Age^b Mean (SD)						
	25.6	(9.9)	22.7	(3.6)	21.4	(2.4)
missing						
Gender						
Female	41	80.4%	33	84.6%	34	94.4%
Male	8	15.7%	4	10.3%	1	2.8%
missing	2	3.9%	2	6.1%	1	2.8%
Race-White^c						
Yes	13	25.5%	13	33.3%	28	77.8%
No	36	70.6%	24	61.5%	7	19.4%
missing	2	3.8%	2	5.1%	1	2.8%
Race-Black^d						
Yes	33	64.7%	24	61.5%	4	11.1%
No	16	31.4%	13	33.3%	31	86.1%
missing	2	3.9%	2	5.3%	1	2.8%
Hispanic origin						
Yes	2	3.9%	1	2.6%	4	11.1%
No	44	86.3%	36	92.3%	31	86.1%
missing	5	9.9%	2	5.1%	1	2.8%
Major^f						
Arts or Humanities	2	3.9%	2	3.9%	1	2.8%
Biological or Life Sciences	0	0%	0	0%	6	16.7%
Child Life	0	0%	0	0%	1	2.8%
Criminal Justice	1	2.0%	1	2.0%	1	2.8%
Education	1	2.0%	1	2.0%	2	5.6%
Health Care or Health Sciences	0	0%	0	0%	1	2.8%
History	1	2.0%	0	0%	0	0%
Human Development ^e	0	0%	1	2.0%	4	11.1%

Law	1	2.0%	1	2.0%	1	2.8%
Math or Computer Science	0	0%	1	2.6%	0	0%
Nursing	0	0%	1	2.6%	0	0%
Other Social Science	0	0%	0	0%	5	13.9%
Psychology	3	5.9%	4	10.3%	6	16.7%
Social Work	39	76.5%	19	48.7%	4	11.1%
Undecided or Does Not Apply	0	0%	1	2.6%	0	0%
missing	3	5.9%	2	5.1%	4	11.1%

Career Plan^f

Child maltreatment professional	11	21.6%	5	12.8%	9	25.0%
Other child-serving professional	12	23.5%	11	28.2%	12	33.3%
Other human services	13	25.5%	9	23.1%	1	2.8%
Other health care	6	11.6%	3	7.7%	4	11.1%
Criminal justice or law	2	3.9%	3	7.7%	4	11.1%
Other	3	5.9%	2	5.1%	3	8.3%
Undecided	1	2.0%	3	7.7%	1	2.6%
missing	3	5.9%	3	7.7%	3	5.5%

Participated in FORECAST simulations^g

No	0	0%	29	74.4%	8	22.2%
Yes	51	100%	10	25.6%	28	77.8%

Note. Significant differences between non-CAST, CAST other, and CAST Certificate/Minor are reported in the below footnotes. ^a $\chi^2(8)=27.59, p<.001$. ^b Welch $F(2,71.09)=4.98, p=.009$; Games-Howell post hoc test, non-CAST > CAST Certificate/Minor. ^c $\chi^2(2)=25.57, p<.001$. ^d $\chi^2(1)=29.99, p<.001$. ^e Human Development and Family Science significance tests not conducted because cell sizes were too small. ^fwitnessed or participated in simulations; $\chi^2(4)=160.20, p<.001$.

Comparison of the Three Groups on Outcomes

We conducted a multivariate ANOVA to compare the three groups on the post-survey for the set of 10 outcome measures shown in Table 7.2. Because these groups differed on the proportion of White and Black students, and this factor could relate to outcomes, we included race in the analysis to control statistically for any differences by race. Across this set of outcome measures, CAST students differed significantly from non-CAST students in the direction of greater knowledge and skills, Wilks' $\lambda=.827, F(10,254) = 5.30, p<.001$.

We also conducted univariate analyses of variances (ANOVAs) to compare the three groups on each outcome measure on the post-survey (see Table 7.2). We again controlled statistically for race. The variances of the three groups differed significantly for several outcome measures, as determined by the Levene test (see Levene, 1960)—a violation of an assumption underlying the standard ANOVA F test. Below we explain additional tests we conducted to take into account heterogeneous variances. We used the Games-Howell comparison of means procedure to make one-to-one comparisons among the three groups when the F test was statistically significant.

The Game-Howell test was developed to yield valid comparisons of means when group variances are heterogeneous.

As Table 7.2 shows, CAST certificate/minor students had higher scores on the following outcomes compared to both non-CAST students and other CAST students: child protection knowledge, types of evidence correctly identified in a sexual abuse scenario, and number of organizations correctly identified in a sexual abuse scenario. The other four-year CAST students did not differ significantly from non-CAST students on these outcomes. The CAST certificate/minor students also showed significantly better judgment on Vignette 5 compared to other CAST and non-CAST students. On Vignette 5, students were asked to rate the likelihood of neglect in a situation in which a father was having difficulty providing for his children solely because of economic difficulties. This type of situation does not typically lead child protective services to substantiate neglect. CAST certificate/minor students appropriately gave lower ratings (2.03) on the likelihood of neglect in the scenario compared to the other two groups (3.11 and 3.73 respectively).

Table 7.2

ANOVA Comparison of Post Scores on Outcome Measure for CAST Certificate/Minors and Other Groups in 4 Years Schools (n=122)

	N	Mean	SD	df	MS	F
Self-Rating (Mean)				2	0.87	2.41
Non-CAST	48	4.20	0.74			
Other CAST	38	4.13	0.52			
CAST Cert/Minor	36	4.45	0.44			
Child Protection Knowledge				2	51.01	6.47***
Non-CAST	48	13.00	3.20			
Other CAST	38	13.50	3.32			
CAST Cert/Minor	36	16.97	2.95			
Sexual Abuse: Types of Evidence				2	1.16	4.22*
Non-CAST	48	0.10	0.31			
Other CAST	38	0.18	0.46			
CAST Cert/Minor	36	0.58	0.81			
Sexual Abuse: Organizations				2	15.81	4.83*
Non-CAST	48	1.71	1.82			
Other CAST	38	2.16	1.90			
CAST Cert/Minor	36	3.83	1.98			
Vignette 1^a				2	0.49	0.43
Non-CAST	48	6.00	0.91			
Other CAST	38	6.11	1.09			
CAST Cert/Minor	36	6.28	0.78			
Vignette 2^b				2	8.12	2.96 ^c

Non-CAST	48	4.65	1.78			
Other CAST	38	3.55	2.01			
CAST Cert/Minor	36	3.32	1.31			
Vignette 3^a				2	0.99	0.69
Non-CAST	48	6.00	0.91			
Other CAST	38	5.68	1.42			
CAST Cert/Minor	36	6.17	0.97			
Vignette 4^b				2	3.16	0.94
Non-CAST	48	4.60	1.91			
Other CAST	38	4.00	1.66			
CAST Cert/Minor	36	3.81	1.88			
Vignette 5^b				2	20.64	6.36**
Non-CAST	48	3.73	2.07			
Other CAST	38	3.11	1.96			
CAST Cert/Minor	36	2.03	1.18			
Vignette 6^b				2	9.23	2.65 ^d
Non-CAST	48	4.56	2.07			
Other CAST	38	3.21	1.93			
CAST Cert/Minor	36	2.92	1.84			

Note. Student race was included as a between subject factor in each analysis. ^a Higher score indicates better judgment about suspicion of child maltreatment, ^b Lower score indicates better judgment about suspicion of child maltreatment. ^c $p=.056$. ^d $p=.075$. * $p < .05$; ** $p < .01$; *** $p < .001$

We also included semester as a control variable in one set of analyses because the number of non-CAST, other CAST students, and CAST certificate/minor students in the sample differed significantly by semester. Results on several outcomes differed significantly by semester, but it did not substantially alter results for the comparison of CAST certificate/minor students to other students. In addition, we conducted one set of analyses that included student age as a covariate, but student age was not significantly related to outcomes nor did inclusion of age alter results for the comparison of CAST certificate/minor students to other students. For greater parsimony, we present the results of analyses that did not include the variables of semester and student age.

We conducted additional analyses to test whether significant differences between groups remained statistically significant even when heterogeneous variances were taken into account. Variances were heterogeneous for the following outcomes: self-rating, child protection knowledge, types of evidence correctly identified in a sexual abuse scenario, and Vignettes 2, 3, and 5. We used Box's (1954) method of adjusting degrees of freedom to create a conservative F test that is impervious to problems due to heterogeneous variances. This involved using error degrees of freedom of 35 (the df in the smallest group) rather than the overall error degrees of freedom of 116. The three groups still differed significantly for child protection knowledge (p

< .01), types of evidence correctly identified in a sexual abuse scenario ($p < .05$), and Vignette 5 ($p < .01$). We also compared the three groups using the nonparametric Kruskal-Wallis test, which uses ranks to compare group distributions without making assumptions about group variances (however, we could not control in the Kruskal-Wallis test for difference in racial composition). Using the Kruskal-Wallis test, the three groups differed significantly on self-rating of their knowledge and skill ($p=.032$), child protection knowledge ($p=.001$), types of evidence correctly identified in a sexual abuse scenario ($p =.001$) and Vignette 5 ($p =.001$). CAST students had higher ranks on self-rating. The CAST certificate/minor group (4.45) ranked higher than other CAST students on self-rating of knowledge (4.13 and 4.20 respectively). CAST certificate/minor students also had higher ranks than the other two groups on child protection knowledge, types of evidence correctly identified in a sexual abuse scenario, and the number of organizations correctly identified in a sexual abuse scenario. CAST certificate/minor students had lower ranks on Vignettes 2 and 6 (compared to non-CAST students) and on Vignette 5 (compared to both non-CAST students and other CAST students). The results for these vignettes indicate that the CAST certificate/minor students showed better judgment by rating the likelihood of child neglect lower; in each of these vignettes, an alternative explanation other than child neglect was appropriate.

To help further with controlling for differences in racial composition, we compared the three groups on outcomes using simple effects ANOVAs within race. The differences between the three groups were statistically significant for both Black and non-Black students for the following variables: child protection knowledge and the number of organizations correctly identified in a sexual abuse scenario. For types of evidence correctly identified in a sexual abuse scenario, the differences between groups were statistically significant for non-Black students and close to statistically significant for Black students ($p=.065$). Black CAST certificate/minor students demonstrated significantly better judgment than other Black students on Vignettes 5 and 6, showing that they were better able to identify appropriate explanations other than child neglect in these vignettes. Kruskal-Wallis tests conducted separately by race showed that Black CAST certificate/minor students had better outcomes than other black students on child protection knowledge and on Vignettes 5 and 6. Kruskal-Wallis tests showed that non-Black CAST certificate/minor students had better outcomes on child protection knowledge, types of evidence correctly identified in a sexual abuse scenario, and types of organizations correctly identified in a sexual abuse scenario, compared to other non-Black students.

Comparison on Individual Child Protection Knowledge Items

We compared CAST certificate/minor students to other four-year school students on their ability to provide the correct answer on each question on the Child Protection Knowledge Scale, and tested for statistical significance on these questions using Pearson chi-square tests. This gives us a sense of the specific areas in which CAST certificate/minor students knew more than other students. Table 7.3 shows the results for each item; each item is identified by the topic that it addressed. On 12 out of 25 questions, the difference in the percentage between the

three groups was statistically significant. In 11 out of those 12 questions, the CAST certificate/minor students had an advantage over both non-CAST and CAST students. On 1 out of those 12 questions (see *child maltreatment investigation* below), both CAST certificate/minor students and other CAST students had a small percentage correct, but the percentage correct for non-CAST students was zero.

The advantage for CAST certificate/minor students was sometimes dramatic. On the first question on mandated reporting, for example, CAST certificate/minor were more than three times as likely than non-CAST students to get the correct answer, and more than twice as likely as other CAST students. Another example concerns a question about Children’s Advocacy Centers. CAST certificate/minor students were 2.65 times more likely to get the correct answer than non-CAST students and 1.67 times more likely than other four-year school CAST students.

It is revealing to look at the percentage correct across questions for the CAST certificate/minor students. On 14 out of the 25 questions, 75% or more of the CAST certificate/minor students got the correct answer. On another 4 questions, 50% to 75% of CAST certificate/minor students got the correct answer. On 7 other questions, the CAST certificate/minor students had a percentage correct that was below 50%.

Table 7.3

Post-Survey Percentage Correct on Individual Child Protection Knowledge Questions for CAST Certificate/Minor, Other CAST and non-CAST Among Four-Year School Students (N=126)

Topic	Non-CAST (n=51)	CAST Other (n=39)	CAST Cert./Minor (n=36)
Child placement**	49.0%	59.0%	86.1%
Perpetrators	82.4%	74.4%	86.1%
Mandated reporting-teacher**	13.7%	20.5%	44.4%
Forensic medical examination	19.6%	30.8%	11.1%
Commercial child sexual exploitation*	25.5%	38.5%	55.6%
Perpetrators	64.7%	61.5%	80.6%
Effects of child maltreatment	80.4%	89.7%	94.4%
Resilience of child victims	90.2%	100.0%	100.0%
Mandated reporting	78.4%	74.4%	91.7%
Disclosure of abuse	41.2%	51.3%	47.2%
Disclosure of abuse	33.3%	25.6%	16.7%
Disclosure of abuse	45.1%	41.0%	50.0%
Disclosure of abuse	64.7%	53.8%	58.3%
Multidisciplinary teams*	49.0%	51.3%	75.0%
Child placement and permanency	19.6%	20.5%	36.1%
Mandated reporting**	64.7%	56.4%	91.7%
Mandated reporting***	45.1%	46.2%	88.9%
Effects of child maltreatment**	52.9%	56.4%	88.9%
Effects of child maltreatment*	62.7%	59.0%	96.1%
Effects of child maltreatment*	60.8%	66.7%	88.9%
Effects of child maltreatment	76.5%	74.4%	88.9%
Effects of child maltreatment	52.9%	59.0%	47.2%

Children’s Advocacy Centers***	29.4%	43.6%	77.8%
Child maltreatment investigation*	0.0%	12.8%	11.1%
Resilience of child victims**	62.7%	71.8%	94.4%

Note. *p < .05, **p<.01.

Summary and Discussion

Looking at students in four-year schools, CAST certificate/minor students demonstrated greater knowledge and skills than both non-CAST students and other CAST students not pursuing a certificate or minor. They had higher scores on the Child Protection Knowledge Scale, on types of evidence correctly identified in a sexual abuse scenario, and on types of organizations correctly identified in a sexual abuse scenario. They also demonstrated better judgment than non-CAST students and other CAST students in response to a vignette in which they needed to recognize that family poverty should not be judged as child neglect. Significant differences in ANOVAs were robust and remained even when we adjusted analyses to correct for heterogeneous variances. Advantages for CAST certificate/minor students held true for both Black and non-Black students. Though there are fewer statistically significant differences than in Chapter 6 comparing CAST and non-CAST students at the end of the semester, this is probably a function of the smaller sample size and reduced statistical power when we limited the sample to students in four-year schools in this chapter.

CAST certificate/minor students had significantly higher percentage correct on almost half the child protection knowledge questions, with sometimes dramatic advantages in their knowledge. We remind readers that one should not judge the percentage correct on the Child Protection Knowledge Scale against any benchmark. This measure was purposely designed to include some difficult questions, to better discriminate between CAST and non-CAST students and between more and less advanced CAST students. Nevertheless, CAST instructors may want to peruse the results on these items to identify areas in which to enhance instruction.

These findings suggest that students in CAST certificate/minor are better prepared to deal with child maltreatment in their future professional and personal lives, even better than other CAST students who have not committed to pursuing a certificate or minor. The results help support the efforts of Children’s Advocacy Centers of Mississippi™ to help four-year schools develop certificate and minor programs, and national efforts to develop a CAST curriculum encompassing multiple courses and standards for completing a certificate or minor program, such as a capstone project.

It is surprising that we found no significant differences in outcomes in four-year schools between non-CAST students and students taking a CAST course but not pursuing a certificate or minor. This contrasts with what we found for two-year schools, where CAST students had advantages over non-CAST students even though they could not be enrolled in certificate or minor programs. Perhaps many of those CAST students in two-year schools aspired to continue their education in four-year schools, transfer their CAST course credits, and complete a CAST certificate or minor in the future at their new school. Perhaps students in four-year schools who

were taking a CAST course but not pursuing a certificate or minor had less preparation and commitment to learn about child maltreatment than certificate or minor students. The fact that other CAST students in four-year schools did not differ in outcomes from non-CAST students in four-year schools suggests that further research about non-certificate/minor CAST students is needed, as well as further thought about objectives with this group.

There are caveats to consider in interpreting these results. The data for CAST certificate/minor students came mostly from one school. Differences favoring CAST certificate/minor students may reflect general differences between the student bodies and education at different schools, rather than advantages specific to CAST. Also, finding advantages for CAST certificate/minor students on the post-survey does not tell us how much knowledge and skill these students gained in the CAST course they were just completing. Student pursuing certificate/minor students may have begun their CAST course with greater knowledge and skills related to child maltreatment than other students. We examine in Chapter 9 how CAST students change over the course of a semester, from pre-survey to post-survey. Chapter 13 considers all the empirical results for each CAST and non-CAST group and considers the implications of the results for the development of the CAST initiative.

Chapter 8: Differences on CAST Outcomes by Type of School

One feature of Mississippi's CAST Initiative is the range of schools offering CAST courses. Multiple two year and four-year colleges offer CAST courses, and two graduate schools have incorporated CAST into instruction in relevant courses, using both CAST content and simulations. These types of schools differ in the nature of their student population and the structure of the educational experience. This chapter assesses differences on CAST outcomes by type of school, and compares two-year schools, four-year schools, and two graduate schools (a medical school teaching osteopathic medicine and a law school). The two-year schools offer a single introductory CAST course (though their students may go on to four-year schools and use their credit from this course to pursue a CAST certificate or minor). The four-year schools have multiple courses and offer certificate and minors. The medical school offers a fourth-year child advocacy studies elective that concentrates CAST instruction in four weeks, at 40 hours per week. The law school incorporates CAST content into a relevant course. Understanding differences in CAST outcomes between different types of schools can help explain how the CAST experience and its impact may differ for students in different types of schools. It is particularly valuable to have more data on two-year schools, because two-year schools have not been represented in previous CAST research, to the best of our knowledge.

Sample Characteristics. Table 8.1 shows the characteristics of the three types of schools for the post-survey sample. The three groups differed significantly in their representation in the different semesters included in the sample. Not surprisingly, the graduate students were significantly older than the two-year and four-year school students. The two-year and four-year school samples were overwhelmingly female, but 43.8% of the graduate school sample was male. Black students were a sizable minority of the two-year and four-year school samples, but only a small portion of the graduate school group. Small percentages were of Hispanic origin in each group.

Comparison of Three Types of Schools

Table 8.2 presents results for the three types of schools on outcomes. Univariate analysis of variance was used to compare the three school types on outcomes, controlling for race, because of the differences in racial compositions between the three schools. We did not find any differences on post-survey outcomes by semester, so we did not control for the differences in the participation of these different groups by semester. Because the three groups differed so substantially in the proportion of females and males, we could not control for sex and still accurately compare the three groups. But we also conducted simple effects analyses comparing the three groups within each racial group and within female and male students, to assess effects independently of race and sex. When variances of the three groups were heterogeneous, we used Box's adjusted F test and the Kruskal-Wallis non-parametric test to assess the statistical significance of the differences between groups, and reported these results in footnotes. Pairwise comparisons are also presented in the footnotes.

Table 8.1*Characteristics of CAST Students by School Type, Post-Survey Sample*

	Two-year schools		Four-year schools		Graduate schools	
	n	%	n	%	n	%
Semester^a						
Autumn 2019-2020	17	29.8%	26	34.7%	3	4.5%
Spring 2019-2020	28	49.1%	10	13.3%	0	0.0%
Summer 2019-2020	0	0.0%	6	6.0%	0	0.0%
Autumn 2020-2021	6	10.5%	12	16.0%	4	6.1%
Spring 2020-2021	6	10.5%	21	28.0%	59	89.4%
Age^b Mean (SD)						
	22.1	(8.6)	22.0	(3.1)	24.9	(3.1)
missing	1	1.0%	4	5.3%	2	3.0%
Gender^c						
Female	50	87.7%	67	89.3%	35	53.0%
Male	6	10.5%	5	6.7%	29	43.9%
missing	1	1.8%	3	4.0%	2	3.0%
Race-White						
Yes	32	56.1	41	54.7%	27	40.9%
No	24	42.1	31	41.3%	38	57.6%
missing	1	1.8%	3	4.0%	1	1.5%
Race-Black^d						
Yes	24	42.1%	28	37.3%	4	6.1%
No	32	56.1%	44	58.7%	61	92.4%
missing	1	1.8%	3	4.0%	1	1.5%
Hispanic origin						
Yes	1	1.8%	5	6.7%	3	4.5%
No	55	96.5%	67	89.3%	60	90.9%
missing	1	1.8%	3	4.0	4	4.5%
Participated in FORECAST simulations^e						
No	34	59.6%	37	49.3%	65	98.5%
Yes	23	40.4%	38	50.7%	1	1.5%

Note. Significant differences between the three school types are reported in the below footnotes. ^a $\chi^2(8)=119.2$, $p<.001$. ^b Welch F (2,104.5)=20.98, $p<.001$, Games-Howell post hoc test, graduate school > two-year school, four-year school ^c Exact test $p<.001$. ^d $\chi^2(2)=25.11$, $p < .001$. ^ewitnessed or participated in simulations; $\chi^2(2)=42.47$, $p<.001$.

There were significant differences on several outcomes. The graduate students rated their skills significantly lower than students in two-year and four-year schools. Students in four-year schools had significantly higher scores on the Child Protection Knowledge Score compared to students in two-year schools. On Vignette 5, students in four-year schools were significantly less likely to judge that neglect had occurred than were students in two-year schools and graduate school, meaning that they were better able to distinguish child poverty from neglect. On Vignette 6, students in four-year schools were less likely to judge that neglect had occurred than students in two-year schools—this was a vignette in which students needed to be aware of accepted child-rearing practice in other cultures and not judge that a child was being neglected.

Table 8.2

CAST Pre-scores on Outcome Measure by CAST School Type (N=286)

	N	Mean	SD	df	MS	F
Self-Rating (Mean)				2	2.09	5.30**a,b
Two years	84	3.53	0.94			
Four years	105	3.61	0.90			
Graduate school	97	3.41	0.70			
Child Protection Knowledge				2	33.72	3.91*c
Two years	84	13.31	3.14			
Four years	105	15.13	2.73			
Graduate school	97	14.86	2.90			
Sexual Abuse Scenario: Types of Evidence				2	0.97	2.46
Two years	84	0.56	0.73			
Four years	105	0.28	0.53			
Graduate school	97	0.34	0.58			
Sexual Abuse Scenario: Organizations				2	0.94	0.27
Two years	84	2.40	1.67			
Four years	105	2.41	1.91			
Graduate school	97	2.82	1.70			
Vignette 1^d				2	0.12	0.11
Two years	83	6.25	1.01			
Four years	105	5.95	1.12			
Graduate school	97	6.00	1.11			
Vignette 2^e				2	3.61	1.32
Two years	83	4.16	1.74			
Four years	105	4.06	1.76			
Graduate school	97	4.04	1.65			

Vignette 3^d				2	.225	0.80
Two years	83	2	1.38			
Four years	105	5.49	1.37			
Graduate school	97	5.51	1.23			
Vignette 4^e				2	2.62	0.94
Two years	83	4.61	1.72			
Four years	105	4.03	1.78			
Graduate school	97	4.26	1.60			
Vignette 5^e				2	16.60	6.61** ^{a,f}
Two years	83	3.72	2.04			
Four years	105	2.53	1.59			
Graduate school	97	3.00	1.54			
Vignette 6^e				2	12.96	4.27* ^g
Two years	83	4.30	1.90			
Four years	105	2.84	1.59			
Graduate school	97	3.28	1.58			

Note. ^a Box adjusted df = (2,53), ^bKruskal-Wallis test statistic=21.69, p < .001, Dunn-Bonferroni post-hoc test: graduate school < two-year school, four-year school, ^c Tukey HSD test: four-year schools > two-year schools. ^d Higher score indicates better judgment about suspicion of child maltreatment, ^e Lower score indicates better judgment about suspicion of child maltreatment, ^fKruskal-Wallis test statistic=7.71, p=.02. Dunn-Bonferroni post-hoc test: four-year schools < two-year schools, graduate school ^g Tukey HSD test: four-year schools < two-year schools. *p < .05, **p < .01.

Simple effects analysis examined differences in outcomes within race and sex. Within the group of students who were not Black (i.e., they were White, Asian, etc.), the three school types continued to differ significantly on the self-rating of skills, on the Child Protection Knowledge Scale, and on Vignettes 5 and 6. Among Black students, the school types differed significantly on the Child Protection Knowledge Scale, and on Vignettes 5 and 6 (note that this is mostly a function of differences between two-year and four-year schools for Black students, because very few Black students were in the graduate school group). Among female students, the three school types differed significantly on the self-rating of skills, on the Child Protection Knowledge Scale, and on Vignettes 5 and 6. Among male students, the three school types differed significantly on the self-rating of skills. Thus, results from the simple effects ANOVAs show that the difference by school type that we found were not caused by differences in racial and gender composition by school type.

Table 8.3 shows the percentage correct for the three types of CAST scores on each Child Protection Knowledge score question. There was no significant difference between the three types of schools on most questions. The four-year school students tended to have the highest percentage correct on most items, even when the difference was not statistically significant. This is consistent with their having a significantly higher Child Protection Knowledge Scale score, as we reported above. Otherwise the results varied by question. The four-year school students and graduate students each had questions in which they had a significantly higher

percentage correct, and on some questions, both the two-year school and four-year school students had a significantly higher percentage correct than the graduate students.

Table 8.3

Post-Survey Percentage Correct on Individual Child Protection Knowledge Questions by Type of CAST Schools (N=198)

Topic	Two-Year Schools (n=57)	Four-Year School (n=75)	Graduate School (n=66)
Child placement*	61.4%	72.0%	51.5%
Perpetrators	71.9%	80.0%	84.8%
Mandated reporting-teacher	17.5%	32.0%	18.2%
Forensic medical examination	17.5%	21.3%	28.9%
Commercial child sexual exploitation	35.1%	46.7%	53.0%
Perpetrators	71.9%	70.7%	77.3%
Effects of child maltreatment	87.7%	92.0%	93.9%
Resilience of child victims	89.5%	100.0%	95.5%
Mandated reporting	87.7%	82.7%	81.9%
Disclosure of abuse	35.9%	49.3%	37.9%
Disclosure of abuse	33.3%	21.3%	28.8%
Disclosure of abuse***	45.6%	45.3%	77.3%
Disclosure of abuse*	61.4%	56.0%	75.8%
Multidisciplinary teams**	35.1%	62.7%	57.5%
Child placement and permanency	29.8%	28.0%	18.2%
Mandated reporting**	77.2%	73.3%	51.5%
Mandated reporting	45.6%	66.7%	56.1%
Effects of child maltreatment	59.8%	72.0%	77.3%
Effects of child maltreatment	59.6%	72.0%	72.7%
Effects of child maltreatment**	64.9%	77.3%	48.5%
Effects of child maltreatment	86.0%	81.3%	84.8%
Effects of child maltreatment***	59.6%	53.3%	22.7%
Children’s Advocacy Centers	40.4%	60.0%	56.1%
Child maltreatment investigation	03.5%	12.0%	10.6%
Resilience of child victims	77.2%	82.7%	78.8%

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

Summary and Discussion

Students in graduate schools rated their skills significantly lower than students in two-year and four-year schools. Perhaps this reflects the humility that one can develop with greater maturity. Students in four-year schools had significantly better scores on several measures than students in two-year schools. This is not surprising—the students in four-year schools may have started with more academic advantage, and they also have the opportunity to take multiple CAST courses and make a bigger commitment to CAST by pursuing a certificate or minor. Students in

four-year schools also had significantly better judgment than students in graduate school on a vignette in which students need to recognize the difference between family poverty and neglect. Students in four-year schools tended to have a higher percentage correct on the individual Child Protection Knowledge Scale questions, though this varied by question. The variation in results in these questions might relate to differences in the content of the specific courses the student took in the three types of schools.

Despite the differences between the CAST schools, results in this evaluation suggest that both two-year and four-year CAST schools had advantages on outcomes compared to non-CAST schools, as we saw in Chapter 6. Although we do not have a comparison graduate school, we can see that a number of graduate school outcomes were superior compared to outcomes for non-CAST schools reported in Chapter 6. The graduate students had superior scores to non-CAST students on the Child Protection Knowledge Score, on identifying types of evidence and organizations in the sexual abuse scenario, and on Vignettes 2, 5, and 6. Thus we see advantages for CAST for all types of CAST schools, even though they differ when compared to each other.

Chapter 9: Change in Outcomes During a CAST Course

We anticipated that CAST students' knowledge and judgment would improve from the beginning to the end of a CAST course because of what they were learning. We were able to compare CAST students' pre-surveys and post-surveys to estimate change in their knowledge and judgment over the course of a semester. We first compared pre-survey and post-survey scores using paired samples (pre- and post-scores from the same students who took the survey at both time points during a semester). Our ability to measure change among non-CAST students using this method was limited because we had only 8 students who completed both a pre- and post-survey in the same course across 4 semesters during 2020 to 2021, and we did not include comparison students in this analysis. We also examined change using independent samples (pre-scores and post-scores from different students), including both CAST and non-CAST students.

Characteristics of the CAST Repeated Measures Sample

Over the course of four semesters, 101 CAST students completed both the pre-survey and the post-survey in the same semester. These 101 students formed a repeated measures sample, enabling us to assess CAST students' change over time on outcomes. Because this sample is different in size and composition from other samples in this report, we present the characteristics of the CAST repeated measures sample in Table 9.1. Responses were distributed across four semesters, though the majority came in the spring semester of 2020-2021. Four-year school and graduate school students made up larger percentages than two-year school students. CAST Minor/Certificate student made up a modest percentage of the sample. The average age was 22 and more than three-quarters of the sample were female. About half the sample self-identified as White and over one-quarter as Black. Only a small number were of Hispanic origin. A wide array of majors was included with the most common being Medicine (graduate students) (26.7%) and Social Work (23.9%). A small percentage planned to be child maltreatment professionals (e.g., child protection worker, child advocate), while the majority planned to be either other child-serving professionals (e.g., elementary school teacher, child psychologist) or a health care professional. Just over a quarter of students were taking CAST 301, although many were taking an introductory course with another label.

Analysis of CAST Students' Change Over the Course of the Semester

We conducted a repeated measures analysis of variance (ANOVA) to examine whether CAST students changed on outcomes during the semester. We included school type as a between-subjects factor in the analysis, to examine whether the amount of change on outcomes over the course of the semester differed for CAST students in two-year schools, four-year schools, and graduate school. A statistically significant Time x School Type interaction effect in the ANOVA is an indicator that change over the course of the semester differed depending on type of CAST school. When an interaction effect was statistically significant, we also conducted a repeated measured ANOVA separately for each school type.

Table 9.1*Characteristics of the CAST Repeated Measures Sample (N=101)^a*

	N	%
Semester		
Spring 2019-2020	21	20.8%
Summer 2019-2020	2	2.0%
Autumn 2020-2021	20	19.8%
Spring 2020-2021	58	57.4%
School type		
Two-year school	23	22.8%
Four-year school	35	34.7%
Graduate school	43	42.6%
Involvement with CAST		
CAST Course(s) Only	84	83.2%
CAST Minor/Certificate	17	16.8%
Age		
Mean (SD)	22.47	(3.34)
missing	2	2.0%
Gender		
Female	77	76.2%
Male	23	22.8%
missing	1	1.0%
Race-White		
Yes	49	48.5%
No	51	50.5%
missing	1	1.0%
Race-Black		
Yes	29	28.8%
No	71	70.3%
missing	1	1.0%
Hispanic origin		
Yes	4	4.0%
No	95	94.1%
missing	2	2.0%

Major

Arts or Humanities	3	3.0%
Biological or Life Sciences	9	8.9%
Criminal Justice	2	2.0%
Education	5	5.0%
Health Care or Health Sciences	1	1.0%
Law	4	4.0%
Math or Computer Science	1	1.0%
Medicine	27	26.7%
Nursing	4	4.0%
Other	4	4.0%
Other Social Science	2	2.0%
Physical Sciences	1	1.0%
Psychology	9	8.9%
Social Work	24	23.9%
missing	5	5.0%

Career Plan

Child maltreatment professional	5	5.0%
Other child-serving professional	23	22.9%
Other human services	14	13.9%
Other health care	36	35.6%
Criminal justice or law	9	8.9%
Other	3	3.0%
Undecided	9	8.9%
missing	2	2.0%

Participated in FORECAST simulations

Taking CAST 301	28	27.7%
Taking CAST 302	10	9.9%
Taking CAST 401	3	3.0%

Table 9.2 shows the results of the repeated measures ANOVA for the ten outcome measures, including Cohen's *d*, a measure of the size of the change. CAST students self-rated their skills significantly higher at the end of the semester ($M=4.08$) than at the beginning ($M=3.47$); this change had a moderate to large effect size (Cohen's $d=0.71$). There was also a **decrease** in the Child Protection Knowledge Score of about half a point on average on this 25-point scale, a difference that was statistically significant but had a small effect size. There were also statistically significant changes on Vignette 3 and Vignette 5, both of which had small effect sizes. On Vignette 3, this meant that CAST students appropriately became slightly more suspicious of maltreatment in a vignette that included indicators of possible physical abuse and neglect. On Vignette 5, CAST students actually became slightly more suspicious of maltreatment in a vignette in which the risk to children is best attributed to poverty.

There were significant interaction effects on Vignettes 1 and 5. Exploring the results for these vignettes further, we found that two-year school CAST students were less suspicious of abuse in response to Vignette 1 [$F(1,22)=5.35$, $p=.03$, Cohen's $d=.48$, representing a medium effect size]. Vignette 1 depicts a situation in which a girl's statement about her father should elicit concern about possible child sexual abuse. We also found that graduate students became more suspicious of maltreatment on Vignette 6 [$F(1,42)=7.08$, $p=.01$, Cohen's $d=.41$, representing a small to medium effect size]. Vignette 6 depicts a situation in which an accepted cultural practice could be incorrectly interpreted as maltreatment.

Table 9.2

Repeated Measures Analysis of CAST students: Pre- and Post-Surveys (N=101)

	Pre-Survey		Post-Survey		Mean		Cohen's	Interaction ^a
	M	sd	M	sd	difference	F	d	F
Self-Rating of Skills (Mean)	3.47	0.86	4.08	0.65	0.60	51.96***	0.71	1.60
Child Protection Knowledge	14.73	2.78	14.20	3.44	-0.53	4.17*	0.21	1.01
Sexual Abuse Scenario: Types of Evidence	0.40	0.63	0.30	0.56	-0.10	1.49	0.15	0.47
Sexual Abuse Scenario: Organizations Involved	2.90	1.79	2.65	2.01	0.35	2.96	0.17	0.04
Vignette 1 ^b	5.96	1.20	6.10	1.05	0.14	0.15	0.11	4.14*
Vignette 2 ^c	3.95	1.67	3.85	1.77	-0.10	0.64	0.06	1.55
Vignette 3 ^b	5.52	1.17	5.92	1.13	0.42	5.51*	-0.29	2.77
Vignette 4 ^c	4.07	1.73	4.19	1.63	-0.12	0.01	-0.06	2.50
Vignette 5 ^c	2.79	1.72	3.16	1.68	0.37	5.01*	0.22	1.15
Vignette 6 ^c	3.33	1.87	3.47	1.84	0.14	0.01	0.09	6.35*

Note. Guidelines on magnitudes of Cohen's d (Cohen, 1992): Small = .02; Medium = 0.5; Large = 0.8, ^a F test on the Time x School Type interaction effect. ^b Higher score indicates better judgment about suspicion of child maltreatment, ^c Lower score indicates better judgment about suspicion of child maltreatment, * $p < .05$; ** $p < .01$; *** $p < .001$

Changes on the Answers to the Child Protection Knowledge Score Questions

We conducted an analysis of the individual questions on the Child Protection Knowledge Scale to see specific topic areas on which CAST students' knowledge may have improved over the course of the semester. For each question, we conducted McNemar's chi-square test. This test calculated a) the number of students who changed from having an incorrect answer on the pre-survey to a correct answer on the post-survey (those students who improved on a question), and b) the number of students who changed from having a correct answer on the pre-survey to an incorrect answer on the post-survey (those students who did worse on a question). By comparing a) to b), each McNemar's test determines whether students were more likely to change for the better or change for the worst. Not changing leads to a null result. Table 9.3 shows the results. The red columns show the students that gave the incorrect answer at the end the semester (either being incorrect at each time point or changing from correct to incorrect). The blue columns show the students that gave the correct answers at the end of the semester (either being correct at each time point or changing from incorrect to correct).

On most questions there was not a significant change. Two questions showed a significant change from pre-survey to post-survey; one a question about the relationship between perpetrators and child victims in the majority of child abuse cases, and another on the confidentiality of a person who reports child maltreatment in Mississippi. However, on both these questions, more students did worse (changed from a correct to an incorrect answer) than improved (changed from an incorrect answer to a correct answer). It should be noted that a majority of CAST students did answer these questions correctly at both time points, even though there was not a significant improvement from the beginning to the end of the course.

Table 9.3

CAST Students' Answers on Individual Child Protection Knowledge Questions Pre and Post a CAST Course (N=101)

Topic	Incorrect on both pre and post	Correct on pre, incorrect on post	Incorrect on pre, correct on post	Correct on both pre and post
Child placement	26.7%	10.9%	18.8%	43.6%
Perpetrators*	5.9%	13.9%	4.0%	76.2%
Mandated reporting-teacher	72.3%	6.9%	13.9%	6.9%
Forensic medical examination	72.3%	5.9%	12.9%	8.9%
Commercial child sexual exploitation	42.6%	10.9%	17.8%	28.7%
Perpetrators	12.9%	15.8%	7.9%	63.4%
Effects of child maltreatment	2.0%	5.0%	5.9%	87.1%
Resilience of child victims	2.0%	2.0%	1.0%	95.0%
Mandated reporting	7.9%	10.9%	7.9%	73.3%
Disclosure of abuse-a	42.6%	20.8%	17.8%	18.8%
Disclosure of abuse-b	61.4%	10.9%	13.9%	13.9%
Disclosure of abuse-c	22.8%	17.8%	11.9%	47.5%
Disclosure of abuse-d	15.8%	11.9%	17.8%	54.5%

Multidisciplinary teams	32.7%	23.8%	12.9%	30.7%
Child placement and permanency	69.3%	8.9%	11.9%	9.9%
Mandated reporting-who	20.8%	12.9%	11.9%	54.5%
Mandated reporting*	22.8%	21.8%	8.9%	46.5%
Effects of child maltreatment-a	14.9%	14.9%	12.9%	57.4%
Effects of child maltreatment-b	10.9%	16.8%	13.9%	58.4%
Effects of child maltreatment-c	20.8%	15.8%	12.9%	50.5%
Effects of child maltreatment-d	5.0%	10.9%	3.0%	81.2%
Effects of child maltreatment-e	42.6%	20.8%	11.9%	24.8%
Children’s Advocacy Centers	32.7%	16.8%	21.8%	28.7%
Child maltreatment investigation	79.2%	7.9%	6.9%	5.9%
Resilience of child victims	4.0%	22.8%	4.0%	69.3%

Analysis of CAST Certificate/Minor Students’ Change Over the Course of the Semester

We also conducted repeated measures ANOVAs to examine whether CAST Certificate and Minor students changed on outcomes between the pre-survey and post-survey. CAST Certificate and Minor students are a key group to assess, both because they have invested the most in CAST and because they demonstrated the best outcomes in this study, as Chapter 7 showed. This analysis had the limitation of having a small sample size (N=17), but we felt that the importance of this group and the possibility of finding more sizeable effects on a repeated measures ANOVA justified these analyses. Table 9.4 shows the results for the CAST Certificate/Minor students.

CAST minor/certificate students’ self-rating of skills increased by almost a full point on average from the beginning to the end of the course; this statistically significant change represented a large effect size (Cohen’s $d=0.86$). The CAST minor/certificate students also changed significantly in their judgment in response to Vignettes 1 and 2 (Cohen’s $d=0.61$ and 0.63 respectively). As mentioned above, Vignette 1 depicts a situation in which a girl’s statement about her father should elicit concern about possible child sexual abuse. CAST minor/certificate students were more inclined to suspect abuse in this scenario by the end of the course. Vignette 2 presents a situation that is better interpreted as family conflict than child maltreatment. CAST certificate/minor were less inclined by the end of the course to suspect maltreatment in response to this scenario.

Table 9.4

Repeated Measures Analysis of CAST Certificate and Minor students: Pre- and Post-Surveys (N=17)

	Pre-Survey		Post-Survey		Mean difference	F	Cohen’s d
	M	sd	M	sd			
Self-Rating of Skills (Mean)	3.68	0.94	4.51	0.43	0.84	12.42**	0.86
Child Protection Knowledge	16.24	1.86	16.76	3.78	0.53	0.54	0.18

Sexual Abuse Scenario: Types of Evidence	0.47	0.72	0.41	0.71	-0.06	0.11	0.08
Sexual Abuse Scenario: Organizations Involved	3.47	1.97	3.24	2.49	0.24	0.17	0.10
Vignette 1 ^a	5.71	1.45	6.47	0.72	0.76	6.35*	0.61
Vignette 2 ^b	3.35	1.50	2.76	1.60	-0.59	6.62*	0.63
Vignette 3 ^a	5.65	1.06	6.35	0.86	0.71	3.61 ^c	0.46
Vignette 4 ^b	3.53	1.13	3.71	1.99	0.17	0.12	0.09
Vignette 5 ^b	1.76	1.20	1.82	0.88	0.06	0.05	0.05
Vignette 6 ^b	2.24	1.48	2.00	1.46	-0.24	0.40	0.16

Note. Guidelines on magnitudes of Cohen's d (Cohen, 1992): Small = .02; Medium = 0.5; Large = 0.8, ^a Higher score indicates better judgment about suspicion of child maltreatment. ^b Lower score indicates better judgment about suspicion of child maltreatment. ^c p=.076. *p <.05; **p < .01; ***p < .001

Assessing Change Using Independent Samples

The repeated measures statistical methods we used above are the most rigorous methods for analyzing change, but we could not include all our pre-surveys and post-surveys in these analyses because some students completed a pre-survey and not a post-survey and vice versa. Moreover, we could not compare CAST and non-CAST students on change in the repeated measures ANOVAs because we had too few non-CAST students who completed both a pre-survey and a post-survey in the same semester.

We therefore conducted supplemental analyses in which we use independent samples of the pre-survey and post-survey responses. We conducted this analysis with two-year schools only, because we had only two non-CAST pre-surveys for four-year schools and we had no non-CAST graduate students. To maintain independent samples, we avoided including the same students twice in the analysis by eliminating those students who had completed both the pre-survey and the post-survey (they were included in the repeated measures analyses above). Because of the difference between the CAST and non-CAST groups in racial composition, we included race as a factor to control for differences by race.

We calculated univariate analysis of variance models in which the between-subject factors were a) CAST status (CAST vs. non-CAST, b) Pre versus Post, and c) race (White vs. Non-white). To estimate differences between CAST and non-CAST students on change, we calculated the interaction effects of CAST (no vs. yes) by Pre-Post, and simple effects ANOVAs comparing pre-surveys and post-surveys within the CAST and non-CAST groups. If the interaction effects were statistically significant and simple effects ANOVAs revealed more improvement for CAST students than non-CAST students, this would suggest that CAST students improved more than non-CAST students over the course of a semester. This analysis included 58 CAST pre-surveys and 96 non-CAST pre-surveys, and 32 CAST and 82 non-CAST post-surveys.

In parallel to our findings in Chapters 5 and 6, we found that two-year school CAST students had significantly higher scores than two-year school non-CAST students on several outcomes (across both pre-scores and post-scores): self-rating of skills, Child Protection Knowledge Scale scores, identifying types of evidence in a child sexual abuse scenario, and identifying the organizations likely to be involved in a child sexual abuse scenario. The difference was small for self-rating of skills (Cohen's $d = .23$), medium for child protection knowledge (Cohen's $d = .52$) and identifying organizations (Cohen's $d = .53$), and medium to large for identifying types of evidence (Cohen's $d = .64$).

We also found that post-scores on the self-rating of skills were significantly higher than pre-scores. This indicated that two-year school students at the end of the course felt more able to respond effectively to child maltreatment than did students at the beginning of the course. We conducted simple effects ANOVAs comparing pre- and post-scores within the CAST and non-CAST groups, and found that the self-rating of skills was significantly higher for the post-test in **both** the CAST group and the non-CAST group. However, examining the effect sizes, we found that the difference between pre-test scores and post-test scores was much larger in the CAST group (a large effect, Cohen's $d = .85$) than in the non-CAST group (a small effect, Cohen's $d = .29$).

We found statistically significant CAST by Pre-Post interaction effects for five variables: Child Protection Knowledge Scale scores, identifying organizations likely to be involved in a child sexual abuse scenario, and Vignettes 2, 5, and 6. This suggested that the difference between the pre-scores and post-scores was not the same for the CAST and non-CAST schools. However, when we followed up with simple effects ANOVAs, we did not find that the differences between pre-scores and post-scores on these variables were statistically significant, although all of the differences were in the direction indicating improvement. Thus these analyses do not provide strong evidence that CAST students in two-year schools improved more on outcomes than non-CAST students in two-year schools over the course of the semester. However, these analyses reinforce the findings in Chapter 5 and 6 that CAST students in two-year schools were superior to non-CAST students throughout the semester.

We also calculated cross-tabulations with Pearson chi-square tests to see if the percentage correct on individual Child Protection Knowledge Scale items was significantly higher among the post-scores at the end of the course than among the pre-scores at the beginning of the course, in the independent samples. We calculated these separately for the CAST and non-CAST students. In the CAST group, the percentage correct was significantly higher for the post-scores for two questions: one question concerned the most likely explanation for what happens when children leave foster care (9.8% correct for the pre-scores and 35.3% for the post-scores), and one concerned the most important factors to help children recover following child abuse (75.4% correct for the pre-scores and 94.1% for the post-scores). In the non-CAST group, the percentage correct was significantly higher for the post-scores for two other questions: one question concerned the relationship of child abuse to learning problems (52.5% correct for the pre-scores and 70.1% for the post-scores), and one concerned the outcome of reporting child maltreatment (7.9% correct for the pre-scores and 19.5% for the post-scores).

Summary and Discussion

The biggest change on outcomes from the beginning to the end of a CAST course was a moderate to large increase on average in students' self-rating of their skills in responding to child maltreatment, in both the repeated measures sample and the independent samples. This increase in their self-rating of skills could reflect the impact of what they learned in the CAST course. A possible counter explanation is a practice effect—that taking the pre-survey in itself might have sensitized students to issues of child maltreatment, leading them to rate their skills more highly the second time they completed the measure on the post-survey. But the effect sizes for the increase from pre-scores to post-scores on self-rated skills were much larger for the CAST students (Cohen's $d = .71$ and $.85$) than for the non-CAST students (Cohen's $d = .29$). This suggests that CAST courses have an impact of students' self-rating of their skills above and beyond any practice effect. The fact that CAST students rated their skills more highly at the end of the course speaks to the positive experience they have and is likely to reflect important increases in their self-efficacy in their response to child maltreatment. That is a very important impact to achieve for a program that aims to prepare young adults for careers working with children who have been victimized.

On other measures we saw little or no difference on pre-scores and post-scores in the CAST repeated measures sample and among the independent samples of CAST students in two-year schools. In the repeated measures CAST sample, there were four statistically significant changes in the undesired direction (on the Child Protection Knowledge Scale and Vignette 5 for all CAST students, on Vignette 1 for the two-year school students, and on Vignette 6 for the graduate students) and one in the desired direction (on Vignette 3). The change for the two-year school students on Vignette 1 had a medium effect size; otherwise these differences had small or small to medium effect sizes. There was no other evidence of change across the semester in the independent samples.

There are several possible explanations for CAST students' limited change on other outcomes during the semester. The CAST Outcome Survey was developed to capture a wide range of knowledge in the CAST curriculum. It was also designed to discriminate CAST students from non-CAST students, and more advanced CAST students from less advanced CAST students. When we designed the measure, we did not closely reference specific content taught in each CAST course in the study, most of which were introductory courses. The outcome measure may thus not have been sensitive to specific increases in knowledge and insight in these courses.

We must also consider the possible effects of the COVID-19 pandemic on the results of this study. The pandemic emerged midway through the first semester that we administered both pre-surveys and post-surveys. Adapting to the virus was a major distraction, as was the transition of classes from in-person to online experiences. The pandemic persisted throughout each semester in which we collect pre-surveys and post-surveys, and it is plausible that it affected the impact of the CAST courses we studied. Results on change during a semester in this study may not be representative of the impact of CAST courses in general.

Another possibility is that an initial CAST course may function primarily as consciousness-raising and an orientation to the world of child victims and the trauma they experience. An important function of the course is to help students deal emotionally with the reality of child abuse and

neglect; for some students, this includes dealing with their own personal history of personal trauma. It may take multiple courses and a longer-term commitment to CAST for students to develop the knowledge and judgment measured by the CAST Outcome Survey.

This may help explain why the CAST Certificate/Minor students made the most gains during the semester. As we saw in Chapter 7, the CAST Certificate/Minor students have superior results compared to other CAST students as well as non-CAST students. In the repeated measures analysis, they made the largest gains in self-rating of their skills and positive change in their judgement on two vignettes, with no changes in an undesired direction. The findings for the CAST Certificate/Minor students support the impact of their greater investment and exposure to CAST and the value of provide certificate/minor programs.

Chapter 10: CAST Students' Change Across Semesters

CAST certificate and minor students must take multiple CAST courses, and other students may take multiple CAST courses as well. We would expect CAST students' knowledge and skills to increase across semesters as they take multiple CAST courses. In this chapter, we explore change across semesters in CAST students' knowledge and skills. As we described in Chapter 2, each CAST student created an anonymous research identifier that masked their identity but allowed the researchers to track students' survey results across semesters.

Six CAST students completed the CAST Outcome Survey on three or four occasions, counting all the pre-surveys and post-surveys across all semesters we studied. Five students were from one four-school that had a minor program; the other student took her first CAST course at a two-year school and then took another CAST course when she transferred to a four-year school. No student completed the survey more than four times. In the line graphs below, we plotted these scores for these six students across time for each of the ten outcomes we measured. We recorded the scores for three or four time points, depending on how many administrations of the survey the student participated in. Note that the date of the time point for each student varied—the scores for each student were in date sequence, but could have been completed as a pre-survey (except for Autumn 2019-2020, when we did not have a pre-survey) or as a post-survey, in any semester. All six of the students completed their three or four administrations in two CAST courses. Because of the small sample size, the research in this chapter should be considered as a pilot analysis of CAST students' change over the course of multiple semesters.

Results

Perusal of the line graphs below shows that more students improved than did not improve on most outcomes, but there was considerable variability in students' change over time. In some cases, students did not change because they already had some awareness of the appropriate answer when they first completed the survey. For example, several students started out with appropriately low ratings on Vignettes 5 (Figure 10.9) and 6 (Figure 10.10) and maintained these low ratings over time. Likewise, several students started with appropriately high ratings on Vignette 1 (Figure 10.5) and maintained those high ratings over time. Note that color changes in lines are used to indicate multiple students having the same scores at certain time points.

The unusual appearance of Figure 10.3 deserves explanation. This figure presents results for a difficult question about the number of types of evidence that should be pursued in a child sexual abuse case. This required somewhat specialized knowledge and the majority of students, CAST and non-CAST, were unable to name even one type of evidence. For this reason, it is not surprising that most students pictured in Figure 10.3 consistently had a score of zero. Despite the difficulty of this question, this variable successfully discriminated CAST from non-CAST students in Chapters 5 and 6 and CAST certificate/minor students from other students in Chapter 7.

We first looked at change on the average score on the self-report measure of students' perception of their skills related to child maltreatment (see Figure 10.1). All six students rated themselves higher on skills at the final time point compared to the first time point. The average

score change was +1.19 on the seven-point scale. Despite the small sample size, a paired sample t-test showed that this difference was statistically significant, $t=3.84$, $p=.012$, with a very large effect size, Cohen's $d= 1.57$. The six students also demonstrated better judgment on Vignette 1 between the first time and the final time points (see Figure 10.5). A paired sample showed that this difference was statistically significant, $t=2.71$, $p=.42$, with a large effect size, Cohen's $d=1.11$. This was a vignette in which students had to be alert to genuine indicators of possible child sexual abuse.

The six students did not show statistically significant improvement on average on any other outcome measure, which is not unexpected given the small sample size. However, three results have effect sizes consistent with improvement that may have been statistically significant with a larger sample. There was a 3.00 point improvement on the Child Protection Knowledge scale on average, with a medium to large effect size, Cohen's $d=.81$ (see Figure 10.2). There was a 1.50 point improvement on the number of organizations correctly identified in a child sexual abuse scenario, with a moderate Cohen's d of $.53$ (see Figure 10.4). There was also a 1.50 point reduction on average on the 7-point scale on Vignette 6, with a large Cohen's d of $-.99$ (see Figure 10.10). This indicates that students were less likely over time to judge an accepted cultural practice as neglect. One cannot infer effects for these variables because of the small sample size, but these results suggest the promise of studying change over the course of a CAST program. For every other outcome, the average change was in the direction of improvement, but the effect sizes were small to medium ($.33$ to $.83$).

Summary and Discussion

Only six CAST students completed the CAST Outcome Survey in more than one semester, so we must consider this a pilot analysis of CAST students' change across semesters. Nevertheless, results are suggestive. There was a large improvement on average in CAST's self-appraisal of their skills, which was statistically significant despite the small sample size. There was also a large improvement in CAST students' judgment about a vignette depicting possible child sexual abuse. On other outcomes, there were small improvements on average in scores, but variability in CAST students' change over time, so with this small sample we cannot infer improvement across semesters on these other outcomes.

The results in the current chapter are promising. Despite the small sample size, CAST students demonstrated statistically significant improvements in the self-rating of their skills and in their judgment in response to a vignette about child sexual abuse, with large effect sizes. Other changes were in the right direction and had encouraging effect sizes, but were not statistically significant because of the small sample size, so it is difficult to draw further conclusions about CAST students' change across semesters.

In part, the increases we found across multiple administrations of the CAST Outcome Survey stem from the increases within a semester that we found in Chapter 9, since we are also capturing in this chapter those instances in which students completed a pre-survey and a post-survey in the same semester. Thus, a caveat for interpreting the results of this chapter is that they are not independent of the results in Chapter 9. We must also be tentative about drawing conclusions because of the small sample size. Nevertheless, these results point out the value of more research on CAST students' change across semesters.

Figure 10.1

Self-Rating Skills (Mean) by Time Points (N=6)

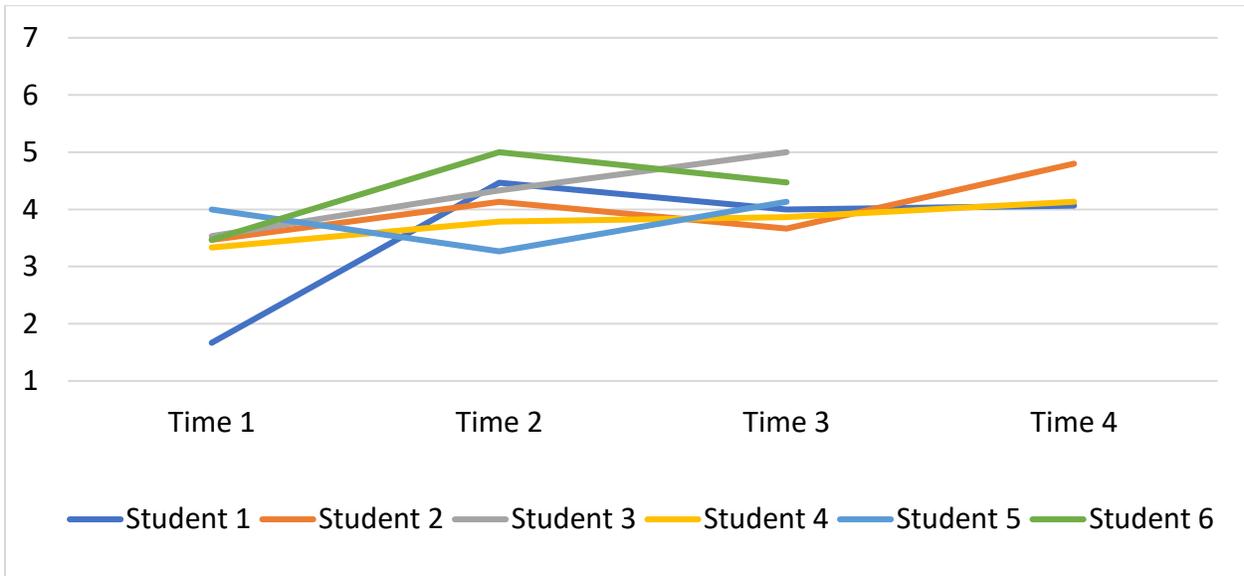


Figure 10.2

Child Protection Knowledge Score by Time Points (N=6)

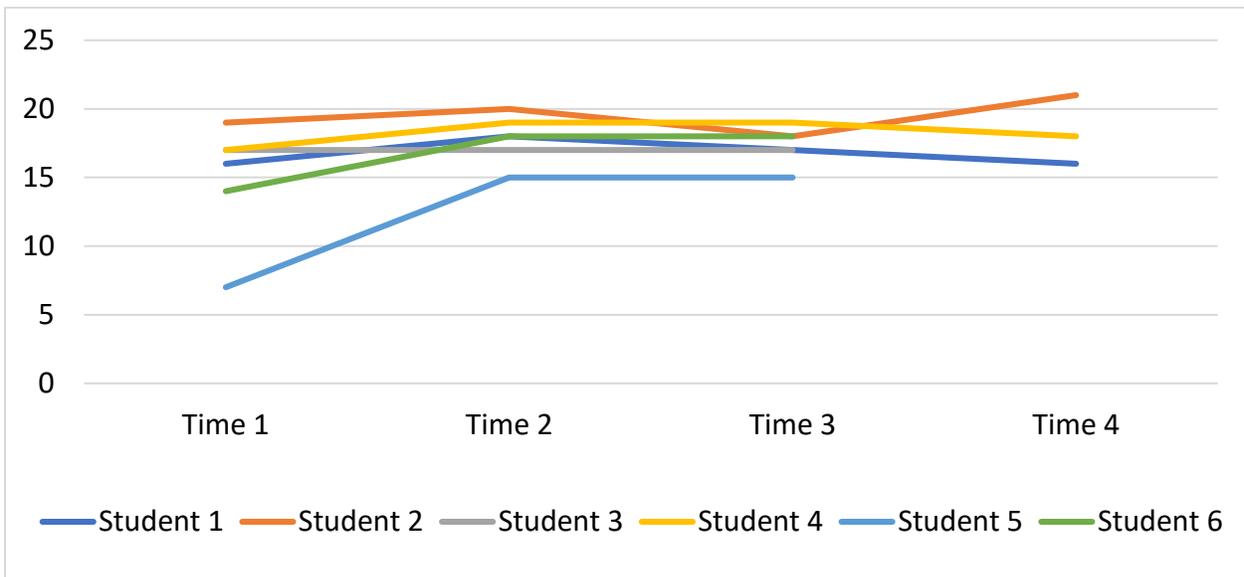


Figure 10.3

Number of Types of Evidence Correctly Identified in a Child Sexual Abuse Scenario by Time Points (N=6)

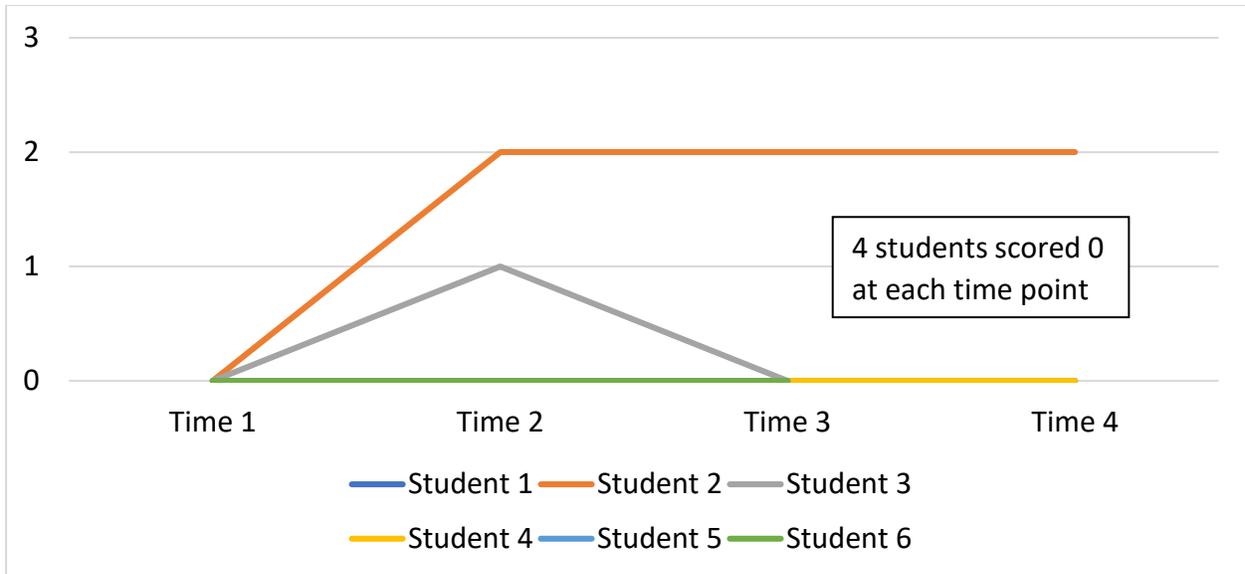


Figure 10.4

Number of Organizations Correctly Identified in a Child Sexual Abuse Scenario by Time Points (N=6)

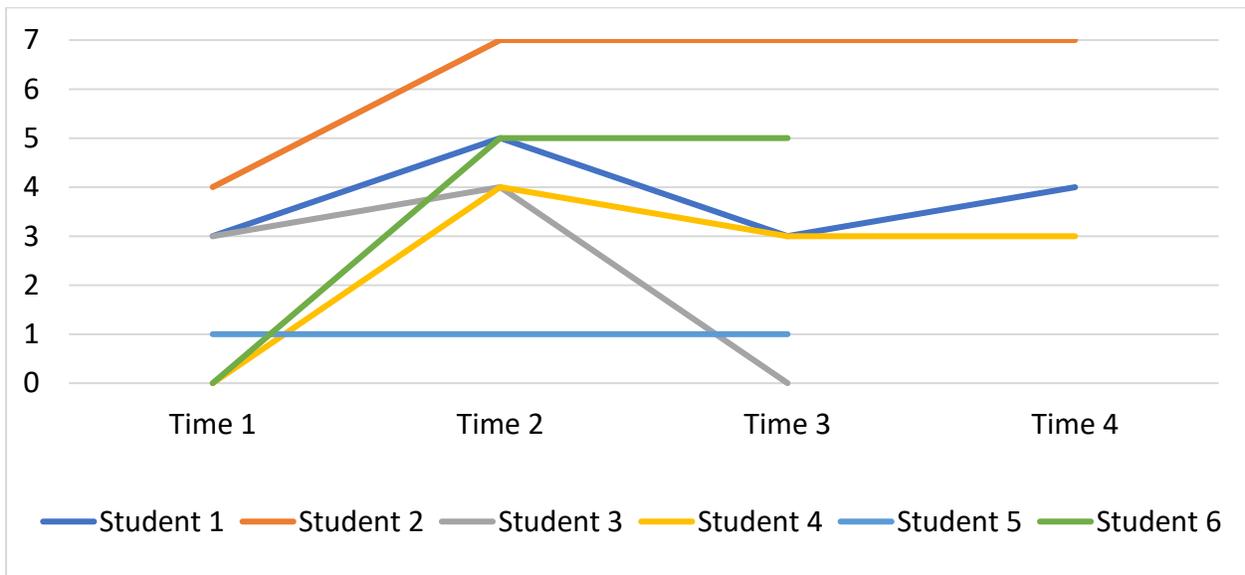


Figure 10.5

Vignette 1 (Child Maltreatment Case) by Time Points (N=6)

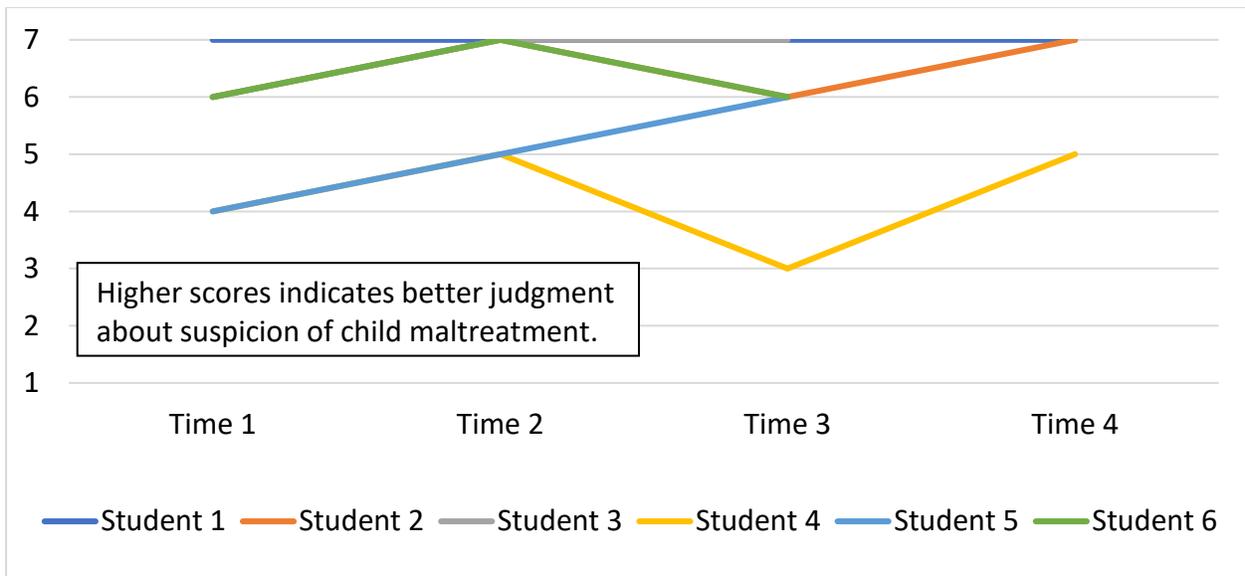


Figure 10.6

Vignette 2 (Non-Child Maltreatment Case) by Time Points (N=6)

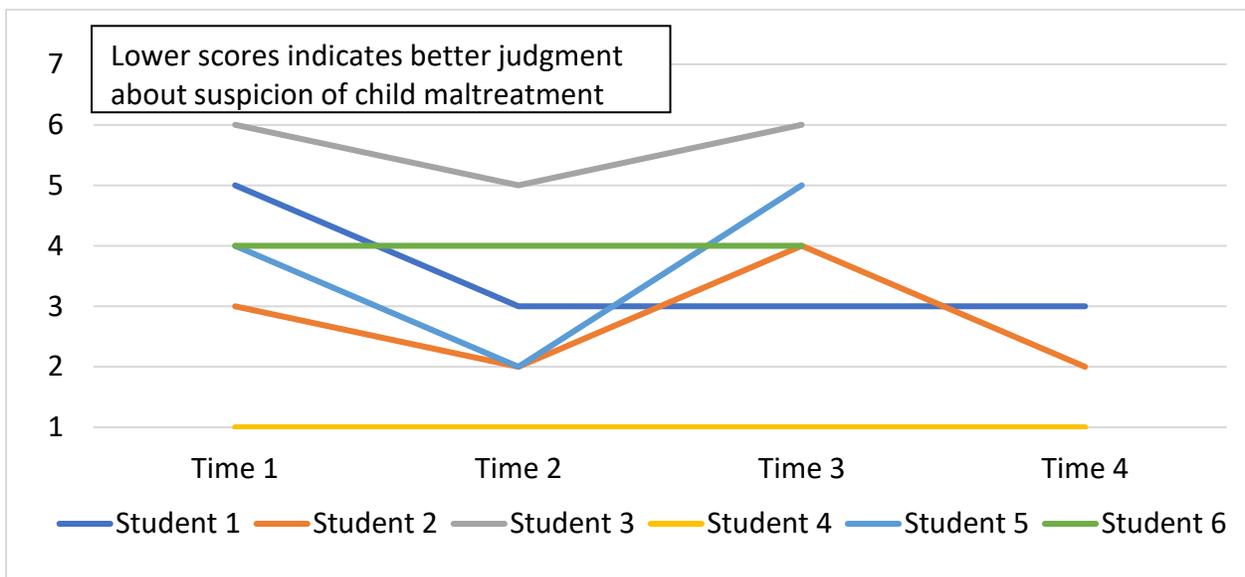


Figure 10.7

Vignette 3 (Child Maltreatment Case) by Time Points (N=6)

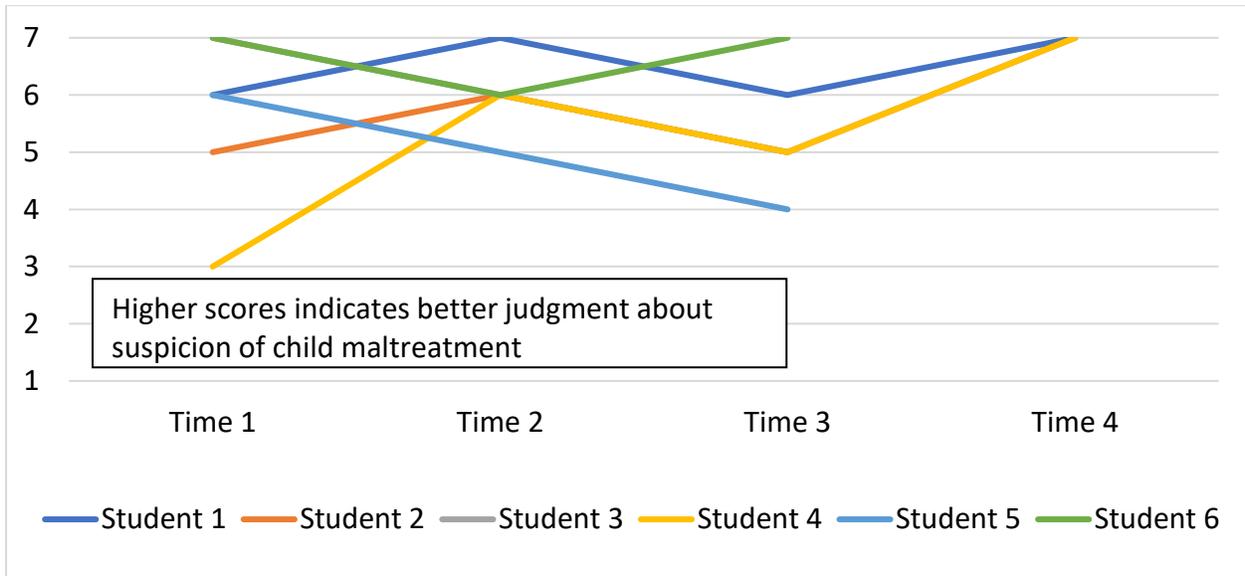


Figure 10.8

Vignette 4 (Non-Child Maltreatment Case) by Time Points (N=6)

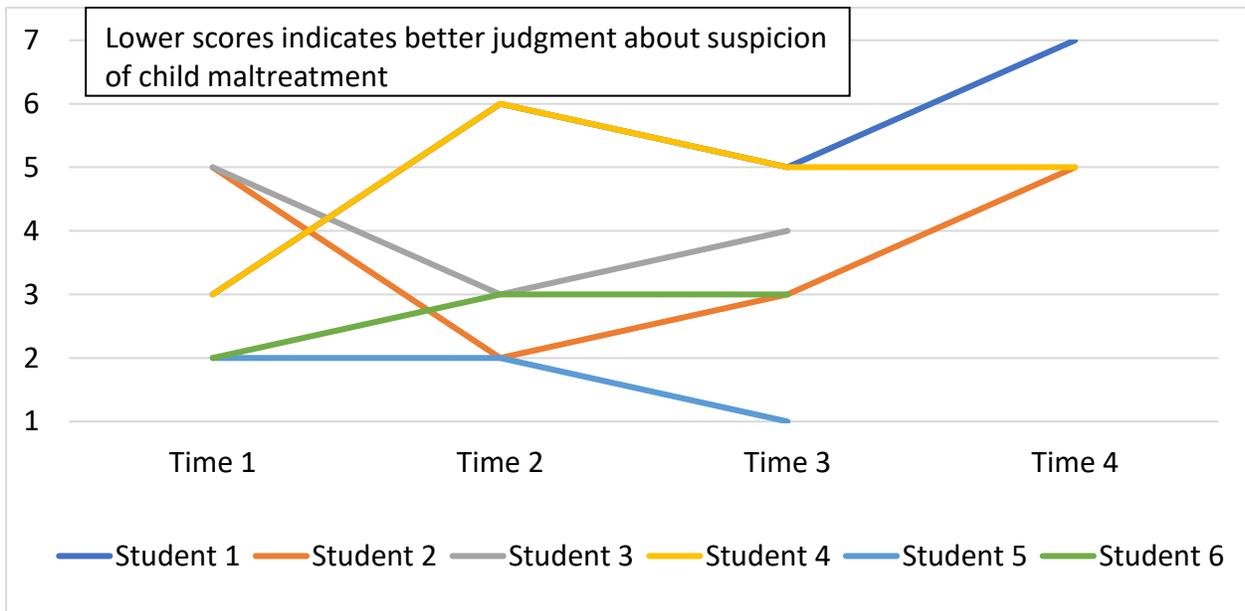


Figure 10.9

Vignette 5 (Non-Child Maltreatment Case) by Time Points (N=6)

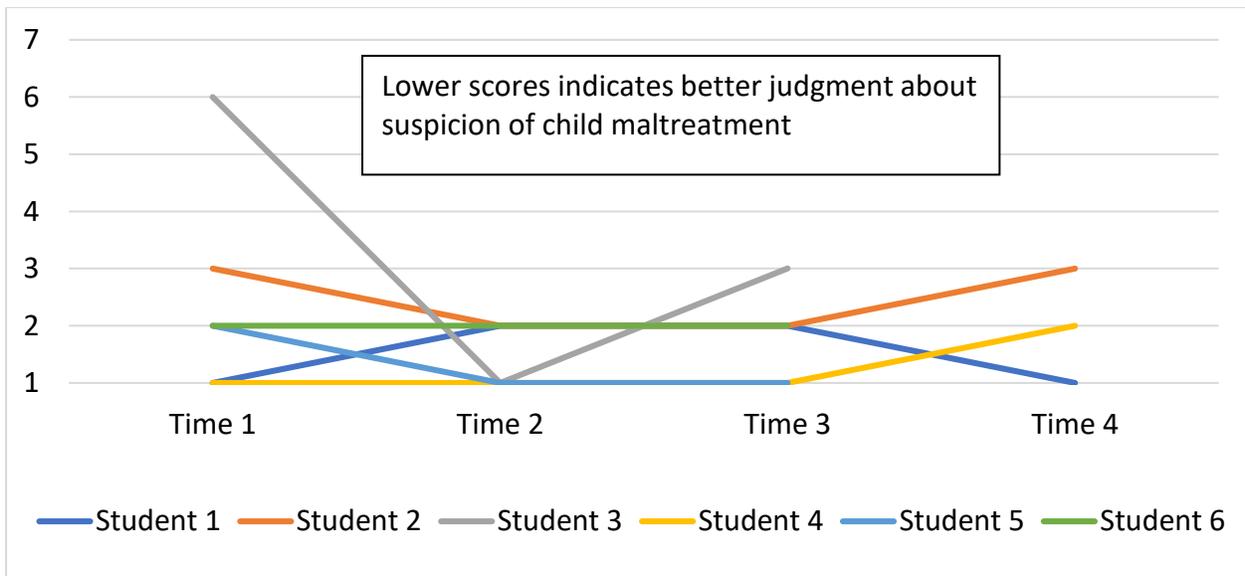
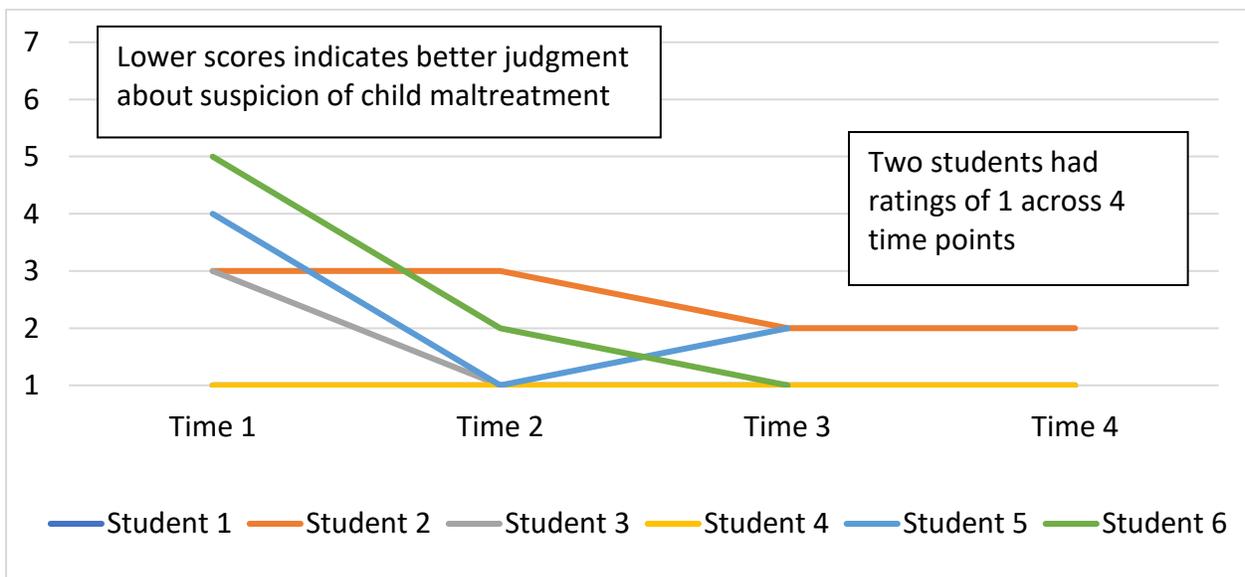


Figure 10.10

Vignette 6 (Non-Child Maltreatment Case) by Time Points (N=6)



Chapter 11: Evaluation of Project FORECAST in Mississippi

Joel Epstein and Theodore P. Cross

A number of Mississippi CAST schools participated in Project FORECAST. This is a program at the University of Missouri - St. Louis' Children's Advocacy Services of Greater St. Louis (CASGSL) and the University of Illinois at Springfield, funded by the federal Substance Abuse and Mental Health Services Administration (SAMHSA; CASGSL, 2019). Trainers from Project FORECAST developed simulation training experiences tailored to CAST students' needs, and traveled to Mississippi schools to teach faculty how to conduct these educational activities. As discussed in previous chapters, a number of Mississippi schools now include FORECAST simulations as part of their CAST courses.

As part of its SAMHSA grant, CASGSL is evaluating Project FORECAST. Data are being collected from students across the country who are experiencing FORECAST simulations. The Project FORECAST evaluation is relevant to, and can supplement the evaluation of the Mississippi CAST initiative. A large subsample of the overall evaluation sample consists of CAST students from Mississippi. This chapter presents analyses on the Mississippi subsample.

Students from four Mississippi schools participated in the FORECAST evaluation via an online survey: Mississippi State University (n=79), Meridian Community College (n=61), Mississippi University for Women (n=27), and Belhaven University (n=18). The survey was conducted in the following semesters: Spring 2017-2018, Autumn 2018-2019, Spring 2018-2019, Autumn 2019-2020. Thus the FORECAST predate the other data in this evaluation, and also predate the COVID pandemic. The students provided demographic and background data. Their average age was 21.8 (sd=6.1). The vast majority (92.6%) were female. The majority (56.3%) were White, 35.2% were African-American, and 8.5% had another race-ethnicity. Of those responding to a question about sexual orientation (92.9% of the sample), 98.7% reported being straight and 1.3% reported other sexual orientations. Most of the sample (81.6%) answered a question about their own history of trauma; of this group, 29.1% reported that they would describe themselves as a trauma survivor.

Students completed measures both before experiencing FORECAST simulations (pre-assessments) and after they had experienced the simulation (post-assessments). Some instructors gave the pre- and post-assessments just prior to and just after the simulations, while others gave the pre-assessment at the beginning of the course and the post-assessment at the end of the course. Three different measures were used:

- 1) *Knowledge of Core Concepts*, a self-report measure of how well students had learned core concepts related to trauma. Respondents were asked how confident they are in their understanding of each of 12 core concepts (1 = not confident, 5 = somewhat confident, 9 = completely confident). An example of a core concept item is "Children can exhibit a wide range of reactions to trauma and loss."

2) *Trauma-Informed Experiential and Reasoning Skills (TIERS)*, a self-report measure of how well students had mastered trauma-informed skills. Students were asked how well they could demonstrate each of 10 different skills (1 = I could not consistently demonstrate this skill, 5 = I could demonstrate this skill within a simulation or practice exercise, 9 = I could consistently demonstrate this skill in real-world settings). An example of a trauma-informed skill on the TIERS is “Utilizing trauma-informed decision-making processes to respond effectively to traumatic stress, as well as to report and investigate allegations of child abuse and neglect.”

3) *Attitudes Towards Trauma Informed Care (ARTIC)*, a measure of attitudes toward providing trauma-informed care (Baker et al., 2016). Students indicated their agreement on 45 seven-point bipolar Likert items regarding their attitudes about clients. Each item included both a trauma-informed choice on one pole (e.g., “Clients’ learning and behavior problems are rooted in their history of difficult life events”) and a non-trauma-informed choice on the other pole (e.g., “Clients’ learning and behavior problems are rooted in their behavioral or mental health condition”). Total score on the ARTIC provides an overall indication of favorable attitudes towards trauma-informed care; the maximum score is seven.

Results

A comparison of the pre-assessment and post-assessment scores showed that students made gains on each of these measures (see Table 11.1). The Knowledge of Core Concepts mean score increased markedly, with a large effect size. On average, students progressed from being somewhat confident in their knowledge of core concepts to a level just under completely confident. The TIERS score also increased substantially, with a moderate-to-large effect size. On average, students advanced from feeling confident that they could demonstrate their skills in the simulation, to greater confidence they could demonstrate the skill in the real world. Students also had a modest but statistically significant increase in their average ARTIC score toward having more favorable attitudes toward trauma-informed care, increasing about 1/4 of a point on average on the seven-point scale at the post-assessment.

Table 11.1

Outcomes Following Experiencing Simulations

Measure	Pre- assessment	Post- assessment	Paired sample <i>t</i> -test	<i>p</i>	Effect size
	Mean (sd)	Mean (sd)			
Knowledge of Core Concepts	6.69 (1.64)	8.07 (1.27)	8.08	<.001	.81
TIERS	6.31 (1.79)	7.48 (1.50)	6.48	<.001	.67
ARTIC	5.30 (0.75)	5.53 (0.93)	3.19	.002	.33

The number of simulations CAST students experienced influenced how much they changed on the outcome measures. Out of a sample of 100 Mississippi students, 5 did not experience a simulation, 43 experienced one simulation and 52 experienced two simulations. We did not analyze data from those who did not experience a simulation because the number was small and these students were atypical in classes that featured simulations. Results are presented in Table 11.2. Students who experienced two simulations did not differ significantly from students who experienced one simulation.

Table 11.2

Comparison of Students who Experienced One and Two Simulations on Change Scores

Measure	Change score for students with one simulation	Change score for students with two simulations	Independent sample t-test	<i>p</i>	Effect size
	Mean(sd)	Mean(sd)			
Knowledge of Core Concepts	1.38 (2.10)	1.43 (1.35)	0.13	NS	0.03
TIERS	0.91 (2.01)	1.47 (1.53)	1.54	NS	0.32
ARTIC	0.08 (0.47)	0.35 (0.85)	1.88	NS	0.39

Discussion

Results from the FORECAST evaluation suggest that Mississippi students in CAST classes with FORECAST simulations made several gains over the course of the semester. They reported that their knowledge of core trauma concepts increased markedly, and their self-appraisal of their trauma-informed skills increased substantially. Their approval of trauma-informed care was already fairly substantial at the pre-assessment, and increased modestly from pre- to post-assessment.

These results provide further evidence for the positive impact of CAST in producing graduates who are trauma-informed as they enter the work force. The absence of a comparison group reduces the rigor of this evaluation, but it seems unlikely that students would improve in their scores on these three measures without the exposure to trauma concepts and simulation of trauma-informed care that these CAST courses provided.

It is not possible to disentangle the effects of the CAST course and the FORECAST simulations in producing these outcomes. Students experienced one or two simulations between the pre- and post-assessment, but they also experienced more instruction in the course during that time, especially if the pre- and post-assessments were conducted at the beginning and end of the semester, as some instructors did. Making this distinction is not highly salient for our evaluation of the Mississippi's CAST initiative, because our primary interest is in the CAST effect as a whole, classroom and simulations together. The distinction is more important for the FORECAST evaluation. Future studies may want to include a comparison class that only provides CAST classroom instruction and not simulations, though it is not clear whether such a class would be

sufficiently comparable to a class in a university that has been able to implement both CAST classroom instruction and FORECAST simulations. Investment in simulations may well follow from greater investment in CAST as a whole.

The FORECAST results are particularly valuable because they expand on the range of CAST outcomes studied. The FORECAST measures, focusing on trauma-informed care, complement the other measures used in this evaluation. They suggest a broader positive impact of CAST than the primary measures used in the study were able to reveal. Bringing a trauma-informed mindset to work with children and families is critical, as we discover the prevalent, wide-ranging, and often severe effect of trauma on many young people and their families.

Chapter 12: CAST Graduate Pilot Sub-Study

In order to learn more about CAST students' experience of the program, we added a pilot sub-study to the evaluation in which we conducted semi-structured interviews with recent CAST graduates or graduating seniors in CAST programs. The interviews asked CAST students and recent CAST graduates to describe their experience with the CAST program and its impact on deciding on career goals, getting jobs, developing work skills and developing as a person (see Appendix B for the protocol for this interview). We asked faculty administering CAST minor and certificate students to refer graduates of CAST of programs to us. Faculty also referred graduating CAST seniors to us, and given their experience with CAST and the imminence of their graduation, we also included them in this pilot study. We sent these students recruiting emails and scheduled Zoom calls with those who volunteered to participate. We used the Zoom option to record the interviews with participants' consent and then to make transcripts of the interviews.

Six interviews were conducted. Three interviewees graduated the previous year—one was employed in a children's service organization closely related to CAST instruction, one was looking for a job (which was complicated by the effects of COVID-19), and one was applying to graduate social work programs. Three interviewees were graduating seniors, two of whom were applying for graduate social work programs and one to law school. Their majors included social work, child development, political science, and legal studies. One obtained a CAST minor, three of them obtained CAST Certificates, and two took one CAST course.

We then used Braun and Clarke's (2006) thematic analysis methods to analyze the transcripts. This involved reviewing the transcript, coding units of meaning in the text, and inferring meaningful themes in the text. The first and second author independently coded the transcripts and identified themes, and then met to develop a consensus list of themes. The themes each identified separately were very similar. The two researchers identified the same fourteen themes independently, with some minor differences (e.g., one of us identified a single learning theme; while the other developed separate themes for learning through lectures, discussion). There were two additional themes identified by one researcher that were then adopted as consensus themes (Appendix C for Theme comparison of two researchers).

Below we report findings by theme. We use quotations from the interview to support and illustrate our findings.

CAST was chosen based on prior interest in serving children

Not surprisingly, interviewees had an interest in serving children in some way before taking CAST classes. They found that the CAST program addressed that interest.

I am super interested in social work and child abuse cases...But those classes helped me learn more about it without having to major in social work (Interviewee A).

I was interested in helping kids get out of dangerous situations and I love it. And, talked to my teacher about it...She said "Well we have this program now, the CAST program." And, I decided...I would love that (Interviewee B).

Child welfare, foster care, adoption agency...anything like that I've always wanted to work with children. I didn't want to go into it and blind because it's so broad and there's a lot that goes into child welfare. So I wanted to have at least some step with my foot in the door, so as to I know what I'm doing to help these children (Interviewee D).

As a career goal I plan on working with children and families. I just thought the being a part of the program would you know, enhance my knowledge and experiences working children and families. (Interviewee E).

Teachers have personal qualities and skills that are helpful to CAST students

When we asked CAST graduates to describe the impact of their CAST instructors on them, they mentioned their skills as instructors, and also cited a range of personal qualities and skills that were helpful to them. Interviewees mentioned how instructors were knowledgeable, honest, and passionate; instructors actively asked and answered questions and shared their personal experience in the field, including their challenges. Students also mentioned instructors' commitment to the children and families they were discussing.

I had a really good teacher. [She] asked a lot of questions and she liked to hear what we thought and have to say...[She and another professor] challenged us a lot. But they were really good, kept us entertained and gave us examples to do (Interviewee A).

They were informative. They answered all our questions. They explained to the best of their ability (Interviewee E).

I love our professors. They're really helpful and they just want us to learn to the best of our ability...She [one of her instructors] would give her own examples, and it really helped us to see like she went through the same thing as us, and she worked her way up and we can do the same thing as well. So instead of her being like more of an authoritative figure, it was more like she was teaching us what she's already been through. Instead of just using her platform as to say like "I've always been a great social worker" (Interviewee D).

My teacher for that [crisis intervention] class was amazing. Like we got in little circles of groups standing up. And like she was like "okay do this stage of intervention," because there's so many stages of intervention...how all the processes and everything...we would have to practice. Like here's a situation, and this is the crisis and now intervene (Interviewee F).

They really knew their stuff. They are passionate about it. They really want to make an impact. They really wanted us to have the information we need to do our job you know, to help this good families (Interviewee F).

The teacher that I have had...She is very honest when she teaches. But, you can also tell she cares about what she is teaching. So I would say it has a positive impact. She just makes the atmosphere very comfortable and I think that makes the class better...you can tell when your professor really cares about what they are teaching and therefore makes the class more enjoyable and makes you want to pay attention more (Interviewee B).

I could tell that they wanted me to learn it. I could tell they were just as passionate about it as teaching...I could tell they love what they did. They weren't just teaching it because I am here. "No this is going to help kids and you should know this."
(Interviewee C).

Having the support of our teacher...I think it's important that the teachers are aware of what they're teaching and how important it is and that it can be difficult for some people to learn about it and to hear instead of just like droning on about it like reading through a PowerPoint. I definitely think that how they present the material is a very big strength (Interviewee B).

Instructors helped students deal with the emotional demands of CAST

Interviewees also talked about how the faculty helped them deal with the emotional demands of CAST.

She [the faculty] lets us know that if anything we are going over is difficult or if anything is upsetting, we are allowed to have a break and leave the classroom if we need to. So I would say it is a very comfortable atmosphere because we know it's important but we can take a "breather" if we need to. So I would say it is a positive impact (Interviewee B).

She had said, "I know these readings can be very heavy in this class. Just take a breather as you need to."....Just the topic of the books were emotionally heavy (Interviewee B).

If anything got to be too much they [faculty] would tell us to go take a break and it's ok to go breathe...clear your mind and come back in when you are ready. It is so real....So it was a lot for people. So go take a break and if you need to breathe....If you get too stressed out take a break. It's self-care. Even with the simulation I needed to step out for a second....But, don't stay out too long. Remember it's to help the kids (Interviewee C).

They [faculty] even told us that at the beginning, like this is a really heartbreaking case. If you need to step away, you can....So she allowed us to breathe and she allowed us to like take certain parts of the simulation and if we needed to step away, we needed to debrief if we needed to talk about anything and put like a pause on the case, we could....I feel like even in my profession...there are going to be moments in my profession, where I'm going to maybe have to go into my office breathe, regroup and then go back out and do the best that I can do for whatever client I come into contact (Interviewee D).

One student explained how the value of CAST made the emotional toll worth it.

Definitely take it [CAST]. It is definitely worth the time spending in the class, and it's definitely worth the emotional toll, I guess, that it might have on you. But I would rather people be more aware of what's going on and what they should be looking for....Like you may think it's going to be really difficult. Well, it's more difficult for the people are actually living it (Interviewee B).

Classroom discussion taught them about others' perspectives

We asked interviewees about the impact of CAST class discussion on them. Uniformly they reported that class discussion offered them the opportunity to learn varied perspectives from their peers.

It [class discussion] really just allows you to hear other people's perspectives of how they might think of a situation. So it can really open your mind to things you may not be aware of or thought of. So, I think it is really helpful for the class to have the discussions...it just allows you get a different perspective or a different thought process from different people. Everyone thinks differently in different situations (Interviewee B).

It [class discussion] was so much an impact on me but it made me think about working with people...because everyone doesn't have your mindset. So when I would work with people in groups to discuss things, it would help broaden my mindset....It gave me help to work with other people's mindset, so it had a good impact on me (Interviewee C).

It [simulation] allowed me to see what other...like what my colleagues would do. And it allowed me to improve what would I do. It also showed me that not everybody has the same background that everybody grew up the same. So hearing other people's perspective on child welfare or child abuse, child neglect it really impacted the way I will do my future profession (Interviewee D).

I got to learn about everyone's thoughts, not just mine or the teacher's. But, we all... share that ideas with each other, how we felt about it....We talked about, you know, different types of multi-disciplinary teams and how working with children is important building rapport with them, earn their trust (Interviewee E).

CAST course reading helped them understand the experience of child victimization

We asked interviewees about the impact of their reading for the CAST course. They discussed books they had read for the course that had provided first-hand accounts or case studies of child victimization. The reading provided a virtual look inside the experience of child victimization. Interviewees were emotionally engaged as well as informed. One student took the initiative to contact the author of the book she read.

*I would say the reading is very heavy, but it is also enlightening. I read **They Cage the Animals at Night** and it's crazy to think that stuff like that actually happens and it's easy to ignore it when it's not happening right there in front of your face....I am glad I had the*

opportunity to read those books. Otherwise I wouldn't have if I had not taken those courses (Interviewee B).

***Spilled Milk** is one of the ones I read....When I read it...it was a lot. I would recommend to anyone to give you a different mindset. You might say "why don't the kids tell?" But from that book you know that sometimes kids don't know any different....In **Spilled Milk** I saw that I kind of grew up good and not everyone has it that good. It broadened my areas (Interviewee C).*

*One of the books [**A Child Called It**], we had to read for the maltreatment class almost every page I read I would cry. The reality of the situation and how real they are and how this stuff happens every day. They really adjusted my mindset. We don't live in a fairytale world we think because we don't see this stuff every day, maybe. You don't think it happens when you forget it happens (Interviewee F).*

*I read **Three Little Words**....It is written...I think her last name is Ashley. She grew up in the foster care system. And, I actually got in touch with her after I read the book (Interviewee A).*

Students appreciated the realism of simulations and other experiential learning and found them a valuable learning experience

We asked students about the impact of simulations in their CAST courses, and they discussed both simulations and other experiential learning. Interviewees appreciated the realism of simulations and felt they benefited from the experience. Two students said felt they learned more from simulations than from more traditional components of the course.

We went to the mock house the professor setup....It wasn't something that we just had to like imagine what it would look like. We could actually walk into it and see the mess, and see all the abuse that had gone on...it was real (Interviewee A).

The simulations were very beneficial. It allowed us to use what they taught us in class and work through it with the simulation. At [the University] they have a house that we are allowed to walk through....It allows us to picture and walk through things we have learned and look at it. I would say it was very helpful. I really liked it. And, I think the hands-on simulation...like that more so than just sitting in classroom, it's easier to learn that way. (Interviewee B).

For the first simulation...they had other teachers from the department act out the simulation and we were supposed to observe it that way. I definitely think it has a larger impact whenever you're watching it than just reading it...you were allowed to like observe a personality, maybe, that would read across more than if you're just reading about it in a story. And I think that has a bigger impact because you're looking for more clues whenever you're watching this simulation than just reading through it. And you

can pick up things through a visual stimulation that you can't pick up in like a document or a story (Interviewee B).

We went to a mock house. It is different when you are in a classroom reading about it...when you actually go into a house...and you realized you could have missed anything....If you didn't lift up the blanket you could miss the drugs under there. So it made me be more aware. The house was a great add-on (Interviewee C).

With scenarios and just like active play with my colleague, it really helped me to like put myself in the shoes of that child....She [the instructor] also gave us many cases of different children, and so we were able to go into what the house looks like or certain things that you would write down or know as a social worker and how you would go about that when [you] got back to your agency. So I think like real life and like imaginary play and just like active play and like given us materials really helped rather than just going up and teaching a PowerPoint (Interviewee D).

When the COVID pandemic broke out...we set up a virtual simulation. So basically we met with our colleagues, and then we were met with three other past social work professors who worked at our school at one session. I think it was like a seven-hour session...we got to click on like the living room, we got to click on the kitchen. And they gave us a case. And then like we broke out into breakout groups, and then we like stated what we saw, we stated what we would do next as like each group...it was a great learning experience. (Interviewee D).

Yes, we did [role play]. That was great. And then we do them in front of class...we had a little bit of lecture, but it was more role play. We went over the content real quick, we learned it, and then we put it into action...then going back and watching the videos and what we could have done better [in the role play], what we could have fixed...critiquing ourselves and each other...you have to be very careful to not lead their children, you know, to let them answer the questions and those type of things. So that was very just the reality of that as well (Interviewee F).

CAST students learned about Children's Advocacy Centers

Children's Advocacy Centers (CACs) provide a comprehensive response to child abuse. Multidisciplinary teams in CACs provide coordinated investigations and the CAC facilitates a range of supports and services for children and families affected by child abuse. In addition to being a co-founder of the CAST initiative, Children's Advocacy Centers of Mississippi™ supports the work of 12 CACs across the state. Learning about CACs is an important part of the CAST curriculum. Several CAST programs partner with CACs, and CAST students often make field trips to CACs and some have internships or other field experiences at CACs. We asked interviews if they had visited a CAC and what impact it had on them.

One of the girls came to us and told us about what a CAC was. We never heard of it before....Then we went there and they gave us the tour of the CAC. They took us into an interview room. And we got to see the dolls and the anatomical drawings. We got to meet some of the advocates. What really amazed me is that it was like super child friendly. So it made me feel better about, you know, kids coming in there and being able to talk to these strangers about what happened to them. I really liked it. It was really cool (Interviewee A).

I have had contact [with CAC] through [a family member]. And volunteering through other forms and I also volunteered with the district attorney's office in [city]. They work really closely with one down there. And so I had contact with it through that (Interviewee B).

That was a big aspect too...we walked in and they told us "this is where the kids play, read books" and how they make the kids feel comfortable. They took us where they observe the kids and where the guardian ad litem talks to the kids and showed us everything....We got to be the kids in a way to see what they do when they come in (Interviewee C).

CAST taught interviewees about child protection, particularly by raising their awareness of the risks to children that they were unaware of given the interviewees' background

We asked students what impact CAST had on their understanding of child protection. Students mentioned learning about several specific aspects of child protection: the prevalence and indicators of child victimization, the responsibilities and resources of child serving professionals to respond to suspicions of child maltreatment, different options for protecting children in risky situations, and how the effects of trauma can explain people's capacity to cope with victimization.

My first class for the CAST program was probably most impactful....It brought me to reality too, that the stuff really happens and we here, we need to make an impact and we needed to have knowledge and education to be aware of it. I've thought about being a school counselor, school social worker....Having that knowledge in the back of my head about how these things happen and the signs and symptoms of child maltreatment and how to intervene professionally and ethically. So just the discussions really helped, really make it concrete and bring it into reality (Interviewee F).

When you take the course, you're definitely more knowledgeable and aware of what actually needs to be done...it's not just up to doctors your teachers or counselors to report anything. But anyone can report anything....I was just like "I will let someone else will take care of it"... so now I know more. So what to even look for and what to do if I suspect anything which before I wouldn't really know if I had not taken the class (Interviewee B).

It enhanced my knowledge, because at first, I really didn't understand all the parts of child protection services and being part of the CAST program. He explained everything: all the resources, the hotline numbers to call, how to report, the mandate reporter, who all are mandated reporters (Interviewee E).

I always go back to the 12 core concepts [regarding trauma]. It gave me more of an understanding of all the different elements within it. Because, like for me, it's really easy to say, "Why didn't that child say something happened to him?" or "Why can't that parent just get their life together and take care of their kids?" Like the 12 core concepts goes into like the struggles that maybe that parent is facing or like the brain development that's going on with the child....It gave me a whole lot of different perspectives to look into rather than my initial thought (Interviewee A).

Seeing how other people think and working together. Because the way you think may not always be right. Sometimes you meet someone who says "that won't work in this household. So let's do it this way." So I think one thing that helped me with the CAST program is show different ways to protect kids in the situation. (Interviewee C).

It [CAST] just increased...how we need to keep your children safe and the steps we need to do to keep children safe. Because I've always said to myself, like there's clean slate like whatever happens to them or whatever they come into contact with...but it's going to impact them forever and so, if we can step in there and help them create a slate that helps them grow I am all out for that. And so I think it increased my knowledge even more (Interviewee D).

CAST increased their motivation to work with children and families

Once they enrolled in CAST, several interviewees found that it increased their motivation for working with children.

It [CAST] definitely grew my interests and actually wanting to be more hands on with kids, specifically ones who have experienced trauma (Interviewee A).

I think it [CAST] really just made me more sure that I did want to do something with it....Because...I mean I've grown up doing stuff with it...it's always been something that I was passionate about and I just didn't really realize until I got older, how important it was to me....It definitely like clarified to me that I do want to do something with it (Interviewee B).

It [CAST] made me like if...well actually just helped me increase my reason why I want to work with children and work with families, and being a part of a multidisciplinary team, working with different professionals....It just made me realize why I want to do this and help me learn information that can use in the future (Interviewee E).

CAST has had an impact on their career goals

All the interviewees also reported that CAST had influenced their career goals. For some, it influenced their initial career choice or changed what career they chose; others were influenced to choose a specialty related to CAST within their career. For some, CAST strengthened the commitment to a child-serving career that they already had.

When I first started in a social work program I really didn't understand what field I wanted to be in....When I took the child safety advocacy class, I just knew then that I want to work with families and children...Just learning about the history of child labor laws, you know, child neglect and reading cases and studying cases...they just made me realize, you know they need someone to advocate for them because they can't do it themselves (Interviewee E).

Before the CAST program I was legal studies. I wanna be a lawyer, I wanna be a lawyer. Now I wanna be in social work, I wanna be a guardian ad litem (Interviewee C).

[CAST] just brought [my career goals] in even more that I do want to work with children. Because going into like my junior year or even sophomore year...I wasn't so sure if that's what I really wanted to do. But it [CAST] has brought me to know that that's where I need to be and I've always wanted to do (Interviewee D).

I believe [CAST] has [had an impact on my career goals]. It has made me more aware of the positive impact we can make with kids and how they really need our help. In general, because they're little people and they don't have people, maybe can't really advocate for themselves as much as adults can (Interviewee F).

One student explained how CAST helped her realize what she did *not* want to do:

We went to the mock house the professor setup....We looked through the house to see what we could find. That was my favorite, because it made me realize I really don't want to go into people's houses....When I went to the [mock] house and saw like all the fake drugs and all the fake like stuff everywhere. Um, they were some... like the storyline was based around child pornography and just seeing some of the stuff that went on with that story in the house...I knew that going into houses and knowing how dangerous like it could be and how dangerous these people are this is not something that I wanted to do (Interviewee A).

CAST has impacted their work life

We asked interviewees how CAST had impacted their life. Several interviewees talked about how CAST had helped them in their current job in a child-serving organization or on a previous internship or summer job.

I didn't go into work very like shocked about the cases that I heard because we did, case activities with different types of abuse....For the most part, I didn't go away completely blindsided by hearing about these different types of abuse (Interviewee A).

Since I work with families...CAST ...gave me a lot of different perspectives to look at—like does this parent have a job, do they have mental health issues—different stuff like that. So it's allowed me to sit down and like think about all the perspectives that one family is bringing in, so that I can know how to best meet their needs (Interviewee A).

Well you know how you have like a student...not a good student and they misbehave. And I learned through Child Welfare that a child will sometimes act out for attention, or they don't receive no type of love and affection at home and they act out...So when I had started the program I had a child who was like that. Always acting out, misbehave. I had to just realize, you know, maybe he has problems at home or he doesn't receive attention at home (Interviewee E).

It [CAST] prepared me to [my internship]. I always look at children's bodies and a sense of you know their arms and legs and see if there's bruises or there's certain markings. I'm always do that now just because I saw so much of that in that class. Just to be aware of like children I'm working with I'm at that Center just to be aware of if they say certain things...to tell my supervisor—that really never happened, but I was always prepared for that, because of this class (Interviewee F).

Two interviewees talked about a CAST minor or certificate could help them in job applications.

I have a minor [in CAST] it looks good but also it will help in future jobs. And, probably looks better going into grad school with it. Yeah it just shows that I have that education that extra specialty I guess you'd say. I know for sure, probably will help me in the future when I'm looking for jobs (Interviewee F).

My friend is in social work, and she said "You got that CAST certificate. You could most definitely be a social worker." So I applied [for a position at Department of Child Protection] (Interviewee C).

CAST has made them a better person

We asked interviewees what impact CAST had on them as a person. Uniformly they said it had made them a better person. They talked about being more open, more open-minded, more compassionate, more aware of themselves and/or others, or more alert to the hurt that children are at risk of.

Before CAST, I just had my initial thought about a case with what I saw, I didn't think about other perspectives of it. It made me be more open-minded as to what is going on in families—it's not so clean-cut. It grew me...it grew me in my personal life (Interviewee A).

I would say I'm normally very closed off person, but I definitely think that it's [CAST] allowed me to like open up and be more vocal. Because of the discussions that we've had, like, you're allowed to share your opinions and what you think. And I definitely think that it's helped me in that aspect...I would say it's made me a better person, but I would hope that would be the case for everybody. Because I'm more aware, more

knowledgeable now...I really have no excuse but to do something, if I say anything, rather than just ignoring it (Interviewee B).

Just the other day in Wal-Mart...I see a child walking by himself in the parking lot and I was like "come here, baby. We have to walk you back in here." I think of things differently when it comes to kids now. It makes me aware more. We gotta save the babies (Interviewee C).

It [CAST] really helped me to see maybe I need to debrief some stuff in my life and just look at the bigger picture as to why I'm in this position, and what and my life has placed me in a position to say, "I want to help other kids" (Interviewee D).

For me it [CAST] really impacted me as a whole (Interviewee F).

Becoming more real with the situations...just being more compassionate [in] situations. Just being more aware of my surroundings...this stuff happens every day. Just being more well-rounded in that sense (Interviewee F).

Students dealt with personal trauma

When we asked what impact CAST had on them, two students talked about how it had helped them deal with personal trauma. One student talked about how CAST gave her a greater and more compassionate understanding of her parent. Previously she had thought the parent had made bad decisions that were hurtful because she was selfish, but now the interviewee felt that these decisions were an understandable reaction to the difficulties the family had. Another student said that a simulation in a CAST class made her realize she needed to "debrief" her own personal experience of maltreatment. We are omitting quotations here because of the sensitive personal nature of the content.

The interviewees had different ideas about improving CAST

We asked interviewees what ideas they had for improving CAST. They had a variety of ideas, including more CAST classes and related simulations, more dissemination of information about CAST, and involvement of a wider range of CAST students.

There wasn't many options of like different classes. If there were more classes. I definitely would have taken more....If I was to go back and there were more classes like I would want to go and add CAST courses on to whatever I got my masters in (Interviewee A).

I wouldn't have known that [the University] offered the courses, had it not been for my mom informing me. So I think one thing that would be better is if more people were aware of the program. Because I know [a family member] even told me that Mississippi College supports the CAC....Just allowing more people to be aware of what they can take would be beneficial (Interviewee B).

I feel like it [CAST] should be implemented throughout more than just social work or you know even psychology. Just learning about if something happens to a child in this way, how would they react, or like what are the you know impacts of that. Like it should be...it should be spread out worldwide (Interviewee D).

Adding a simulation (Interviewee E).

Maybe one or two more or maybe another [CAST class]. Like a level two maybe of the maltreatment advocacy class. Just like a more in depth....It was a lot of information, just for one class...But I think the crisis intervention class was best to have at the end. Because that's when he really put it into action....But I feel like maybe a level two of that class [maltreatment advocacy class] in the middle would be good (Interviewee F).

It made me more aware of how it's [CAST] necessary and everybody, I believe, should be educated [in]...maltreatment and the protection of children. And I believe it'd be a good class for all of the teachers to take... like educational. Just because they're with the children every day...just so they know what it really looks like (Interviewee F).

Advice to other students: Invest in CAST

We asked interviewees if they had advice for other students considering CAST. They advised students to invest in the CAST course and be active in it because of what it promised for enhancing their life, and because of the importance of the children who will benefit from having informed and committed people in their lives. Two interviewees specifically mentioned going into CAST with an open mind, and provided advice on coping with the emotional demands. They endorsed CAST as a positive experience for other students.

I will tell them do not hesitate. Like, take the course do it. Be active in it. Don't sit in the back of the class and pass on through it. Definitely get hands on. Because it can change your life. It can completely change what you want to do in your career (Interviewee A).

Go all the way. Take everything. Listen to everything. Stay focused. Remember what you are doing it for. It's all about the kids. If it gets too hard for you, just take a break and breathe. But go back and remember it is for that child (Interviewee C).

I would say to go in with an open mind, like don't expect to it to be just straightforward. Don't expect it to be just a lecture-listen class. Like to actually be ready and put yourself forward to be open to learn. And that some stuff that is explained in CAST may not have ever happened to you. And just know that everybody has different experiences and those experiences make us who we are, but just go in with an open mind and be ready to learn (Interviewee D).

Take in a lot of information. Take good notes. You know...Reach out to your instructors. Pay attention to, you know, the lectures that they give you. Read the information. And if you can volunteer at a child safety Center or a child welfare center to get more knowledge and understanding (Interviewee E).

To really pay attention in class. To really soak up information. If you have any questions, ask. Just go in there with an open mind and just soak up as much information as you can. To open your mind and be like this really happens, just to be aware of that. And just think about how we can help (Interviewee F).

So I just would recommend it [CAST] to anybody...Yeah, for any. I mean it even doesn't matter what you plan to do in your professional life. I think it can benefit everybody (Interviewee C).

It was a great program. I feel like it should be [for] any major who is going to do with children. So whether that'd be social work, education, even like science. So if like if you're wanting to go into like PE, or something like that, where you're going to have to face the child (Interviewee D).

If you want to be working with children, or you want to help children, this is, I believe everybody should take this [CAST] (Interviewee F).

Discussion

We interviewed six students who had recently graduated from CAST programs or were seniors with CAST course experience who were about the graduate. All had prior interest in working with children and found that CAST increased their motivation to work with children. They reported a positive impact of each element of the CAST program we asked them about. They credited their instructors with helping them learn, citing their commitment to children and families and other positive qualities. They experienced emotional demands from CAST but appreciated instructors' giving them space to deal with the emotional demands. Through classroom discussion, they learned that others can have very different perspectives about child victimization. From the reading for CAST courses, they remembered first-hand accounts or in-depth case studies that helped them understand the experience of child victimization. They appreciate the realism of simulations and sometimes felt that they learned more from them than from more traditional components of the course. Many had a positive experience with a Children's Advocacy Center that could lead to an internship or other practice experience. Students felt that CAST had taught them about child protection, several mentioned that it had increased their awareness of risks to children that the interviewees had not encountered in their own background.

Several reported that CAST had an impact on their career goals, either influencing their initial career choice or shaping what specialty they pursued within their career. One noted that CAST also helped steer away from child protection work that was not a good fit for her. Students working in child-serving careers reported that CAST helped prepare them for their encounters with clients. Two mentioned a CAST credential as an asset in their job search. Interviewees also told us that CAST had helped them be a better person, more open, more open-minded, more compassionate, more aware of themselves and/or others, or more alert to the hurt that children are at risk of.

Across multiple different questions about CAST, interviewees emphasized the way that CAST changed their awareness of child victimization and the emotional changes they experienced

through their CAST course. CAST students answering open-ended items from the CAST Outcome Survey reported similar experiences (see Chapter 4). Perhaps the most important impact of CAST may be to make students aware of what normally stays hidden and denied: abuse, exploitation and neglect by adults of those children who they are supposed to cherish, nurture and protect. Given how much this violates our understanding of the relationship between adults and child and how hidden in daily life, this represents a culture change that requires students to change their world view. It is distressing to become aware of such a widespread violation of cherished norms, and students repeatedly mentioned the emotional challenges of CAST and their instructors' efforts to help them through it. For some students, part of the emotional challenge was coming to terms with their own experiences of maltreatment and trauma.

Noticeably, students talked little about specific child protection knowledge and skills they had developed through CAST. Given how powerful are the emerging awareness of child victimization and the emotional effects of vicariously encountering child victimization, developing detailed knowledge based on research and practice experience may be secondary.

Our interviewing of CAST graduates and seniors was a pilot study with limitations that need to be considered in interpreting the results. Time and resources constraints limited the number of interviews we could conduct and how rigorous a sampling and recruitment plan we could implement. We asked instructors to help us find CAST students to interview, and this may have introduced a selection bias, because students recruited were likely to have had a positive experience of CAST and be viewed positively by their instructors. Interviews were relatively brief and did not explore the CAST experience over time in depth. For these reasons, we must be cautious in generalizing from these results or considering them representative of CAST students in general.

Nevertheless, the results teach us what students *can* experience with CAST, although we are limited in determining how typical these students' accounts are. Clearly, according to our interviewees, CAST can engage students, expand their awareness of child victimization, challenge them emotionally while steering them toward a valuable experience despite the emotional rigors, and help them develop their capacity to serve children and the positive personal qualities that they bring to relationships. These are indispensable effects when we think about improving our child-serving workforce.

Our experience with this pilot suggests that future research could broaden our understanding of CAST by interviewing a wider range of CAST students and exploring their experience of CAST in greater depth. Future interviews could explore the development of students' CAST experience over time. It could assess more specifically what students feel they have learned and not learned, and how they plan to expand their knowledge and skills in the future. We recommend that new studies interview students of varying ages, in different program, with different levels of commitment and involvement in CAST. We need to understand a wide range of CAST experiences, from the encounter of a student not planning a child-serving career who takes one CAST course, to the experiences of CAST certificate and minor students planning a career in child protection.

Chapter 13: Conclusion

As we have seen in previous chapters, we have numerous findings from data drawn from a range of different sources, including faculty interviews, CAST graduate interviews, surveys of CAST students at the beginning and end of a CAST course, and surveys from non-CAST students at the beginning and end of a comparison course. Below we summarize a number of important learnings from the evaluation:

- CAST is firmly established and highly valued in a range of different colleges and universities in Mississippi.
- CAST implementation has been expanding and enrollment increasing.
- Multiple university departments are involved in implementing CAST.
- Partnerships between CAST programs and community agencies have been established.
- Most CAST students rated their CAST courses highly on multiple dimensions.
- In response to open-ended questions, many CAST students:
 - Provided testimonies about how CAST enhanced their knowledge about child maltreatment and helped with career choice and preparation.
 - Reported the benefit of hands-on experience through simulations.
 - Recommended emotional preparation when asked what advice about the course and program they would offer.
- Both at the beginning and end of their CAST course, around three-quarters of CAST students reported being interested or very interested in working with children and families affected by child maltreatment.
- CAST students scored higher than non-CAST students on a range of outcomes measuring knowledge and judgment in responding to child maltreatment.
- CAST students had an advantage over non-CAST in knowledge and judgment even at the beginning of the CAST course during which we surveyed them.
- Students who are pursuing CAST certificates and minors had substantially better knowledge and judgment than other CAST students.
- CAST students in four-year schools had substantially better knowledge and judgment about child maltreatment than CAST students in two-year schools, and somewhat better knowledge and judgment than CAST students in graduate school, though CAST students in all three types of schools had knowledge and judgment about child maltreatment that were superior to comparable non-CAST students.
- CAST students had a moderate to large increase on average from the beginning to the end of a CAST course in their self-rating of their skills in responding to child maltreatment.
- CAST certificate and minor students had a large increase on average from the beginning to the end of a CAST course in their self-rating of their skills in responding to child maltreatment, and also improved significantly in response to two vignettes asking them to make judgments about the likelihood of child maltreatment.
- On the other hand, the entire sample of CAST students had little or no change on most other outcome measures from the beginning to the end of the semester in this study, and a few changes were in the undesired direction.

- There is room for improvement in CAST students' knowledge, as only minorities of CAST students provided a correct answer on knowledge questions on such important topics as mandated reporting and commercial child sexual exploitation.
- Six CAST students who we tracked across semesters had large and statistically significant improvements on average in their self-appraisal of their skills and their judgment in response to a vignette about possible child sexual abuse.
- CAST students participating in simulations through Project FORECAST reported that their knowledge of core trauma concepts increased markedly, and their self-appraisal of their trauma-informed skills increased substantially.
- In a pilot interview study of six CAST students who had recently graduated or were nearing graduation we found that:
 - They reported a positive impact of each element of the CAST program we asked them about;
 - Several reported that CAST had an impact on their career goals and preparation;
 - Several credited CAST with helping them be a better person.

The Development of Mississippi's CAST initiative

The evidence from this evaluation suggests that CAST is a program that is enduring and valued by university administrations, faculty and students in a range of different colleges and universities in Mississippi. A number of CAST schools report enthusiastic support and even leadership on CAST from their school's administration, and other faculty are generally described as supportive of CAST. In several schools, CAST enrollment has increased dramatically following initial implementation. CAST faculty are enthusiastic about their CAST classes and its positive impact on students. Many CAST programs are providing highly valued experiential learning through simulations of client encounters related to child maltreatment. Multiple departments within a school are teaching CAST courses and/or sending their students to enroll, and students with at least 17 different majors are taking CAST courses. A number of CAST programs have developed community partnerships that offer student practice experience in child-serving agencies and some are providing instruction and/or experiential learning for child-service professionals in their community.

CAST Students' Appraisal of their CAST Course and the CAST Program

The vast majority of CAST students reported a positive experience with their CAST course and the CAST program. On nine questions on which CAST students rated their course on five-point positive scales, the average score was consistently over four. The students' appraisals may actually be more positive because some students apparently misunderstood the rating scale and recorded unfavorable scores that they did not appear to intend. On two questions on five-point positive scales about the CAST program, the average score approached five, representing a very good experience overall with the CAST program and a high likelihood of recommending the CAST program to other students. Most students felt that a strength of CAST was the learning on child maltreatment it provided. Other strengths mentioned included the teaching of specific concepts related to child maltreatment, specific instructional methods, and the simulations provided. When asked for their advice for students considering a CAST course, a

majority endorsed CAST and advised that students should take the course. A number of respondents suggested that future students prepare for experiencing emotional discomfort in class because of the disturbing nature of child maltreatment, but advised that the value of the course made it worth it to tolerate the discomfort.

Results on CAST Outcomes

CAST students had a significant advantage over comparison students on a set of 10 CAST outcomes. Contrasted with comparable students in schools that lacked CAST, CAST students rated their skill in responding to child maltreatment more highly, had greater child protection knowledge, and demonstrated better judgment in recognizing child maltreatment in response to several vignettes about child abuse and neglect. In addition, in response to a vignette depicting a child sexual abuse investigation, CAST students were more able than comparison students to identify what evidence to seek and what professional disciplines were likely to be involved.

These results corroborate and significantly extend previous research such as Knox, Pelletier and Vieth (2014), Pelletier and Knox (2017), and Parker et al. (2019) showing positive results for CAST. The results were obtained from a CAST sample that was more diverse in its CAST experience than in previous CAST studies. Our CAST students included both two-year and four-year school students and graduate students. It included CAST certificate and minor students and CAST students who had only taken one CAST class and perhaps would not take another. Some had taken several CAST courses and some were taking their first. Thus, this is a more general CAST sample than in Knox et al. (2014) and Pelletier and Knox (2017) which focused on medical students, and Parker et al., (2019), which included college seniors in and recent graduates of a CAST program. The positive results may provide the best evidence to date of the knowledge and skills of a broad array of CAST students. The CAST advantage was maintained when comparisons were made within community colleges and within four-year schools; thus the CAST advantage appears to apply regardless of the type of school.

The CAST Outcome Survey was designed to capture a wide array of concepts, factual knowledge, and skills application represented in the CAST curriculum developed by the Zero Abuse Project (formerly the National Child Protection Training Center), the founding organization promoting CAST throughout the country. It included measures used in previous CAST studies and in studies of mandated reporter training (relevant because education on mandated reporting is an important component of CAST). It also included the Child Protection Knowledge Scale, which was developed in reference to the CAST curriculum. The superior scores of a wide range of CAST students compared to non-CAST is evidence that CAST students have an advantage over other students in having the knowledge and judgment relevant for serving victims of child maltreatment and their family.

An analysis of the pre-scores indicated that CAST students knew more about child maltreatment and demonstrated better judgment about it than non-CAST students even before they had taken their CAST course during which they were surveyed. We see several possible reasons why CAST students may score better even before they completed the CAST course. First, taking previous CAST courses may have contributed to CAST students' greater knowledge

and skills than comparison students even before they had taken their CAST course during which they were surveyed. However, this is unlikely to be a major explanation for the pre-score difference, since many CAST students we surveyed were taking their first CAST course. Only the introductory CAST course is available to two-year CAST students, but they still had better scores than non-CAST students at the beginning of that course. Another possible explanation for the early difference between CAST and non-CAST is student learning in the very beginning of their spring CAST course. Our pre-test occurred early in the semester but not before students stepped into the classroom, so they may have gained important knowledge even in the first week of class, before they completed the pretest. Another possible explanation is that students taking CAST classes may have already gained critical knowledge about child maltreatment on their own. They may have learned a great deal from their personal experience; work experience; reading; documentaries; conversations with peers, teachers, and professionals; and other sources. Part of the CAST effect may be to attract students who already understand child maltreatment better than their peers. This suggests an important impact of developing CAST programs—they provide an opportunity to bring together and foster young people who have a commitment and interest in the well-being of children and deserve support and mentoring as they prepare for child-serving careers.

Change on CAST Outcomes

We had a repeated measures sample of 101 CAST students who completed both the pre-survey and the post-survey in the same semester, and also independent samples of both CAST and non-CAST students who completed either a pre-survey or post-survey in the same semester but not both. In both, CAST students rated their skills more highly at the end of the semester compared to the beginning, indicating an improvement in their perception of their skills during the CAST course. This is not likely to represent a practice effect (i.e., an effect representing a gain simply from completing a measure a second time), since the effect sizes for the comparison CAST students' pre- and post-ratings were much larger than the effect size for the non-CAST students. This is an important outcome, because these questions encompass a wide range of skills that the CAST curriculum seeks to help students develop. CAST students' appraisal of their skills for understanding and working with child victims and their families is an important prerequisite for CAST preparing them for work in the field. The limitation of this measure is that we cannot be sure of its objectivity because it is a self-report measure. Nevertheless, CAST students themselves may be the best judge of their skill level at the time of the study. This may especially so for those skills that are difficult for a survey to measure in other ways, such as students' skills in responding to survivors of child maltreatment and working with non-offending caregivers—both of which are assessed by the self-report measure.

The CAST sample as a whole did not demonstrate improvement on most outcome measures over the course of a semester CAST course. Indeed, there were four statistically significant changes in the undesired direction and one in the desired direction, though most of the changes were small. This needs to be put in context: despite the lack of change and mostly small changes in the undesired direction, the CAST scores were consistently better than the non-CAST scores, on both the pre-survey and post-survey.

Six CAST students participated in the study in two or three semesters and we tracked their change over time. Because of the small sample, this must be considered a pilot analysis. Another caveat is that the changes we tracked were not independent of changes measured in the repeated measures ANOVA.

Across three or four surveys, the six CAST students we studied across semesters in Chapter 10 had large increases on average in their self-rating of skills and in their judgment in response to a vignette indicating possible child sexual abuse. There were changes in the positive direction on other outcomes that had reasonably large effect sizes, but were not statistically significant because of the small sample size. Because of the small sample size, we need to be tentative about drawing conclusion from this sub-study. Nevertheless, it suggests that more studies measuring change over the course of a CAST program could yield valuable results.

CAST certificate/minor students demonstrated the most improvement from the beginning to the end of their CAST course. They had the largest increase (in terms of effect size) in their self-rating of skills, and they improved significantly on two vignettes in which they needed to make judgments about the likelihood of child maltreatment. Their improvement on these vignettes echoes Pelletier and Knox's (2017) findings that medical students taking a CAST course improved in their ability to recognize child maltreatment. This was one of several examples of especially positive results for CAST certificate/minor students.

As we explain in Chapter 9, there are several possible explanations for the lack of improvement during a semester. The CAST Outcome Survey encompassed a wide range of topics in the entire CAST curriculum, and was sensitive to differences between groups, but may not have been a sensitive measure of what students learned in a one semester course, particularly if it was their first CAST course. It may be that the first CAST course functions primarily to raise consciousness about the prevalence and effects of child maltreatment and to help students deal with the emotional demands of coming to grips with child victimization, and has limits in the factual knowledge it imparts.

We used an omnibus measure that attempted to measure a wide range of knowledge and skills related to CAST. But any individual CAST class will instruct students on only a "slice" of the total array of knowledge and skills that the CAST initiative hopes to impart to students. This could have limited the effect size for the pre-and post-comparison. Moreover, the outcome measure purposely includes several difficult questions, to make it sensitive to differences between CAST and non-CAST students and to differences between less advanced and more advanced CAST students. The inclusion of difficult questions may have made it more difficult for CAST students to demonstrate progress.

The effect of the COVID-19 pandemic also needs to be considered when assessing CAST students' change over the course of a semester. The COVID-19 crisis hit the nation beginning in March 2020, and all of the pre-survey data and most of the post-survey data were collected during semesters in which COVID impaired instruction. Pre-post comparisons conducted during this crisis, which disrupted, frightened and confused students, faculty and the entire nation, are not necessarily representative of the impact of CAST courses in any normal semester.

Outcomes for CAST Certificate and Minor Students

We compared students who were pursuing a CAST certificate or minor with CAST students not enrolled in such a program. CAST students in these programs had significantly greater child protection knowledge than other CAST students, were better able than other CAST students to identify the organizations likely to be involved in a child sexual abuse investigation, and made better judgments than other CAST students in response to a vignette in which they needed to recognize that family poverty should not be judged as child neglect. They also showed the most improvement from the beginning to end of the CAST course in which they were surveyed.

Better outcomes for certificate and minor students could reflect an impact of greater involvement in the CAST program. Conversely, those students who are more capable, invested, and experienced in learning about child maltreatment may be the students who choose to pursue a certificate or minor. We need to be careful in interpreting these comparisons, however, because some schools offered the certificate or minor option, and some did not. Any differences we might attribute to the effect of being in a certificate or minor program could instead reflect differences in the schools or student bodies.

CAST certificate/minor students' development of skills is an important achievement that highlights the value of CAST, since these presumably are the students most committed to CAST and most likely to help fulfill the CAST vision of improving the workforce serving child victims and their families. However, only a minority of students in CAST courses are certificate or minor students: in the analyses in Chapter, they were less than half of CAST students in four-year schools. Moreover, CAST students in two-year schools and graduate schools cannot be CAST certificate/minor students (though CAST students in two-year schools have the opportunity to carry over their CAST credits if they transfer into a four-year school with a certificate or minor program). We recommend that CAST leaders devote more thought to goals for the majority of CAST students who do *not* pursue a certificate and minor, and what outcomes should be expected for this group.

Opportunities for Improvement

While the results from the program evaluation provide considerable evidence for the value of the CAST initiative, they also suggest opportunities for improvement. CAST students had significantly higher scores on the Child Protection Knowledge Scale than non-CAST students, but fairly substantial percentages of CAST students nevertheless chose incorrect answers on many questions. Children's Advocacy Centers of Mississippi™ and CAST schools may benefit from reviewing specific results from the CAST Outcome Survey, and assessing what steps each result suggests should be taken to enhance CAST students' education. Because some of the errors CAST students made are very specific and circumscribed, they might be addressed relatively easily. Consider two multiple choice questions on mandated reporting. One asks students to identify who is a mandated reporter in Mississippi (the state is a universal mandated reporting state so any person having reasonable cause to suspect child maltreatment is a mandated reporter); 25.0% of CAST students answered this incorrectly. The other question asks students whether child maltreatment reports in Mississippi are confidential (they are); 42.4% of CAST

students answered this incorrectly. It may be possible to improve scores like these with targeted communication of important information.

We recommend more inquiry and discussion regarding the goal of developing child protection knowledge. This is an important goal of the CAST movement nationally that could have an impact on child protection practice, but there are several challenges to achieving it. The CAST movement is decentralized, and the primary engine of its development is the initiative of individual schools. Some suggested curricula and materials are available but cannot be mandatory given each school's autonomy. Textbooks are available, but no textbook exactly matches the content outlined for CAST. Moreover, the expense of textbooks is an obstacle. Unlike other professional groups, CAST has no standard examination connected to licensing or graduate school admission. CAST leaders in Mississippi and nationally may want to consider what knowledge gaps exist that need to be addressed, and what steps if any should be taken to address these gaps. Actions to bolster knowledge among CAST students might include the development of email alerts to faculty on specific topics, specific lesson plans or online materials for instructors to use with students, interactive training programs on specific topics such as mandated reporting or commercial child sexual exploitation, or YouTube videos providing instruction on different topics.

The Emotional Effect of CAST Courses

CAST courses inform students about family violence, victimization and trauma. CAST exposes students to disturbing elements of human experience that many non-CAST students are shielded from. Some students may have personal trauma that their CAST experience re-awakens. In their open-ended comments and in the CAST graduate interviews, many CAST students mentioned the emotional challenges of CAST. Interestingly, no student advised avoiding the course because of its emotional demands. Instead, they talked about the emotional challenges as an aspect of the course to be prepared for and experience. Encountering and dealing with the emotional demands with the help of the instructor was part of the value of the CAST course. Many students made sure to mention the rewards of the course in the same response. Several of the CAST instructors who were interviewed similarly mentioned the emotional impact of CAST and the need to be prepared for the possibility that CAST may have a triggering effect. CAST instructors mentioned multiple students who had disclosed their own history of victimization in the course of taking the CAST class. Like students, instructors felt that there could be a positive outcome of the emotional challenges of CAST. Indeed, they pointed to instances in which disclosures of personal trauma led to CAST students receiving help that they needed. Further research could examine in more detail how CAST instructors prepare for the emotional impact of their courses on students and could systematically study faculty and students' responses to emotional distress and disclosure.

Simulations and CAST Students Understanding and Skills Related to Trauma

Results from the FORECAST evaluation suggest that Mississippi students in CAST classes with FORECAST simulations made several gains over the course of the semester in their understanding and skills related to trauma. They reported that their knowledge of core trauma concepts increased markedly, and their self-appraisal of their trauma-informed skills increased

substantially. Their approval of trauma-informed care was already fairly substantial at the pre-assessment, and increased modestly from pre- to post-assessment. These results suggest that CAST may have a positive effect in producing graduates who are trauma-informed as they enter the work force. The FORECAST results have some limitations in that there was no comparison group and the assessment relied entirely on self-report measures. Nevertheless, it seems unlikely that we would see the large gains on two of the trauma measures merely by a practice effect, and students may be the best judge about their level of knowledge and skills in dealing with trauma. Knowledge and skills related to trauma are difficult to assess in other ways via a survey. The Project FORECAST results are valuable supplemental evidence regarding Mississippi's CAST Initiative, because developing a trauma-informed mindset is critical to working with child victims and their families.

The CAST Graduate Pilot Sub-Study

The CAST Graduate Pilot Sub-Study was a supplement to the evaluation that began to assess the impact of CAST from students who had experienced CAST over their student career and had graduated or were about to graduate. Because of lack of time and resources, we could only conduct this as a pilot interview sub-study. As a result, we did not do systematic sampling and our sample size was only six students. Nevertheless, the sub-study had a number of revealing findings that should be explored in future research.

The students reported a positive impact of the CAST program, and credited their instructors with helping them learn. They experienced emotional challenges from CAST but dealt with the emotional demands with the instructors' help and valued this experience. Several reported that CAST had influenced their career goals.

These interviews suggest that CAST can engage students, expand their awareness of child victimization, provide a positive experience despite the emotional rigors, and help them develop their capacity as future child serving professionals and as persons. Future research should conduct more extensive qualitative interviewing of CAST students and conduct follow-up studies with adequate samples of CAST students to determine its effects on their career path and its impact on their work.

Implications of the Program Evaluation for the Future of the Mississippi CAST Initiative

These results suggest that the Mississippi CAST initiative is a promising program that deserves to be maintained and expanded. Mississippi CAST students show evidence of having knowledge and skills that could help them be more prepared to function effectively in child-serving careers. Positive results were obtained in multiple schools of different types, supporting a broad approach to CAST education that includes implementation in two-year and four-year institutions and graduate schools

The positive outcomes for CAST students and their advantages over non-CAST students provide evidence that the CAST program is valuable. Children's Advocacy Centers of Mississippi™, individual Mississippi CAST schools, and CAST programs around the country can use these results to persuade a variety of stakeholders of the value of CAST. At the same time, these results indicate that the Mississippi CAST initiative is still a comparatively new program that is

undergoing further development. The results also point to areas in which improvement is needed.

Much remains to be done. Work is needed to develop a more substantial CAST infrastructure that can both support the initiation of new CAST programs and the development of existing CAST programs. Further exploration is needed on the CAST curriculum and greater specification of the knowledge and skill objectives for both certificate/minor students and other CAST students; at two-year schools, four-year schools, and graduate schools. More work is needed to support the contribution of CAST to practice in child-serving organizations in Mississippi.

These results suggest the value of future research on CAST. More research is needed on such topics as the contribution of multiple disciplines to CAST programs, the implementation and impact of partnerships between CAST programs and community agencies, the relationship between the national CAST curriculum and instruction in CAST courses, factors that promote or impede the development of child protection knowledge and skills, the emotional impact of CAST, the value of CAST for students who do not pursue a certificate or minor, the long-term impact of CAST on field practice, and the relationship between CAST and the development of Mississippi state and local programs in child protection. We particularly need more data on change in CAST courses and programs over time. As graduates of CAST certificate and minor programs begin to accumulate, the opportunity to conduct follow-up studies will expand. The Mississippi results should inspire more study of CAST programs nationwide.

Mississippi's Child Advocacy Studies Training Initiative has accomplished a great deal in a short period of time, but most of the impact of the program lies ahead. Mississippi now has an experienced community of CAST advocates, instructors and students to lead the way.

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Appendix A: Semi-Structured Interview Protocol for Administrators and Faculty of CAST Programs

Overview of School's Involvement with CAST

- What year did someone from your school first attend the CAST conference? Who attended?
- Please describe your school's involvement with CAST since then

IF THE SCHOOL HAS NOT IMPLEMENTED CAST, SKIP TO NO CAST IMPLEMENTATION MODULE

NO CAST IMPLEMENTATION MODULE

(For schools that have not implemented CAST only)

What reaction did you [your colleague who attended the CAST conference] have to the CAST initiative?

Can you describe any discussions your school has had about CAST?

How did you and your colleagues perceive the benefits and costs of teaching CAST courses?

[IF THEY ARE INTERESTED IN TEACHING CAST COURSES]

What factors have made it difficult to offer CAST courses at your school?

Do you have any plans to develop CAST further? Can you describe these plans?

[IF THEY ARE NOT OFFERING CAST COURSES NOW BUT PLAN TO IN THE FUTURE] What is your best estimate of when you will begin offering CAST courses?

History of CAST at the School

- Which administrators and instructors have implemented CAST?
- Which CAST courses have been/are being taught? (if applicable)
 - Required Courses
 - CAST 301 Perspectives on Child Maltreatment and Child Advocacy
 - CAST 302 Global Child Advocacy Issues
 - CAST 401 Professional and Systemic Responses to Child Maltreatment
 - CAST 402 Responding to the Survivor of Child Abuse and Survivor Responses
 - CAST 407 CAST Capstone Experience
 - Electives
 - CAST 403 Child Exploitation, Pornography and the Internet
 - CAST 404 Sociology of Child Poverty
 - CAST 405 Gender, Violence, and Society
 - CAST 406 Child Advocacy Research Studies
- What years have CAST courses been taught? (if applicable)
- What academic department(s) oversee the implementation of CAST?
- Do other academic departments include CAST in their curriculum, refer students to CAST, or participate in CAST in other ways? Please describe.
- Which students are eligible for CAST?
- What factors have facilitated the implementation of CAST at your school? What challenges to implementation have you had to deal with?

Development of CAST Course at the School

- Please describe the development of the CAST courses at your school

- To what extent does your school use CAST courses versus integrating CAST content into other courses?
- Please describe your decision-making about which specific CAST courses to offer
- How well does CAST fit into the school's existing curriculum?
- Please describe the process of choosing/recruiting instructors for the CAST courses. To what extent do tenure track faculty and/or adjuncts teach CAST courses?
- What methods have you used regarding the diversity of the faculty teaching CAST courses?
- What standards have you set for faculty teaching CAST?
- What methods have you developed for self-care for students and faculty involved in CAST?
- Approximately how many students enroll in CAST courses? (break down by specific CAST course).
- In which of the following ways is the CAST program provided at your school? (all that apply)
 - Classroom courses
 - Online course
 - Minor
 - Major
 - Certificate program
 - Graduate program
 - Other
- [if they have a minor or certificate program] Have you had any CAST students graduate from these programs? How many?
- If you are teaching CAST at a Community College or as part of an AA degree, what standards govern the transfer of credits?
- Do you collaborate with employers in relation to your CAST program?
- Does your school participate in Project FORECAST? Please describe your involvement (years, which simulations). How did you integrate FORECAST with the CAST courses? What has been the impact of FORECAST on your program?
Simulations: 1. Katie Anderson; 2. Caleb Perez; 3. Hailey Miller; 4. Sammi Green
- Do you have any plans to develop CAST further? Can you describe these plans?

Evaluation of CAST and FORECAST [if applicable]

- How would you describe the impact of CAST on your students?
- [if applicable] How would you describe the impact of FORECAST on your students?
- On a scale of -3 to 3 with 0 meaning no impact on students, 3 meaning strong positive impact and -3 meaning strong negative impact, please tell me the extent to which you feel CAST has an impact on:
 1. Recognizing potential child maltreatment
 2. Reporting potential child maltreatment
 3. Responding to potential child maltreatment more appropriately
 4. Understanding the roles of different multidisciplinary team members
 5. Educating students on the dynamics of abuse
 6. Educating students on the dynamics of offender behaviors

7. Educating students about poly-victimization
 8. Educating students about the impact of child maltreatment across the lifespan
 9. Promoting compliance with statutory obligations for mandated reporting
 10. Promoting critical thinking in providing children's services
 11. Promoting a trauma-informed response to children and families
 12. Increasing students' confidence in working with children and families
 13. Increasing students' confidence in dealing with child maltreatment
- On a scale of -3 to 3 with 0 meaning no impact, 3 meaning strong positive impact and -3 meaning strong negative impact, please tell me the extent to which you feel Project FORECAST has an impact on:
 1. Increasing students' understanding of FORECAST's Core Concepts
 2. Strengthening their trauma-informed reasoning skills
 3. Improving students' attitudes toward trauma-informed care
 4. Increasing students' confidence in working with children and families
 5. Increasing students' confidence in dealing with child maltreatment
 - Is there anyone else at your school you think we should talk to?
- Thank you for your help with our efforts to learn more about CAST!

Appendix B: Semi-Structured Interview Protocol for CAST Graduates

- What school or university did you graduate from?
- What made you decide to get involved in CAST?
- What CAST courses did you take?
- Did you complete a CAST minor or certificate program? Minor; Certificate; Neither; Other
- Please describe the impact on you of the different parts of the CAST program
 - A. Lectures
 - B. Classroom discussion
 - C. The professors
 - D. The reading
 - E. Any other part of CAST
- (if applicable) Did you participate in simulations, observe them, or both? How would you describe the impact of simulations on you?
- Did you have any contact with a Children's Advocacy Center? (if yes). Please describe your experience in a Children's Advocacy Center? What impact did it have on you?
- How did CAST affect your understanding of child protection?
- What do you consider to be the strengths of the CAST program?
- In what ways could the CAST program could be improved?
- Can you tell us about your work life now? What kind of work are you doing now?
- Did being in CAST help you make connections to get a job? In what ways?
- Did your qualifications as a CAST graduate help you get a job?
- Has CAST had an impact on the work you are doing now? In what ways?
- Has CAST affected your work skills? In what ways?
- How would you describe your career goals?
- Has CAST had an impact on your career goals? In what ways?
- Has CAST had an impact on you as a person? In what ways?
- What advice would you give to another student who is considering the CAST program?

Appendix C: Theme comparison of two researchers

Researcher 1	Researcher 2
CAST was chosen based on prior interest in serving children	Chose CAST because of their Initial Interest in working with children
CAST increased their motivation to work with children and families	CAST reinforced their desire in working in the field
CAST has had an impact on their career goals	CAST confirmed their career choice
The reading was enlightening for some but not all	Course reading was helpful
Classroom discussion helped them learn about the varied perspectives different people have	Learned about different perspectives from others
Teachers have personal qualities and skills that are helpful to CAST students	Faulty cares about what they teach
Simulations were a valuable learning experience	Simulation: the hands-on experience feels real and enhances the understanding and self-awareness
CAST was emotionally demanding and instructors act to help students deal with the emotional demands of CAST	Self-care/Take a breather: faulty encourage them to take a breath/break when they feel emotionally overwhelmed
CAST taught them about child protection, particularly by exposing them to risks to children that they were unaware of given their background	Gained specific child protection knowledge
CAST has impacted their work life	Applied CAST at work
CAST had made them a better person	Applied CAST in personal life
Students dealt with personal trauma	-
The interviewees had different ideas about improving CAST	Improve CAST
Advice to other students: Invest in CAST	Suggestions to potential students
They learned from their involvement with the CAC	CAC contact
-	COVID impact