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Final Report

Mentoring Best Practices Research: Effectiveness of Juvenile Mentoring Programs on Recidivism

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Abstract

On 09/01/2013, the Center for Criminal Justice Research (CCJR) at the University of Cincinnati (UC) was awarded a Fiscal Year (FY) 2013 Mentoring Best Practices Research Category 2: New Mentoring Research and Evaluations grant from the Office of Juvenile Justice and Delinquency Prevention (OJJDP). The grant funded a research study entitled "Effectiveness of Juvenile Offender Mentoring Programs on Recidivism." The project was funded for 3 years, and a one-year, no-cost extension continued the project through 08/31/2017. This study adds to the existing literature on mentoring justice involved youth by providing an outcome and process evaluation of mentoring agencies across both urban and rural counties in Ohio. This study assesses the effect of mentoring, as delivered by the programs in this study, on recidivism of youth on both probation and parole.

Four research questions were examined:[1] (1) Are the mentoring services studied here effective in reducing delinquent and criminal reoffending?; (2) Does the impact of these mentoring services differ based on youth characteristics (e.g., risk level)?; (3) Does the quality of the match between mentor and mentee impact youth outcomes?; and (4) Does the quality of the mentoring program lead to differing outcomes? The research team at CCJR used a mixed methods approach to answer the four questions—examination of secondary data, enrollment of youth receiving mentoring services and collection of corresponding data, and site visits to collect key details about the mentoring agencies involved in the project.

To address the first and second research questions, researchers completed an outcome evaluation using a quasi-experimental design with two separate samples. First, the parole sample was comprised of either youth on parole that participated in mentoring services funded by a

[1] These questions differ slightly from the original proposal—these have been revised to reflect data limitations.

Second Chance Act (SCA) grant (Mentored group) or youth on parole that did not participate in mentoring services (Comparison group). The probation sample was comprised of youth on probation that participated in mentoring services (Mentored group) and youth on probation that did not receive mentoring services (Comparison group). To ensure like samples for the Mentored and Comparison groups in both samples, youth were matched on risk, race, gender, and age.

The third research question was investigated through the administration of a survey to youth participating in mentoring while on probation. The survey was comprised of three tools designed to measure the quality of the relationship and overall youth satisfaction with their mentor and respective mentoring program. The tools are the Dual Role Relationship Inventory-Revised (DRI-R), the Youth Mentoring Survey (YMS), and the Perceived Program Effectiveness (PPE) scale. Surveys were administered to youth approximately three months after they had been matched with their mentor.

The fourth research question was addressed using a process evaluation approach. Mentoring agencies in the parole and probation samples were assessed using the Evidenced-Based Correction Program Checklist – Mentoring (CPC-M), a tool developed for this research study. The CPC-M was used to measure program quality by thoroughly evaluating how closely the mentoring agencies met the research on effective mentoring practices as well as the principles of effective interventions. In the parole sites, phone interviews with key personnel were conducted using the CPC-M. In the probation sites, full site visits comprised of interviews with key program staff, mentors, and mentees, review of relevant mentoring program materials, and focus groups with mentors and mentees were conducted. The aim of the process evaluation was to better understand the mentoring programs and to evaluate the level of adherence to

research on effective practices in mentoring. Using the CPC-M allowed the research team to quantify program quality to examine the potential impact on recidivism.

Summary of Main Findings:

Research Question 1: *To determine if mentoring services are effective in reducing reoffending.*

- *Parole Sample.* The formal logistic regression models for the full parole sample of youth confirm that there was not a statistically significant difference in the recidivism rate for youth in the Mentored and Comparison groups when controlling for risk level, age, and time at risk for a new offense. There is limited evidence that mentoring may have an impact on some youth. For parole youth who successfully completed the mentoring program, 21% of youth recidivated compared to 31% of youth in the Comparison group. However, this result is not statistically significant.
- *Probation Sample*. The rate of recidivism for Mentored youth in the full probation sample was almost identical to that of the youth in the Comparison group. At the individual county level, one county evidenced lower rates of recidivism for Mentored youth while one evidenced higher rates. The logistic regression models for the full probation sample confirm that there was not a statistically significant difference in the recidivism rate of Mentored youth in the probation sample from the recidivism rate of the Comparison youth, when controlling for risk level, age and time at risk for a new offense. Just as above, these findings indicate that participation in mentoring by probation youth does not significantly decrease the likelihood that a youth will recidivate.

Research Question 2: To determine if the impact of mentoring differs based on youth characteristics.

- *Parole Sample.* To determine what impact mentoring had on youth outcomes dependent on risk level, researchers introduced interaction effects to the main model. While risk level was predictive of recidivating, the interaction terms for mentoring and risk level indicate that the impact of mentoring does not vary based on the level of risk for those youth on parole.
- *Probation Sample*: The results for the probation sample of youth was similar to the parole sample, when looking at the impact of mentoring on recidivism conditioned by risk, it does not appear that mentoring is better suited to youth of a specific risk level.

Research Question 3: To determine if the quality of the match between mentor and mentee impacts youth outcomes.

- The mentee survey measured the perceived quality of the match between mentor and mentee as well as the satisfaction with the mentoring program from the youth's perspective. The survey was administered to the Mentored group in the probation sample only. Results from the survey suggest that while satisfaction did vary across sites, youths' perceptions of the quality of the match with their mentor did not impact recidivism. Interestingly, and in contrast to previous research, the results from a bivariate analysis indicates that the portion of the survey measuring program satisfaction was inversely related to recidivism—the higher the satisfaction, the higher the likelihood a youth was to recidivate.

Research Question 4: To determine if the quality of the mentoring program leads to differing youth outcomes.

- The results from the process evaluation support the importance of the quality of mentoring programs—namely that they adhere to the literature on effective mentoring

practices. Of the six agencies assessed using the CPC-M, the two highest scoring programs saw the largest difference in the rate of recidivism between the mentored youth and those that were placed on probation as usual. Additionally, the lowest scoring mentoring program saw a significant increase in the rate of recidivism among those youth that participated in mentoring. However, the results from a logistic regression where the overall score of the CPC-M was included in the model examining the impact of mentoring on recidivism were not statistically significant.

Conclusion

To date, research has found consistently positive results for the use of mentoring with youth identified as at-risk. This study adds to the existing literature that has shown mixed effects for mentoring programs that serve youth involved in the juvenile justice system. In some of the analyses for this study, mentoring services reduced recidivism and in others, there was no change in recidivism. When mentoring services were found to reduce recidivism, the effects were relatively small and did not reach statistical significance. While mentoring is a beneficial intervention for other youth populations, the findings from this study caution the widespread use of mentoring for the *sole* purpose of reducing recidivism. Questions remain regarding how to best ensure that mentoring services have the possibility to reduce recidivism. The CPC-M assessment of the mentoring agencies coupled with the inconclusive results of the effectiveness of the mentoring services involved in the current study highlight the need for purposefully developing and implementing mentoring services for this population that are responsive to the specific risks and needs of delinquent youth.

Research Problem and Study Overview

Although extant research on youth mentoring programs has assessed their impact on youths' school, family, *and* delinquent behavior, less is known about exactly how these programs may reduce recidivism and the conditions under which they are more or less likely to do so (Tolan, Henry, Schoeny, Bass, Lovegrove, & Nichols, 2013; Herrera, DuBois, & Baldwin Grossman, 2013; DuBois, Portillo, Rhodes, Silverthorn, & Valentine, 2011; DuBois, Holloway, Valentine, & Harris, 2002). While the outcomes for youth that have been involved in mentoring has been studied considerably, gaps remain in the research. First, there has been very little to no research on the role of risk to reoffend and its impact on mentoring effectiveness. Second, it is also important to determine whether and how the characteristics (e.g., demographic characteristics) of the youth impact mentoring program effectiveness. Third, there is a lack of information regarding the components of mentoring services that are most impactful. For example, structural (e.g., mentor recruitment, mentor training, mentor-mentee match process), and organizational (e.g., session frequency, activities completed during a session) elements may all differentially impact youths' juvenile and criminal justice outcomes. Fourth, there is a lack of focus on mentor-mentee relationship quality and how it can potentially impact recidivism outcomes specifically for a delinquent population. Finally, in order to increase the utility of mentoring programs for improving youths' delinquent outcomes, it is necessary to identify the specific components of mentoring programs that are most impactful.

To add the body of literature on youth mentoring, the Center for Criminal Justice Research (CCJR) was awarded funding from the Office of Juvenile Justice and Delinquency Prevention (OJJDP) for a study entitled *Mentoring Best Practices Research: Effectiveness of Juvenile Offender Mentoring Programs on Recidivism* (2013-JU-FX-0004). This study includes

four research questions: (1) Are the mentoring services studied here effective in reducing delinquent and criminal reoffending?; (2) Does the impact of these mentoring services differ based on youth characteristics (e.g., risk level)?; (3) Does the quality of the match between mentor and mentee impact youth outcomes?; and (4) Does the quality of the mentoring program lead to differing outcomes? These questions were identified as potentially important in contributing to the existing literature on mentoring practices with justice-involved youths.

The current study comprises three components to address the four research questions listed above. First, to address the first two research questions: examining whether mentoring impacts juvenile justice outcomes and the impact of youth characteristics on said outcomes, researchers completed an outcome evaluation component. This component of the study compares results for two separate samples of youth. The first sample is a parole sample comprised of youth that were placed on parole during Fiscal Year (FY) 2012 through FY 2014. This sample of youth received mentoring services from five separate mentoring programs that were funded through a Second Chance Act (SCA) grant. Funded by OJJDP, the grant was awarded to the Ohio Department of Youth Services (DYS). The youth that participated in mentoring were matched with others placed on parole during the same time frame that were similar on a number of demographic and risk variables. The second sample comprises youth on probation who participated in mentoring services between June 1, 2014 and January 31, 2017. Similar to the parole sample, the mentored youth, who were also on probation, were matched with youth placed on probation in the same time frame who were also similar on a number of demographic and risk variables.

Second, to address the third aim of this study, whether youths' perceptions of program quality and the quality of the match and relationship between mentor and mentee impact youth

outcomes, researchers completed a survey with youth in the probation sample. The survey was comprised of three tools designed to measure the quality of the relationship with their mentor and overall youth satisfaction with their respective mentoring program. For both of these first two study components (i.e., impact on recidivism and youths' perceived program and mentoring quality), the effectiveness of youth mentoring programs was measured by examining youth recidivism, defined as a new adjudication as a youth or conviction as an adult for the purpose of this study.

Finally, the last piece of the study was a process evaluation component. The process evaluation was tied to the fourth and final aim of the study and it attempted to identify the elements of the mentoring programs that may better reduce recidivism. To complete the process evaluation, researchers took slightly different approaches for the parole and probation samples. For the parole sample, the research team conducted in-depth guided interviews with DYS representatives and the program directors of the three of the five participating mentoring agencies via telephone.[2] The researchers used the guided interview to gather data about how closely the agencies were adhering to the literature on what works in mentoring youth in the juvenile justice system.

Unlike the parole sample, the probation sample of youth was actively involved in mentoring services. As such, it was possible to complete a more extensive process evaluation for those sites, which included a full visit to each mentoring agency. Researchers used the same in-depth guided interview process as the parole sample, but supplemented the interviews with additional elements that allowed the researchers to fully measure how closely the mentoring agencies were adhering to effective mentoring practices. These practices include programmatic

[2] This approach was selected as the mentoring services ceased when the OJJDP grant ended.

elements defined as important in past literature reviews (e.g., mentor training and match length) as well as key principles proven important in working with delinquent populations (i.e., principles of effective intervention). Interviews with program staff, mentors, and youth and focus groups with mentors and youth were conducted during these site visits. Information collected from both the process and outcome components of the study was used to identify the aspects of the mentoring programs that were associated with improved youth outcomes.

The mentoring agencies that provided services across both samples of youth span the state of Ohio. The six mentoring agencies that actively participated in the study were located in the following Ohio counties: Cuyahoga, Franklin, Montgomery, Lucas, Summit, and Hamilton. Half of them are located in counties with between 800,000 and 1.2 million residents. The remaining agencies are located in counties with approximately a half a million residents. The mentoring agencies varied in size with two capable of serving over 60 youth at a time, one agency capable of serving 40 youth at a time, and three that had a capacity to serve a maximum of 25 youth at one time. Although the counties are made up of urban, suburban, and rural areas, the vast majority of youth in both samples resided in suburban and urban areas.

Background and Literature Review

Prior Research on Youth Mentoring

Mentoring is a common prevention and/or intervention strategies for youth who are thought to be at risk for, or currently engaged in, delinquent or anti-social behavior (DuBois, et al., 2002; Tolan, Henry, Schoeny, & Bass, 2008). DuBois and colleagues (2011) provide a fairly straightforward rationale for the spike in support for mentoring: it addresses a specific deficit in a justice-involved youth's life—the lack of an appropriate pro-social role model. Mentoring is an intervention that intuitively makes sense, is easy to support from the perspective of juvenile

justice practitioners, and can be applied to youth from all backgrounds without direct involvement of parents or guardians (Blechman, Maurice, Buecker, & Helberg, 2000). A review of the literature demonstrates that there are numerous definitions of and approaches to mentoring. Tolan and colleagues (2008) explain the creation of a relationship between an adult (mentor) and a young person (mentee):

> "When applied to delinquency and other similar outcomes, mentoring usually involves…persons in the community who provide opportunities for imitation, gaining advice, pleasurable recreational activities that show care and interest in the mentee, and emotional support, information, and advocacy through a one-to-one relationship. Such opportunities are thought to foster healthy development and diversion from risk-elevating activities and attitudes." (p. 6)

The proliferation of mentoring programs has fueled increased research on the topic (Tolan et al., 2013). For example, the original DuBois et al. meta-analysis from 2002 was updated in 2011 and almost 20 new studies that met inclusionary criteria were added to the sample (Dubois et al., 2011). To date, however, there is still a lack of concrete empirical support for exactly what aspects of mentoring are most effective and which youth (e.g., at-risk versus delinquent youth or older versus younger youth) would benefit the most from participating in mentoring. What is known is that mentoring can be very beneficial for some youth. In general, studies identify improvements in the areas of self-efficacy, relationships with adults and parents, improved school performance, school attendance, attitudes toward school, an increased likelihood of moving on to higher education, and improved employment outcomes (Rhodes, 2008; DuBois et al., 2002; Dubois et al., 2011). These positive outcomes are most often seen in programs that can produce high quality mentoring relationship often characterized by a bond, or

emotional closeness, and activities that seek to help the mentee develop some skills or achieve a goal. In order for these types of relationships to form, they often must be maintained for a longer duration and entail frequent contact between mentor and mentee (Dubois et al., 2002; Grossman and Rhodes, 2002; Tolan et al., 2008; Jolliffe and Farrington, 2008).

In addition to the quality of the relationship a mentee has with their mentor, the model of mentoring adopted by the mentoring agency has shown to impact youth outcomes. In a meta-analysis of 55 evaluations (DuBois et al., 2002), it was found that programs that followed "best practices" were more likely to demonstrate significant findings for all types of youth. Specifically, those programs that adhered to a greater number of theoretical and empirically-based practices (e.g., monitoring implementation of clearly defined goals and expectations, ongoing training of mentors, structured activities for mentors and mentees, parental support/involvement, higher frequency of contact, and at-risk status) had a greater effect size (programs with greater adherence $d = .22$ versus those with lower adherence $d = .09$). DuBois' comparison of means in his calculation of d (Cohen's d) is valuable because it allows for the comparison of effects across studies, even when the dependent variables are measured differently. The differences between groups are then placed on a scale from 0 to 1. For this meta-analysis, the effect size for programs adhering to the literature is larger (.22), meaning more positive outcomes for youth than programs with low adherence (.09). Overall, this study found modest effects for these programs ($d = .18$).

Finally, the level of involvement a youth has in the juvenile justice system plays a role in the success of a mentoring program. Many of the studies reviewed above included youth that have been displaying undesirable behavior in school, have been deemed "at-risk" for involvement in the juvenile justice system, and/or youth who have already had formal contact

with the system. When researchers examine the impact of mentoring on youth who have had formal contact with the juvenile justice system (e.g., contact with police, arrest, etc.) the results are mixed. For example, Jolliffe and Farrington (2008) found that programs that targeted those youth who had been apprehended by the police, or had previous contact with the juvenile justice system were more effective than targeting those youth who were at-risk or who had little to no contact with police. Conversely, Newburn and Shiner's (2006) analysis of British mentoring programs, serving youth with self-reported delinquent behavior (e.g., auto theft, vandalism, weapons possession, assault, etc.) found improvements in education and work, but they did not find reductions in offending. The authors note however, that reoffending itself was not explicitly targeted—per say—and a clear model to guide implementation was missing, which may account for the lack of reduction in reoffending.

Limitations in the Research on Youth Mentoring Programs

A significant deficit in the research to date is the lack of attention to the role of risk to reoffend (DuBois et al., 2011). Tolan and colleagues (2008) acknowledge this deficit in their review of the literature explaining that there is a tendency among mentoring programs to place less emphasis on the role of risk, and instead use a strength based model of encouraging healthy and positive development through the strengths the youth already possesses. This approach, however, conflicts at times with the evidence available on how to best reduce recidivism among juvenile delinquents. For example, programs that focus on delinquent youth should differ in their procedures than those that provide services to at-risk youth (McLearn, Colasanto, & Schoen, 1998). For example, what the mentor and mentee discuss and what activities they engage in should be tailored to the type (i.e., at-risk or delinquent) of youth served in that program.

More recently, initiatives have aimed to address the gap. For example, Herrera et al. (2013) examined how levels and types of risk impact mentee-mentor relationships and outcomes. However, even in this study, risk was defined by the personal and/or environmental challenges that a youth must overcome, not by their likelihood of participating in delinquent behavior. As a result, few of the youth who participated in the mentoring programs included in the study engaged in delinquent behavior and "…the youth in the study are best thought of as higher risk—a designation that falls somewhere between what would typically be characterized as at risk and high risk" (page 3).

Related, and perhaps the most significant gap in the mentoring research to date is the overall lack of rigorous studies that identify the most effective practices for mentoring delinquent youth (Dubois et al., 2002). Dubois and Rhodes (2006) acknowledge this gap stating that while there has been an increase in the number of differing approaches to mentoring, there has been a lag in the research to identify the efficacy of new mentoring strategies, using methodologically sound studies. For example, mentoring programs vary greatly in how they are designed and implemented (Tolan et al., 2013; Dubois, et al., 2002; Newburn and Shiner, 2006; McLearn et al., 1998; Jekielek, Moore, Hair, & Scarupa, 2002). Dubois et al. (2002) note that mentoring programs often differ in their guiding philosophies. Some programs focus on goals related to youth development, whereas others may emphasize education or employment. As Newburn and Shiner (2006) suggested, many programs also operate without a clear and consistent intervention model. While research has revealed some factors that can help improve mentee outcomes, the translation of those practices into daily mentoring program practice has lagged behind (DuBois et al., 2011).

Programs also differ in their methods of selecting mentors and matching them with youth. For example, Rhodes (1994) questions the assumption made by some mentoring agencies that assigning a mentor from outside a youth's normal social network system could be just as influential as mentors who are assigned to youth that have common interests, are from the same geographical area, and have a similar racial or ethnic makeup. Differences also exist in on-going training and supervision of mentors. To illustrate, if mentors are expected to work with delinquent youth, they should be provided information specific to this population and supported in their work.

The Principles of Effective Intervention and Mentoring

The research into "what works" with adult and juvenile offenders has grown substantially in the last 40 years. This wealth of knowledge has led to the establishment of the "principles of effective interventions," which consists of a number of evidence-based directives. Namely, three different principles are extremely important in working with a delinquent population—Risk, Need, and Responsivity (or RNR; *see* Gendreau, 1996; Bonta and Andrews, 2017). First, the risk principle states that higher risk youth should be targeted with more intensive services and that low risk youth should receive minimal intervention. Second, the need principle mandates that interventions should be focused on key criminogenic, or crime producing, factors such as beliefs, peers/social support, personality characteristics, employment/education, family, substance abuse, and leisure and recreation. Third, the responsivity principle posits that interventions should include cognitive behavioral elements that are responsive to individual barriers. The principle of importance for the current study is the risk principle. The integration of criminogenic risk into mentoring programming and research has been quite limited to date as the research has focused more on "at risk" youth from a secondary prevention standpoint (i.e.,

youth at risk of formal juvenile justice system involvement) rather than those youth already involved in the juvenile justice system (Sullivan & Jolliffe, 2012; Herrera et al., 2013). Including risk in the study of mentoring may aid mentoring programs, referring agencies, and funding sources in determining which youth may benefit the most from involvement in mentoring and how it may be linked to other objectives of juvenile corrections systems.

Current Study

This study was designed to evaluate the impact of participation in mentoring programs among samples of youth on probation and parole in the state of Ohio. In so doing, this study also explored the potential impact of specific programmatic mediators and individual-level moderators of program effectiveness. Specifically, this study seeks to answer the following research questions:[3]

1) Are the mentoring services studied here effective in reducing delinquent and criminal reoffending?;
2) Does the impact of these mentoring services differ based on youth characteristics (e.g., risk level)?;
3) Does the quality of the match between mentor and mentee impact youth outcomes?;
4) Does the quality of the mentoring program lead to differing outcomes?

Methods

The details of the different aspects of the study are discussed in the following section. First, a description of the mentoring agencies and youth from each participating county, both

[3] The research questions listed here differ slightly from the original proposal. The changes, mainly related to Research Question 2, were made based on data limitations. For example, the "type" of mentoring program (e.g., traditional one-to-one mentoring, team mentoring, group mentoring, and peer mentoring) could not be included as a covariate due to the lack of variability between the mentoring programs included in the study. Based on these limitations, age and gender were also not included as covariates.

parole and probation samples, is provided. Second, the components of the study (previewed briefly starting on page 10) are reviewed in detail. Third, the different measures of each component of the study are described. Finally, the analytic plan used to meet each study aim is reviewed.

Site Selection and Descriptions

During the proposal process, CCJR research staff asked the Ohio DYS to partner on the project. DYS was approached for a variety of reasons: (1) CCJR has a long standing relationship with them, which would facilitate the data needed for the project; (2) CCJR was aware that DYS had a mentoring program for youth who were incarcerated; (3) DYS had recently rolled out a statewide risk and needs assessment tool—the Ohio Youth Assessment System (OYAS) which allowed for a consistent definition of risk; and (4) Being located in the same state would help keep travel costs to a minimum. DYS agreed to partner (i.e., allow CCJR to include their mentoring program in the study) and then linked the research team with eight juvenile courts that had either received monies specifically for mentoring programs or those counties who had long standing mentoring programs. The eight counties were Allen, Butler, Holmes, Jackson, Lucas, Meigs, Summit, and Van Wert. Emails to gauge initial interest were sent to all eight juvenile courts. Four courts expressed interest in partnering with CCJR and researchers then coordinated with the mentoring programs providing services in those locations to seek their support as well. During this process, the research team sent emails and had numerous phone calls with staff in these counties to garner support for the project.

In addition to DYS, Lucas and Summit Counties were the only other counties whose juvenile court and mentoring program agreed to participate in the study. Letters of support from the juvenile courts and the mentoring programs were included in the original application to

OJJDP. The mentoring program in Lucas County is the Youth Advocate Program (LCYAP). Summit County's mentoring program is Catholic Charities (CC). Of note, in the fall of 2015, Summit County ceased involvement with study activities due to study enrollment issues (further details and implications of this are discussed starting on page 27). The research team then approached another juvenile court, Hamilton County, as a replacement. Once the court agreed, researchers approached both of the agencies used to provide mentoring services in the county. Of those, I Dream Academy (IDA) agreed to participate. Letters of support were received from the court and IDA as well.

Parole Site Descriptions

The mentoring agencies providing services to the parole sample of youth (i.e., those youth on parole), received their funding from DYS through a FY11 Second Chance Act (SCA) grant award. The SCA grant, overseen by OJJDP, provides funding for various services for youth. SCA funded programs are intended to reduce recidivism and improve the outcomes for those youth returning from secure juvenile facilities. Because the programs were funded through SCA monies, mentoring agencies were required to adhere to specific requirements set in place by the funding agency. These included:

- Gender, geographic location, and interests were to be considered a factor when matching mentor and youth;
- Mentoring services had to be provided to youth prior to their release from a juvenile facility during FY12 and FY13;
- The mentor had to commit to one visit per month before the youth was placed on parole and to maintain face-to-face contact, at least 3 to 4 times per month, for a minimum of 4 hours per session following release from the facility.

- Mentors had to participate in DYS trainings such as: volunteer training, facility safety, and Prison Rape Elimination Act (PREA) training;
- Transition sessions were required as the youth left the mentoring agency; and
- Locations had to be willing to be monitored and evaluated by DYS, including the administration of youth satisfaction surveys.

The DYS mentoring initiative encountered a number of challenges that led to smaller than anticipated enrollment in the programs.[4] First, there were a number of barriers with the program requirements. Many youth did not meet the required amount of time needed to participate in the program pre-release, mainly due to the systematic challenges of getting mentors approved to enter the facilities to begin services. Youth also had to be in good standing in the institution and maintain that good standing for the three to six months prior to release to continue their participation once matched. In fact, 70% of the youth that could have participated in mentoring services had an infraction that excluded them from participation. Furthermore, the youth could only participate if they agreed to continue their enrollment in the mentoring program for six months post-release. Second, there were issues in the sites selected to provide mentoring services. DYS had to end its relationship with the first set of mentoring agencies that it brought on to provide the mentoring services within the first year of the grant being active.[5] Finally, the mentoring agencies that received funds in the last 18 months of the program reported that significant systems issues, similar to those described above, prevented successful enrollment of

[4] The challenges identified in this study were gathered from an internal DYS report and from in-person interviews conducted with DYS staff (discussed in process evaluation component starting on page 40).

[5] These agencies (Men of Standards and True North Ministry) received over half of the referrals in the parole Mentored sample (n=100). However, because DYS ended their relationship with these agencies, we were not able to collect all data from the agencies needed for the current study. As a result, the study components concerning program characteristics and quality will focus on the three agencies that DYS partnered with in the last half of their SCA grant.

youth into the program. For example, it was reported that the process of getting background checks done on mentors prior to their being permitted to enter the facility was so lengthy that some mentors would give up and leave their position.

The following site descriptions are provided for the parole sample with the important caveat that full site visits were not completed with each agency since they were no longer providing services through the SCA grant. The information provided below was gathered through in-depth structured interviews (discussed in more detail below on page 40) with the program directors of each agency. Additionally, the data analyzed for the sample of youth that received mentoring while on parole is considered secondary data and therefore, there was no active involvement of youth in the study (i.e., youth was no direct consent process and they did not complete a survey).

Cuyahoga County

The agency that partnered with DYS in Cuyahoga County was David's Challenge, Inc. David's Challenge began their work in Cuyahoga County as the provider of mentoring services for the Cuyahoga County Department of Justice Affairs Reentry Program. The only referral source for the agency was through juvenile justice involved partners. The focus of the mentoring agency was on addressing the various social, educational, and economic needs of young people referred to them. This was done through mentoring, mental health counseling, and educational and vocational services. The program was not based on a specific model or theory of mentoring; rather they took a wrap-around approach to mentoring by developing individualized plans for each youth and their families based on youth and family needs.

The program accepted all referrals that met with the DYS requirements as well as additional restrictions of not taking on youth that had a history of sexual offenses or first-degree

felonies. As dictated by SCA, referrals for service came six months prior to release from the juvenile facility. The OYAS was part of the referral information received by the program. It was reported that the OYAS was reviewed and used to determine the skill level of the mentor needed for that particular youth, inferring that brand new mentors with no previous experience would not be matched with a youth that had a high risk or need level. Other than that, the OYAS was not used by the agency and all other information the mentor learned about the youth was done through casual conversation with the youth pre-release. Mentors would visit the youth at least once a month. Post release contact increased to eight hours per week for six months, typically in an individual session format. These sessions varied depending on the youth's interests. Mentors were paid a stipend of $200 per youth to be used for compensation and activities over the course of the match.

Franklin County

The agency that partnered with DYS in Franklin County was Community for New Direction (CND). The program was established in consultation with DYS and used the *Winning Futures* curriculum. This is a mentoring curriculum that aims to create a client-centered approach that addresses values, educational achievement, vocational skills, and goal setting for youth (please see winningfuturesbooks.org for additional information). Part of the initial training period that mentors completed upon being hired was a one-day training on the *Winning Futures* curriculum. Although mentors were not provided individual copies of the curriculum, a copy was available to them in the mentoring agency's office in an effort help them plan their interactions with youth.

The program accepted all referrals that met with the DYS requirements without additional restrictions. As such, referrals for service were between three and six months prior to

release from the juvenile facility. The OYAS was part of the referral information received by the program and the OYAS was reviewed and used to help engage the mentee. For example, if substance abuse or peer associations were listed a high need area, the mentor was trained to address it and set goals in that area. Mentors would visit the youth at least once a month in the juvenile facility and would also complete a video call at least once a month. These contacts typically lasted one to two hours and were typically done in a one-to-one session format. Post release, the contact increased to at least one to two hours per week for up to 12 months. In addition to using the above curriculum, sessions also involved activities such as going out to eat or trips to the mall or park. Mentors were paid $13.50 an hour.

Montgomery County

The agency that partnered with DYS in Montgomery County was Sunlight Village Network, Inc. The program did not have a specific model that it was based on. Rather, it was designed in consultation with other programs serving youth in Montgomery County and from the extensive history the program director had working with youth in correctional settings. The focus of the mentoring program was on addressing the behavior and the mindset of the youth referred to them. This was done through addressing goals that youth wanted to accomplish. The program accepted all referrals that met with the DYS requirements as well as the additional restrictions of not taking on youth that had a history of sexual offenses, gang involvement, or youth with severe mental health issues.

Referrals for service were made between three and six months prior to release from the juvenile facility. The OYAS was part of the referral information received by the program. However, the program took the position that it would be impossible to focus on a youth's future if they kept looking at the past and for that reason, did not use the OYAS for any aspect of the

mentoring process. All other assessment of the youth took place through informal conversations that allowed the mentor and youth to establish rapport. While in the facility, mentors would see youth at least once a month until the youth was released (i.e., three to six months). Post release, the contact increased to at least once a week for two hours with a minimum of in-person contact three times a month, with the fourth contact over the phone. The program was designed to last nine months post release but many youth continued in the program for up to a year. Over the course of that time, activities completed during a session typically revolved around casual outings such as going to lunch, playing basketball, or completing community service projects. Mentors were paid a stipend of $200 per youth to be used for compensation and activities over the course of the match.

Probation Site Descriptions

Lucas County

The mentoring agency in Lucas County, Youth Advocate Program (LCYAP), is the Toledo location for the larger parent organization Youth Advocate Program, Inc. (YAP) which provides services to at-risk and justice involved youth in 17 states across the United States. LCYAP was established in 2008, borrowing its program design from other more established YAP locations. LCYAP seeks to provide a multitude of non-residential services for at-risk youth and youth involved in the juvenile justice system.[6] To provide these services, the agency recruits members of the community to become paid youth advocates (i.e., mentors). Advocates are recruited across various community locations and job posting boards including churches, fairs, colleges, and through word of mouth. At the time the researchers conducted the site visit, advocates made $9 an hour when working with youth and $7.35 an hour when participating in

[6] For the purpose of this study, the youth that were referred from formal probation comprise the Mentored group for Lucas County.

training. When an advocate is hired, they are trained in integrity compliance and must complete a review of the first two chapters of the *Basic Advocacy Training* (BAT) curriculum. BAT is curriculum designed for YAP with assistance from Rutgers University. Review of the entire BAT curriculum must be completed during the first year of employment.

Monthly meetings are provided for advocates to hear guest speakers and receive training on various topics related to mentoring and issues facing young people in their communities. As such, pieces of the BAT are reviewed at these meetings. In addition to the monthly all staff meeting, advocates meet individually with the program director once a week and are given the opportunity to review the activity logs they have completed on the previous week's sessions. There is no guide or manual to steer advocates' interactions with youth, so sessions vary depending on the interest of the youth, availability of activities in the community, restrictions on the youth's movement, etc. Additionally, most advocates do not have set schedules with youth. Advocates are required to see youth for no less than 10 hours a week—six hours are required to be one-on-one contact with the option of the remaining four hours to be completed in a group mentoring setting of two to four youth. Of note is that LCYAP advocates are only allowed 4 youth on their caseload at one time.

Advocates and their mentees are matched after the referral has been made and the youth has met with an agency representative, to complete the intake process. The intake process that is completed includes a questionnaire about the youth's likes and dislikes, the identification of any goals the youth or their parent may want to work on, and a *Child and Adolescent Needs and Strengths Assessment* (CANS; Lyons, 2002). This assessment is used to give the agency and the mentor an idea of the different areas in the youth's life that they are displaying problems as well as strengths they have. Each youth referred to LCYAP is reviewed on a case-by-case basis.

LCYAP has a standing policy to accept any referral regardless of criminal history, any mental or physical issues, or history of trauma or other challenges. In addition to the assessments and forms that LCYAP has a youth and their guardian complete, the referral for services typically includes basic information about the youth including contact information, a criminal history summary including the current offense, a referral reason as decided by the youth's probation officer, and a copy of the OYAS. Using the information gathered from the intake process and referral information, LCYAP then finds an advocate that has room on their caseload.

The intake process and subsequent visits will help the advocate and youth develop an Individual Service Plan (ISP) that outlines what areas a youth and their advocate will work on during the course of their time together. The goals established in the service plan are meant to guide the activities and discussions that advocates and youth engage in during their sessions. For example, if the youth is interested in, or needs to find a job, the advocate may take their mentee to local businesses to obtain job applications and then assist them in filling them out. Another example is that if a youth does not have a hobby, the mentor will work with the youth to provide them with pro-social structured activities like playing basketball, going to the gym, or completing community services projects. Mentoring services typically lasted between six and nine months in length. However, as long as a youth is actively participating in services, they can continue receiving mentoring services until they turn 18 years old.

Summit County

The Summit County mentoring agency, Catholic Charities Community Services of Summit County (CC), is a chapter of the Catholic Charities, Diocese of Cleveland. CC has been offering services in Northeast Ohio for over 100 years. The Summit County location provides a number of services including: emergency assistance, community hot meals, a food pantry,

behavioral health counseling, adult day services, and mentoring. As described above, the juvenile court stopped referring youth to CC during the 6th month of enrollment and ultimately had to be replaced as a study site. Only 8 youth (4 in each the Mentored and Comparison groups) from this location are included in the study. While CC still provides mentoring services, they are provided to at-risk youth referred through the school system. The following description of this site is for the program, as it existed, in 2014 at the beginning of this study.

The CC mentoring program was based on a model used in the Cleveland, Ohio school system and was put in place in 2007 at the Akron CC location. To provide mentoring services, CC recruited mentors through word of mouth, the local paper, and their website. CC mentors were paid $12 an hour and given an additional $7 per session to help offset any costs. When mentors were hired, they were trained in both administrative responsibilities and in the 40 Developmental Assets created by the Search Institute that outlines different areas of a youth's life that contribute to healthy development (Leffert, Benson, Scales, Sharma, Drake, and Blyth, 1998). In addition to the training provided when hired, mentors had additional opportunities for training in the quarterly meetings held by CC.

CC did not receive any information for their referrals beyond the current court case and the basic contact information for the youth (i.e., the agency did not receive or attempt to obtain a copy of the information from the OYAS process). The agency did not have any set criteria for excluding youth other than the age of participants must fall between seven and 18 years old. After the referral from the court was received, an initial meeting was held with each youth and their parent or guardian. During the meeting, the Developmental Asset tool was completed. Specifically, the guardian and youth provided information regarding seven areas in the youth's life from the list of developmental assets that they are either excelling at or struggling with. This

asset assessment helped the mentor and youth develop two measurable goals to work on during the time they had together. Program staff reported that youth were usually struggling with a range of developmental deficits.

Mentors and youth would engage in various activities during their sessions and the mentors were guided by a list of activities that the program provided. Mentors are trained to engage in activities with youth that address areas in the youth's life where they showed deficits on the Developmental Asset tool and areas in the youth's life that were identified in conversations with the youth and their guardian in the initial. The mentoring program was designed so that mentors and youth complete three to ten hours of mentoring a week, depending on what the youth and mentor agreed to. The program was designed to last 90 days, but a youth could receive services for more than 90 days as long as the referral remained active and the youth was participating in services.

Data from Summit County does not appear in the descriptive analyses or the main outcome analyses below.[7] There are several reasons for this decision. First, due to the limited time the mentoring agency was engaged in the study, only four youth were enrolled into the Mentored group. Second, researchers were not able to collect as extensive data on the four youth enrolled in this site compared to the other two probation sites. Finally, the most salient reason relates to the use of the OYAS in the county. During the first year of the study, 2014, Summit County was not consistently using the OYAS tools (for a description of the OYAS and the tools in the OYAS, please see pages 43-45). As a result, youth at this site were only administered a short tool which predicts the level of risk youths pose while on pre-trial release, which is different from the tool used in the other sites. Youth from Summit County, however, are

[7] Outcome analyses for Summit County are provided in Appendix F.

included in the analyses that examine mentee perception of the quality of the mentor-mentee relationship.

Hamilton County

The mentoring agency in Hamilton County, I Dream Academy (IDA), is a non-profit organization that has been serving youth in various settings across the greater Cincinnati area since 2013. IDA provides both prevention and intervention services including afterschool programs, counseling, structured activities for youth, and mentoring to at-risk youth and youth in the juvenile justice system. IDA receives referrals from families, schools, and Hamilton County Juvenile Probation.[8] Mentoring services are provided by paid mentors hired mainly through word of mouth referrals, or from meeting potential mentors through other community programs. Mentors are paid $15 an hour. When a mentor is hired, they are placed on probation for 90 days and during that time they will learn most of what they need to know about mentoring for IDA through shadowing more experienced mentors, or the director, who carries his own caseload of youth. During this time, mentors also watch videos on working with youth and are introduced to the curriculum that the program director created with the help of the program's board members. The curriculum covers a number of topics on youth development such as family support and relationships, constructive leisure time, and positive values such as integrity, honesty and responsibility.

In addition to completion of initial training mentors attend a weekly meeting consisting of further training or guest speakers. Additionally, the weekly meeting allows the program director to review the types of activities that are being completed during sessions. As described above, IDA begins working with the youth while they are in placement at a residential treatment

[8] For the purpose of the current study, only those youth referred by probation to IDA are included in the study for Hamilton County.

facility—Hillcrest Academy. Hillcrest is run by Rite of Passage, a for profit agency serving at-risk and vulnerable youth nationwide through targeted programming, services, and unique opportunities that prepare youth to reunite with their families and communities. When youth are still residing in the treatment setting, the mentoring activities they engage in are more likely to be larger group events, with a small amount of one-on-one time. Once released, mentors and youth spend more time one-on-one and there is also a once a month large group outing that all youth participating in the program can attend. Mentors are required to touch base with youth over the phone at least twice a week and have an in-person session at least once a week. This in-person session, when it is a one-on-one session, normally lasts for one to four hours.

Typically youth are eligible to begin mentoring services once they are within 30 to 60 days of anticipated release from their residential placement. When referrals are made, the IDA director meets with the probation officer, the guardian, and the youth to review the referral information. The information received typically includes the referral reason, the case history of the youth, and their status in the residential program. While the youth has received an assessment using the OYAS, IDA does not have access to it unless they specifically ask to see it. When a request is made, the information is reviewed and the focus is on the barriers identified by the assessment. Finally, the IDA director typically meets with the youth a second time to complete the intake process, which involves reviewing the youth's background, strengths, goals, and interests. This helps the director to determine the best mentor/mentee match.

Once released from residential treatment, youth continue receiving mentoring services for three to six months depending on the needs of the youth. Youth can stay with IDA longer than the typical six months if they would like. Furthermore, the program is voluntary so a youth can cease their involvement with the organization at any time. When this occurs, they are terminated

from services and the director informs the court that the youth is no longer engaged. The program is responsive to youth needs in that they will accept any youth back at any time to continue services. Youths can also continue to participate in services even after the standard referral ends or being released from community supervision. Referrals are typically terminated by probation because the youth has either had their probation revoked (i.e., committed a new offense), they have moved out of the area, or they have been terminated from supervision.

Institutional Review Board Approval and Enrollment into the Study

Once awarded the grant, the CCJR research team applied to the University of Cincinnati's Institutional Review Board (IRB) for approval to complete the study. Initial approval was granted in December of 2013. For the parole sample (N = 399),[9] no enrollment was needed as the researchers used existing agency records provided by DYS. The probation sample, however, required active enrollment into the study. Consenting procedures varied across the sites. Youth living in Lucas and Summit counties are approximately four hours from the Cincinnati-based research staff. After discussion with program staff at each location, staff agreed to take an active role in the consenting process of youth. In Lucas County, both the program director and the administrative assistant of the mentoring agency were trained as to their responsibilities on the project and on ethical research practices as required by the University of Cincinnati's IRB. The program director and four mentors at the Summit County mentoring agency went through the same training process. Once training was complete, enrollment at the site began. In both counties, program staff approached youth and guardians about participating

[9] It is important to note that there were only 11 females that participated in a mentoring program through the DYS SCA grant. For that reason, females were removed from the analyses all together. The original number of youth in the parole sampling frame was 421.

in the study. Once a youth was consented, program staff would contact CCJR to provide youth contact information and match date.

In Hamilton County, however, the CCJR research staff were responsible for the consenting process. To consent youth into the study, the program director would forward the contact information for guardians of referred youth and CCJR staff research would conduct parental consent over the phone and youth assent in person. For the youth assent, a member of the research team would visit the mentoring agency while it was holding the monthly get together for all youth involved in the program.

Given that the research involved adults and minors, different consent processes took place. For youth who were under 18, parental/guardian consent and youth assent was obtained. For youth 18 older, only youth consent was obtained. Of note is that consenting took place over the phone and in person—this was determined by the guardian's location. For example, if guardians were available to meet in person, the consent was obtained in person. If the guardian was not met with in person, phone consenting was used. Regardless of who did the consenting, a consistent process, as dictated by the IRB protocol, was used. First, the consenter would read the information sheet to the guardian and/or youth, to gauge interest. If interested, the consent form was read to the guardian and/or youth. Next, questions from guardians and/or youth would be answered. Finally, the consent forms would be signed or verbal consent would be provided over the phone and recorded by the consenter. All of these documents can be found in Appendix A. In total, 100 youth were approached to participate in the probation sample—only 9 refused to participate. As such, the total number of youth in the probation Mentored group is 91. There was a monetary incentive used in the study—youth that completed the survey measuring match quality received a $15 gift card to a popular fast food restaurant.

Outcome Evaluation Component

The outcome evaluation component of the study, seeks to address the first two research questions regarding the impact of mentoring on youth, and whether outcomes are conditioned on risk or other youth characteristics. This component of the study was completed using a number of descriptive and multivariate analyses. Considering the number of actors involved in the juvenile justice decision-making processes and the weight of the decisions that are made, the research design did not allow for random assignment. Therefore, in order to answer the questions set out above; a quasi-experimental, matched comparison group design was employed. While not as robust as experimental designs with random assignment, quasi-experimental designs are "quite powerful and useful" especially when similar participants are used to construct the Comparison group (Posavac and Carey, 1997). Since the research team could not control who received mentoring and ultimately who were included in the Mentored groups, various controls have been used to ensure similar Comparison groups. The creation of the Mentored and Comparison groups varied for the parole and probation samples and is explained below. Furthermore, Table 1 has been provided which summarizes the data and methods used for the parole and probation samples.

Table 1. Summary of Data and Methods for Parole and Probation Samples

	Site Name	Data Collected	Sources	Sample Size	Key Measures	Analysis
Parole Mentoring Sites	All DYS Mentoring Programs	Mentoring Records Risk Assessment Results Parole Records	Provided electronically by Ohio DYS Direct Data Collection	421 (full) 399 (included in analyses)	Age, Race, Risk Level, Completion Status New Offense/ Revocation Time at Risk to Recidivate	Basic Description and Comparison Multivariate Modeling Supplementary Tests

Table 1. Summary of Data and Methods for Parole and Probation Samples

	Site Name	Data Collected	Sources	Sample Size	Key Measures	Analysis
Probation Mentoring Sites	Lucas County	Mentoring Records Risk Assessment Results Court Records	Juvenile Court Records provided electronically Direct Data Collection	137 (full)	Age, Race, Risk Level, Total # of Sessions w/ Mentor, Total # of Hours w/ Mentor, Completion Status New Offense/ Revocation Time at Risk to Recidivate	Basic Description and Comparison Multivariate Modeling Supplementary Tests
	Summit County	Mentoring Records Risk Assessment Results Court Records	Juvenile Court Records provided electronically Direct Data Collection	8 (Full)	Age, Race, Risk Level New Offense/ Revocation Time at Risk to Recidivate	Basic Description and Comparison
	Hamilton County	Mentoring Records Risk Assessment Results Court Records	Juvenile Court Records provided electronically Direct Data Collection	36 (Full)	Age, Race, Risk Level, Total # of Sessions w/ Mentor, Total # of Hours w/ Mentor, Completion Status New Offense/ Revocation Time at Risk to Recidivate	Basic Description and Comparison Multivariate Modeling Supplementary Tests

Parole Sample

For the parole sample, CCJR received data from DYS on 421 youth who were eligible for referral to mentoring services. Youth admitted to a DYS facility were informed about the

mentoring program once they were within 6 months of release and were considered eligible if they were under the age of 18 at time of enrollment, regardless of committing offense type. DYS staff would then interview youth and for those youth that DYS staff found appropriate for mentoring, the youth would sign a participation contract. The youth that were eventually matched with a mentor ($N = 190$), made up the Mentored group. The remaining youth ($N = 234$) were used as potential matches for the Comparison group. The Mentored youth were then matched to Comparison youth on a number of youth characteristics and control variables (see page 53 for more details on matching techniques).

Probation Sample

For the probation sample, youth were referred to the mentoring agencies in Lucas, Summit, and Hamilton Counties through juvenile probation in each county. In the case of all three counties, youth were referred at the discretion of the judge or the probation officer. In a review of the referral forms for mentoring in Lucas and Hamilton Counties,[10] the most common reason for referral was the desire for youth to have a pro-social adult influence in the youth's life. The eligibility requirements of the youth to participate in mentoring differed by county and are outlined above in the individual site descriptions.

In Lucas County, youth who were referred to the mentoring agencies between June 1, 2014 and January 31, 2017 were approached and consented to participate in the study. In Summit County, youth who were referred to the mentoring agencies between June 1, 2014 and August 27, 2015 were approached and consented to participate in the study.[11] Consenting in these counties was conducted by mentoring agency staff. For Hamilton County, youth who were

[10] This information was not available for Summit County youth.

[11] No new cases were enrolled after August 2014 from this location. CCJR worked with CC to determine if they could continue to participate in the study, but funding for working with juvenile justice youth was not received. As a result, CC was officially dropped from the study in August 2015.

referred to IDA between January 1, 2016 and January 31, 2017 were approached and consented to participate by CCJR research staff. CCJR collected data from the mentoring agencies on basic demographics for youth in the Mentored group as well as details about each youth's level of participation in the mentoring program and their completion status. In partnership with DYS, researchers used the online OYAS database management system to extract risk assessment and offense data. Results from the OYAS assessment completed immediately prior to the mentoring services were collected for the treatment cases.

To obtain the sampling frame for the Comparison groups for each county, CCJR extracted a report from the online OYAS system to gather a list of youth with an OYAS assessment in the same timeframe (Lucas, N = 4,264; Summit, N = 3,969; Hamilton, N = 164). There were a number of duplicates in the original extraction due to youth who received multiple assessments in the specified time frame, or through multiple entries of the same youth due to data entry error. Once duplicate cases were removed (N = 7,176), youth that participated in mentoring were removed from the data extraction (N = 100). Youth who were not placed on probation were also removed from the pool of potential comparison cases. Cases from the resulting sample (Lucas, N = 685; Summit, N = 366; Hamilton, N = 70) were then matched with the Mentored group youth from their respective counties on a number of characteristics including youth demographics and risk level.

Youth Survey Component[12]

To address the third research question regarding the impact of match quality on outcomes, researchers surveyed youth from the probation sample. Research has shown that it is

[12] The youth survey component should be thought of as a process mechanism that can help researchers understand the aspects of mentoring that may impact individual youth outcomes. As such, it is included in the description of the outcome evaluation component. The process evaluation component described below focuses on the program level measures that were collected by the research team to help determine the quality of the mentoring services.

important to measure process factors when conducting outcome research. In other words, although it is critical to test whether a particular program works, it is also important to tests variables that could be responsible for its effectiveness (Weiss, 1997). Across numerous studies that investigate the effects of clinical interventions, research has shown that the practitioner-client relationship is the most significant controllable process factor contributing to client improvement (see Krupnik, Sotsky, Simmens, Moyer, Watkins, & Elkin, 1996; Martin, Garske, and Davis, 2000). Given these past findings, it is then necessary to also explore the potential influence that the mentee-mentor relationship may have on mentees' outcomes. To do so, it is important to use a measure that most appropriately characterizes the form of the mentor-mentee relationship.

When working with people who are involved in the criminal justice system, practitioners often have two roles. They provide support, but they also must also act as a source of informal (or formal) social control to help them stay out of future trouble with the law (Trotter, 2015). When assessing relationship quality in such contexts, therefore, it is important for a measure to capture both the bond that forms between the two parties and how the practitioner engages with the offender when enforcing rules or trying to shape the offender's behavior. For example, a practitioner could be more authoritarian and controlling or could be firm-but-fair, holding the offender accountable in a manner that still gives them a voice and sense of autonomy.

The most widely studied, validated measure that captures these elements of offender-practitioner relationships is called the Dual Role Relationship Inventory-Revised (DRI-R; Skeem, Eno Louden, Polasheck, & Cap, 2007). This measure has predominantly been used in probation contexts (Kennealy, Skeem, Manchak, and Eno Louden, 2012; Manchak, Kennealy, and Skeem, 2014a; Skeem et al., 2007) but has also shown utility in mandated psychiatric

treatment settings (Manchak, Skeem, and Rook, 2014b). Good dual role relationships, characterized by fairness, caring, trust, and low use of authoritarian or "tough" interactions, have been shown to predict better offender outcomes (Kennealy et al., 2012; Manchak et al., 2014a; Skeem et al., 2007). Because the youth-mentee relationship involves elements of care, trust, concern, *and* may serve as a source of informal social control for the youth, it seems appropriate to apply this "dual role relationship" operational definition to formally evaluate the mentee-mentor relationships' impact on youth's outcomes.

Although there are strong theoretical grounds for use of the DRI-R in the mentoring setting, it is also important to examine other operational definitions of mentor-mentee relationship quality that have been tested specifically in the mentoring context. As such, we use the Youth Mentoring Survey (YMS; Harris and Nakkula, 2008) to measure mentees' perceptions about the mentoring relationship. As a supplement to these two relationship quality measures, we also sought to obtain an overall index of mentees' perceptions about the mentoring program, in general, using the Perceived Program Effectiveness (PPE) scale (Ragins, Cotton, and Miller, 2000). See Appendix B for the full survey.

At the time of enrollment, it was explained that, once the youth had participated in at least three months of mentoring services, they would be contacted to complete the survey. Approximately 60 days after a youth had been matched with their mentor, research staff mailed a reminder to the youth that they would be contacted in the coming weeks and provided the youth with an answer key for the survey. The method of survey administration varied by County. For both Lucas and Summit counties, the surveys were completed over the phone.[13] Initially, research staff started calling youth 90 days after they had been matched with a mentor.

[13] A small number of youth (n=4) completed the survey in person with research staff at the Lucas County location during the biannual visit to the site to collect data on youth consented into the program.

Approximately one month into trying to reach youth at the 90-day mark and being unsuccessful, research staff began calling youth 75 days after their match.

The process for the survey administration was different for youth in the Hamilton County location. Once youth had been mentored for 90 days, researchers would attend an activity day (i.e., where all youth attend a group event) and administer the survey to eligible youth. For IDA, the surveys were administered within a week in either direction of the 90-day match date. There were two youth surveyed at the beginning of the partnership with IDA that had been receiving mentoring services for more than 90 days. The match time did not exceed 5 months for any of the youth in the study and all youth were surveyed between 75 and 150 days after beginning their mentoring relationship.

The survey administration was scripted and adapted for either in-person or phone situations. The researcher started by reminding the youth of their agreement to participate in the study and survey and asked the youth for a verbal confirmation that they were still interested in completing the 20-minute survey. All youths contacted by researchers completed the survey. Once the survey was completed, the researcher who administered the survey confirmed the current address for the youth, asked which $15 gift card the youth would prefer from a number of choices. The gift card was then mailed to the address provided on the call, and/or given to them immediately if the survey was completed in person.

Process Evaluation Component

The process evaluation sought to address the last objective of the study—how program quality may impact differing outcomes. All of the mentoring agencies in the study—both those associated with the parole and probation samples—were assessed by the research team using the Evidence-Based Correctional Program Checklist – Mentoring (CPC-M), a tool that CCJR

developed for this project to assess the juvenile justice-based mentoring programs. The CPC-M was modified from the original Evidence-Based Correctional Program Checklist (CPC). The CPC is used to ascertain how closely programs working with offenders and delinquent youth meet known principles of effective interventions (see above in the review of the literature for a review of these principles).

The CPC was created from several studies conducted by CCJR on both adult and juvenile programs where program level characteristics were collected and then the quality of the programs was examined in relation to program level recidivism rates (see Duriez, Sullivan, Latessa, and Lovins, 2017). These studies produced strong correlations between outcomes (i.e., recidivism) and individual items, domains, areas, and overall score of the CPC. The mentoring version of the tool was updated using the research available on effective mentoring practices with youth, at-risk youth, and youth involved in the juvenile justice system (Blechman et al., 2000; DuBois et al., 2002; DuBois et al., 2011; Grossman and Rhodes, 2002; Jekielek et al., 2002; Jolliffe and Farrington, 2008; McLearn et al., 1998; Newburn and Shiner, 2006; Rhodes, 1994; Rhodes, 2008; Tolan et al., 2008). The research team adapted the CPC-M by eliminating items that do not apply to mentoring programs and by adding items that capture the type, quality, and amount of mentoring services being provided.

Data and Measures

Study data were either collected by on-site data collectors or by CCJR researchers. All data collection staff were included in the IRB protocol and were trained as to their responsibilities and ethical research practices. The data collected as part of the study was intended to be basic demographic and outcome information found through case review or database extraction. In general, all information collected or requested included youth

demographics, information on the court case that resulted in the referral to mentoring, and recidivism measures. This information was collected through an excel document created by CCJR. A full list of measures collected for this study is available in Appendix C.

Outcome Measures

There is one main outcome measure of interest for the current study for both the parole and probation samples, whether or not a youth recidivated[14].

Parole Sample. The measure of recidivism for the parole sample is a dichotomous variable that captured whether a youth was returned to the custody of DYS (1) or not (0). DYS provided researchers with recidivism data for youth in both the Mentored group and the Comparison group. To maintain consistency with how DYS operationalized recidivism, youth who committed a new offense or had their parole revoked, were considered to have recidivated.

Probation Sample. The measure of recidivism for the probation sample is a dichotomous variable that is coded as yes (1) or no (0). To determine recidivism, researchers contacted the juvenile court in the respective counties. Staff at the county courts reviewed records for youth in both the Mentored group and Comparison group and reported on any new adjudication that occurred following referral to mentoring, or after the administration of the OYAS associated with their probation. Researchers reviewed publically available records on the Clerk of Courts website for Lucas and Hamilton County to collect data on any new adult convictions.[15]

Mentoring Measures

Parole Sample. A key measure for this sample is the successful completion measure. This dichotomous measure is coded not successful (0) or successful (1). Youth were considered

[14] Recidivism does not include technical violations and as such does not allow for a more nuanced approach to exploring recidivism results.
[15] The same process was used for Summit County as well.

to have completed successfully if they did not commit a new offense or have their parole revoked and maintained active involvement for the 6 months after their release from a DYS facility.

Probation Sample. There are two measures of interest in the probation sample. The first measure is the successful completion measure, similar to the one above. Both agencies included in the probation analyses defined successful completion as active involvement for a determined amount of time without the referral being removed from the program by the probation department for violation of probation or a new charge. The second mentoring measure is the number of sessions the mentee had with their mentor. Researchers were able to collect the exact number of sessions each mentee participated in through a careful review of client files during data collection trips to the agencies. Mentees ranged widely in the number of sessions received (0 to 141). The average number of sessions was 40.44 (*SD* = 30.9). Four youth who participated in over 90 sessions with their mentor, which contributes to the top point in that range.

Risk Assessment Measures

As noted previously, the state of Ohio uses the OYAS to measure risk and needs for all youth involved in the juvenile justice system. The OYAS is a dynamic risk/needs assessment system that offers juvenile justice system personnel the ability to assess youths at various decision points, or stages, across the juvenile justice system. Items on the various tools are designed to measure key criminogenic need areas as recommended by the research on juvenile delinquency. The OYAS is comprised of five tools—four of which are used in the current study. *A detailed chart in Appendix D displays the items included on each of the tools.*

1) **Diversion (OYAS-DIV):**[16] The OYAS-DIV is designed to help juvenile courts determine who can be safely diverted away from the juvenile justice system versus who

[16] The OYAS-DIV is the only OYAS instrument that was not found in our sample.

should remain in the juvenile justice system. The tool consists of six items and can be completed through a thorough file review and/or brief face-to-face interview.

2) **Detention (OYAS-DET)**: The OYAS-DET is used with youth being considered for detention holds and provides the court with the level of risk the youth poses while on pre-trial release. This instrument consists of 6 items and can be completed through a brief face-to-face interview.

3) **Disposition (OYAS-DIS)**: The OYAS-DIS is a comprehensive tool to be used close in time to adjudication (either before or after). More specifically, the tool considers youths' overall risk to reoffend and criminogenic needs, while also identifying responsivity factors and case management strategies to facilitate successful intervention. This tool consists of seven domains, including (1) juvenile justice history (JJHx), (2) family and living arrangements (FLA); (3) peers and social support networks; (4) education and employment (EE); (5) pro-social skills (PSS); (6) substance abuse, mental health, and personality (SAMHP); and (7) values, beliefs, and attitudes (VBA). The instrument consists of 32 items and is completed through a face-to-face interview, file review, and review of information from collateral sources (e.g., parents, school records).

4) **Residential (OYAS-RES)**: The OYAS-RES is used for youth who are placed in residential programs for at least three months. The tool assesses youths' overall risk to reoffend, as well as identify criminogenic need areas and barriers to treatment (i.e., responsivity factors). The results of the OYAS-RES may also be used for case planning purposes. Similar to the OYAS-DIS, the OYAS-RES includes seven domain areas. The instrument consists of 33 items and is completed through a face-to-face interview, file review, and review of information from collateral sources (e.g., parents, school records).

5) **Reentry (OYAS-RET)**: The OYAS-RET is used to reassess youth after being in a residential program for at least six months. The OYAS-RET is based on the same domains as the OYAS-DIS and OYAS-RES, but is scored based on youths' progress in the residential program. The instrument contains 42 items and is conducted in the same manner as the OYAS-DIS and OYAS-RES.

Some items are similar across tools and others are unique to specific tools. The domains on the larger tools are similar. Examples of items in Juvenile Justice History include the number of prior misdemeanor or felony adjudications, the level of the current offense, and age of first documented juvenile justice system contact. The Family and Living Arrangements domain contains items regarding the use of consequences in the home and if these consequences are followed through with. Examples of items in Peers and Social Support Network include questions about whether the youth has friends that fight, if they have been arrested with friends, and if friends and family are involved in gang activity.

For Education and Employment, items such as suspensions and expulsions from school and the type of relationships that exist with school personnel and employers are included. Substance Abuse, Mental Health, and Personality contains items such as age of drug onset, testing positive for drug use in the last six months, the level self-esteem the youth reports having, and the amount risk taking behavior a youth displays. Finally, in Values, Beliefs, and Attitudes, items measure concepts like pro-criminal sentiments, attitudes towards gangs, and empathy.

Given that the OYAS has multiple tools, youth in this study were given different assessments depending on their stage in the juvenile justice process. In the parole sites and Lucas County—the locations where multiple tools were available—researchers used the OYAS

instrument that was completed as close in time to the offense that placed them on parole or probation.

Parole Sample. Youth placed on parole were most often assessed with the OYAS-RES tool. However, in some instances, different versions of the OYAS instrument were recorded as being completed in the OYAS database. In the parole sites, the OYAS-RES, -RET and -DIV were used.

Probation Sample. Only the OYAS-DET was used in Summit County. In Lucas County, the OYAS-DIV and OYAS-RET were used. In Hamilton County, the OYAS-RES was used.

Survey Measures

DRI-R. The DRI-R is composed of 30 items designed to assess three primary factors: Fairness and Caring (20 items), Trust (5 items), and Toughness (5 items). Youth rate these items using a 7-point Likert-style scale, ranging from "never" (1) to "always" (7). The author of the DRI-R recommends use of average scores, which were computed consistent with the scoring criteria. Higher average DRI-R scores are indicative of better relationship quality, and total average scores less than 5 are indicative of poor dual-role relationship quality (Skeem, 2017).

YMS. Developed by Applied Research Consulting (ARC), the YMS has been used with over 1,000 youth to comprehensively measure match relationship quality (Harris and Nakkula, 2008). The YMS requires youth to rate their mentor on a variety of different characteristics across 47 items[17] that assess two primary domains: (1) Internal Quality and (2) Structure. The first primary domain (23 items are included in the scoring) is the Internal Factor. This is the domain most akin to "relationship quality" as it has been operationalized in the mentoring

[17] Please note, the YMS includes three additional questions that are not included in scoring. These items ask where the mentee meets with their mentor, how often they have gotten to see their mentor, and how much time the mentee spends with their mentor when they do see one another.

literature and thus is the focus in the present study. This domain assesses three main areas: relational quality (13 items; whether the youth feels happy, close, and satisfied with the mentoring relationship), instrumental quality (7 items; the degree to which the youth perceives benefits from the mentoring relationship), and prescription (3 items; if the mentee feels the mentor is too directive; items are reverse scored). All items in this domain are rated with a 4-point Likert scale, ranging from "not at all true" (1) to "very true" (4). Higher scores are associated with higher match quality. For ease of interpretation and comparison to the DRI-R and PPE, the average total internal score was used in analyses.

The average internal quality score in the present sample was 79.0 (*SD* = 11.4), which is nearly identical to norms provided to the research team from ARC, which indicate that for community-based samples, average internal scores are 79.4 (*SD* = 13.1).

PPE. The PPE scale was originally developed to measure mentee perception of the effectiveness of mentoring in a professional work environment. Researchers selected this scale in an effort to further understand mentee satisfaction with the mentoring program as a whole. The PPE is comprised of six items that are rated on a 7-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (7), and higher scores indicate greater satisfaction with the mentoring program (Ragins et al., 2000). For ease of interpretation and comparison, the average score of each participant was used in the analyses.

Process Evaluation Measures

The CPC-M is divided into two basic areas: content and capacity. The capacity area is designed to measure whether a mentoring program has the capability to deliver evidence-based mentoring services. There are three domains in the capacity area including: Program Leadership and Development, Mentor Characteristics, and Quality Assurance. The content area includes the

Youth Assessment and Mentoring Characteristics domains, and examines the extent to which the program adheres to key principles of effective interventions (i.e., risk, need, and responsivity) and uses evidence-based mentoring practices.

In a typical CPC, a program receives a score of 1, 2 or 3 for each indicator that is met. Then, the score is totaled in each domain, area, and overall. The score is calculated based on the percentage of points received compared to the possible total number of points.[18] However, given the modifications to the CPC-M, the researchers simply assigned a score of 1 to each indicator met and tallied the total number of points received. Overall, the research team included 61 indicators on the CPC-M—meaning a program could reach a total of 61 points. Some indicators may be considered "not applicable" during the evaluation process and, when this occurs, they are subtracted from the total number of possible points in the calculation of the percentage of the domain, area, and overall scores.

The CPC-M assessment process included a site visit to collect various program traces.[19] First, interviews with mentoring staff were conducted. These include staff involved in managing, overseeing, and delivering the mentoring program (i.e., the program director, mentoring coordinator, and/or administrative staff). Second, interviews with mentors were conducted. Third, interviews were conducted with mentees. Fourth, to hear additional experiences, separate focus groups were conducted with both mentors and mentees. Finally, reviews of relevant program materials took place. For example, youth files, program policies and procedures, mentoring curricula, etc. were reviewed.

[18] Very High Adherence to evidence-based practiced (EBP; 65% to 100%); High Adherence to EBP (55% to 64%); Moderate Adherence to EBP (46% to 54%); or Low Adherence to EBP (45% or less).
[19] The three agencies that provided mentoring to youth in the parole sample did not undergo a full CPC since they had ceased providing services to youth in the study. Instead, only the program director was interviewed over the phone using CPC-M interview guide—no other CPC activities took place.

Once all of the information was gathered and reviewed, the program was scored by the research team, resulting in a CPC-M total score. The researchers used a scoring guide to ensure consistency in scoring each of the indicators. Overall, the tool helps us to provide a measure of program integrity and quality—essentially providing the research team with insight into the "black box" of these mentoring programs, something an outcome study alone does not provide.

Demographic Characteristics

Parole Sample. Several key youth characteristics were used to match youth in the Mentored group with those in the Comparison group (i.e., age, race, and risk) and used as controls (i.e., time at risk) in the models below to determine the impact of mentoring on recidivism. For the parole sample, age was determined by how old a youth was when they were interviewed for possible participation in the mentoring program. Youth in the parole sample ranged in age from 13 to 21 with a mean age of 17.64 (*SD* = 1.31).[20] When estimating diagnostics on the age variable for youth in this sample, one case (the one 13 year old in the sample) was flagged as a possible outlier. However, further inspection of the data and reviewing both the original mean age of the sample (17.64 years) and the mean with the outlier removed (17.65), it was determined that the outlier was not impacting the mean age of the sample. The overwhelming majority of youth in the parole sample were male (94.8%).

Finally, as the vast majority of the sample is comprised of African American youth (81.5%; *N* = 343), the race/Ethnicity variable was coded as a dummy variable. The breakdown of the rest of the sample is as follows; Caucasian, non-Hispanic youth represent 12.1% (*N* = 51) of the sample, Biracial youth are 3.6% (*N* = 15) of the sample, Hispanic, non-white, youth represent 1.9% (*N* = 8) of the sample, Native American and Native Alaskan youth comprise

[20] SD stands for standard deviation or the square root of the variance. This measures the spread of observations, in this case, age. The larger the standard deviation, the more spread out the observations are.

0.5% (N = 2) of the sample, and those youth that were identified as other represent the remaining 0.5% of the sample (N = 2). Due to the disproportionate distribution in the sample, the race/ethnicity variable was recoded to African American (1) vs. all other race/ethnicities (0).

Probation Sample. The key characteristics (i.e., age and race) that are described above for the parole sample were also used for the probation sample. For the probation sample, age was computed from the difference between the youth's birthdate to when they were matched to a mentor (for the Mentored group) or from the date the OYAS was administered (for the Comparison group). Youth in the probation sample were younger, on average, than the parole sample, ranging in age from 12 to 19 ($\bar{X}$ = 15.41, SD = 1.47). When estimating diagnostics on the age variable for youth in the probation sample, there were no cases identified as possible outliers.

The overwhelming majority of youth in the probation sample were male (80.7%). As such, the sample was coded into a dummy variable (1 – male, 0 – female). The majority of the sample is comprised of African American youth (65.7%; N = 119). The breakdown of the rest of the sample is as follows; Caucasian, non-Hispanic youth represent 26.5% (N = 48) of the sample, Biracial youth are 5.0% (N = 9) of the sample, Hispanic, non-white, youth represent 1.7% (N = 3) of the sample, and those youth that were identified as other represent the remaining 1.1% of the sample (N = 2). For the probation sample, the race/Ethnicity was recoded into a dummy variable (1 – African American, 0 – all others).

Control Variable - Time at Risk for New Offense

The case flow for these programs precluded a uniform follow-up period for assessing youth recidivism. Therefore, a control variable was used in the multivariate analysis in order to

account for between-youth differences in the amount of time in which they may have accumulated a new offense.

Parole Sample. For the parole sample, time at risk was calculated by taking the difference between parole start date (i.e., release) and the date of re-offense, if applicable. If the youth did not reoffend, the value of the measure was calculated based on the difference between the date on which the youth was released on parole to the date that recidivism data were collected. The Mentored group had an average time at risk of 551.03 days (*SD* = 237.26). The average time at risk for the Comparison group was slightly shorter, 532.04 days (*SD* = 283.37).[21] The difference between the Mentored and Comparison youth in the parole sample was not statistically significant. The full sample average was 542.94 (*SD* = 255.51) with a large range (111 – 1225 days).[22]

Probation Sample. The time at risk measure was calculated differently for the Mentored and Comparison groups in the probation sample. For the Mentored group, time at risk was calculated as the amount of time, in days, between being matched with a mentor and their first instance of re-offense. If a youth did not reoffend, it was calculated as the amount of time, in days, from when they were matched with a mentor, to the date that recidivism data were collected. The average time at risk, in days, for the Mentored youth in the Lucas County sample was 435.75 days (*SD* = 310.93). For the Comparison group, time at risk was calculated as the amount of time from the day that the OYAS was administered when they were placed on probation to the date of their first re-offense or, if they did not reoffend, it is calculated as the amount of time, in days, from when the OYAS was administered to the date that recidivism data

[21] Of the 399 youth in full parole sample, 86.5%, or 343, did not have any official recidivism date recorded.
[22] The large range in the control variable, *Time at Risk,* for the parole sample is attributable to the fact that juvenile court jurisdiction in Ohio extends to the age 21.

were collected. The time at risk was longer for the youth in the Comparison group, 685.85 days (*SD* = 483.04) on average. The difference between the Mentored and Comparison group was not statistically significant. The full sample from Lucas County has a mean of 557.45 days (*SD* = 424.87).

The time at risk measure was calculated the same way for the Hamilton County sample. The average time at risk, in days, was 403.67 days (*SD* = 215.07). For the Comparison group, the time at risk was longer on average, 685.85 days (*SD* = 483.04). The difference was not statistically significant. The average time at risk for Hamilton County as a whole was 550.42 days (*SD* = 461.18).

Analytic Plan

The first two aims of this study, which pertained to the effectiveness of mentoring and potential moderators of that effectiveness, were addressed through a number of descriptive and inferential statistics. First, descriptive analyses were undertaken to offer context regarding the types of youth involved in the study. These procedures included group mean comparisons (t-tests) and Chi-square tests for the initial comparative analyses related to mentoring outcomes (Weisburd and Britt, 2014). These analyses also allowed for an in-depth examination of the balance between and across the Mentored and Comparison groups, providing a sense of similarities and differences across sites and samples. The bivariate results displayed in the results section (starting on page 56) include controls for key variables that have some theoretical or substantive relevance in terms of their impact on outcomes (i.e., standardized risk scores) or were identified as possible between-group differences in preliminary analysis (i.e., time at risk for a new officially-recorded offense).

In addition to the use of multivariate statistical models for the analysis of key outcomes, a number of subgroup analyses and sensitivity checks were undertaken to unpack the findings. This included analysis by risk level, race, age, and gender.[23] Logistic regression models were estimated to understand the degree to which there were differences in recidivism by risk level and treatment effects. Additionally, interaction effects between risk level and participation in mentoring were included in the regression models to determine if the effect of mentoring on recidivism may depend on risk level. In general, all of the main study results were examined using multiple measures and available control measures.

Matching Procedure

A number of youth characteristics were used for matching. These include risk level,[24] race/ethnicity, gender, and age at time of referral. When an appropriate match could not be obtained, matches were prioritized on gender and risk level followed by age and race/ethnicity. While there was some variation across the matching variables and sites, the process generally produced mentoring and community supervision only groups that were comparable at baseline on the key factors mentioned above. Controls were added in the multivariate analyses to account for as much of the remaining imbalance as possible (e.g. length of time at risk for a new offense). Researchers used a similar matching technique for both samples in the study. The way in which the Nearest Neighbor Matching (NNM) technique was used was adjusted for the unique properties of each sample.

Parole Sample. The nature of the data in the parole sample required a post-hoc, analytic approach to matching youth. NNM was used to match Mentored cases (those that received

[23] Researchers originally intended to include gender in all of the analyses but due to lower than expected enrollment of females into the parole and probation mentoring programs, analyses by gender were not possible in some cases.
[24] It is worth noting that the use of the OYAS risk level in matching helps to condense a lot of potential confounding variables in order to get more effective control.

mentoring services) to the nearest Comparison group case (those youth that did not receive mentoring services) based on a score derived from a set of matching variables. In its simplest form, one-to one nearest neighbor matching calculates a score based on the covariates used to match youth, allowing for each youth in the Mentored group to be matched to a youth in the Comparison group with the same—or a proximal—score for each youth who participated in mentoring. In other words, a youth in the Mentored group is matched to the youth in the Comparison group who differs least on a number of variables from the Mentored case.

Additionally, for the parole sample of youth, researchers used matching with replacement. Matching with replacement allowed for youth in the Comparison group to be matched more than once to youth in the Mentored group. This method of matching estimates the counterfactual for each treatment unit, or what would have happened to mentored youth had they not participated? This allows for a more accurate estimate of the average treatment effect (Abadie, Drukker, Herr, and Imbens, 2004; Abadie and Imbens, 2011). For the parole sample of youth, there were only 11 females that received mentoring services. For this reason, the 11 females and their matches were removed from the analyses. The final number of youth in the parole sample is 399.

Probation Sample. Although the matching technique was similar for both samples, the differences in the data resulted in a distinct approach to NNM for the probation sample. Due to the smaller sample size and the fact that comparison case data had to be collected directly from the agencies, a one-to-one matching approach was used in this part of the study. This approach to NNM requires that researchers review all of the comparison group youth matched with a

mentored youth based on the matching estimator and select one.[25] The cases were then linked in the later analysis.

The third aim of the study, to determine if the quality of match between mentor and mentee impacts youth outcomes, was examined using the results of a survey of the probation sample.[26] Specifically, the average score of three separate measures was used—match quality (YMS), relationship quality (DRI-R), and satisfaction with the mentoring program (PPE), as perceived by the youth. First, youth from the three probation mentoring sites were compared on scores of these three measures using one-way analysis of variance (ANOVA). For ease of interpretation, results from independent sample t-tests are also reported for pairwise comparisons in any ANOVA tests that were statistically significant. Second, to determine the relationship of these variables to youth outcomes, youth who did and did not recidivate were compared on scores for these three measures using independent samples t-tests.

The fourth and final aim of this project, to determine if the quality of the mentoring program leads to differing outcomes for youth, was addressed through the an examination of the results of the CPC-M. Given the small sample sizes and limited variability in the programs, the CPC-M results are mainly analyzed descriptively to draw out key themes and benchmark items. Furthermore, the total CPC-M score for each site is examined relative to percent differences in recidivism for Mentored and Comparison groups at each site.

[25] The matching procedure for Lucas County produced vector scores that indicated two youth in the Mentored group matched with only one youth in the sampling frame for the Comparison group. This resulted in the Mentored group being comprised of the 69 youth consented to participate in the study and 68 youth in the Comparison group.
[26] For these analyses, youth from Summit County are included.

Results

Parole Sample

The results from the descriptive and multivariate data analyses are presented in the following section. First, to provide context for the multivariate findings the results of the descriptive analyses and group comparisons for both parole and probation are reviewed. The section concludes with a presentation of the major outcome results for each aim of the study.

Parole Sample Descriptives

Table 2 presents the main descriptive analyses stratified by Mentored and Comparison groups. The analyses included in the table are t-tests or Chi-Square tests to evaluate whether there are significant between-group differences. An effect size is also provided to indicate the strength of association between different measures. Finally, in the last column, information regarding data coverage around specific items in the analyses is provided. After completing the matching process, there were no significant differences between the Mentored group (M; N = 171) and Comparison group (C; N = 228). The Mentored group is comprised of youth who received mentoring services from a number of different mentoring agencies including: CND (N = 87, 20.7%), David's Challenge (N = 80, 19.0%), Sunlight Village (N = 23, 5.5%), Men of Standards (N = 66, 15.7%), and True North Ministry (N = 165, 39.2%). Of the 171 youth who were matched with a mentor, only 19 (11.0%) successfully completed mentoring services.

The vast majority of youth in the parole sample were male.[27] The remaining matching variables are comparable across groups. For instance, the proportion of African American youth in both groups is nearly exact with both groups at just over 81%. When examining the risk

[27] Researchers corrected for the overwhelming number of males in the sample by removing females from the final analysis. While this reduces the size of the sample, it was not possible or reasonable to match the small number of females who participated in mentoring with females in the Comparison group.

categories, the moderate risk category was the predominant category for both the Mentored (45.2%) and Comparison (39.9%) groups. Lastly, the average age for youth in the samples was comparable across groups (M, $\bar{X}$ = 17.6, *SD* = 1.34; C, $\bar{X}$ = 17.7, *SD* = 1.27). There was relatively little variation in age among the groups.

Time at risk to recidivate is an important control variable in this analysis. Time at risk was calculated by taking the difference between parole start date (i.e., release) and the date of re-offense. In cases where the youth did not recidivate, the date of data collection was used to establish that time at risk for a new offense. While the relationship is not statistically significant, the Mentored group had slightly more days at risk to recidivate on average (M, $\bar{X}$ = 47.0, *SD* = 7.2; C, $\bar{X}$ = 45.64, *SD* = 9.53).

Table 2. Parole Sample Description

Variable	Mentored Group (*n* = 171) Mean (sd)/%	Comparison Group (*n* = 228) Mean (sd)/%	*t*/X^2 (*df*)	% Missing
Matching Variables				
Risk Level				
Low	28.4	28.8	0.79 (2)	4.5
Moderate	47.3	43.4		
High	24.3	27.8		
Gender				
Male	100.0	100.0	--	0.0
Race				
Black	81.9	81.1	0.04 (1)	0.0
Age at Referral	17.6 (1.3)	17.7 (1.3)	269.6 (405)	3.6
Baseline Variables				
OYAS Domain Scores				
JJHx	3.02 (1.52)	3.17 (1.60)	0.92 (378)	4.8
FLA.	1.24 (1.53)	1.12 (1.21)	-0.83 (378)	
PSS	3.65 (2.58)	3.50 (2.17)	-0.61 (378)	
EE	1.69 (2.01)	1.38 (1.28)	-1.84 (378)	
PSS	2.66 (1.93)	2.34 (1.71)	-1.75 (378)	

Table 2. Parole Sample Description				
Variable	**Mentored Group (*n* = 171) Mean (sd)/%**	**Comparison Group (*n* = 228) Mean (sd)/%**	***t/X²* (*df*)**	**% Missing**
SAMHP	3.74 (2.64)	3.52 (1.79)	-0.95 (378)	
VBA	2.81 (2.03)	2.66 (1.83)	-0.75 (378)	
Control Variable				
Time at Risk (days)	47.0 (7.2)	45.64 (9.53)	-.268 (52)	86.5

Notes: *in t/X^2 indicates statistically significant difference at $p<.05$
t = t-statistic used for comparisons between scores or other continuous measures (e.g., age)
X^2 = Chi Square statistic used for comparisons between categorical measures (e.g., risk level)
sd = standard deviation; df = degree of freedom

Probation Sample

Analyses on the probation sample presented here include two of the three counties that participated in the study. As previously mentioned, Summit County is not included in the main outcome results due to low sample size. However, site descriptive and outcome results including Summit County are reported in Appendix E and F. It should be noted that the exclusion of this county did not lead to different outcomes for the full sample (Appendix F).

Lucas County Sample Description and Comparison of Groups

Table 3 presents the main descriptive analyses for the Lucas County sample. Also displayed in the table are the t-test or Chi-Square test to evaluate whether there are significant between group differences. Finally, information regarding data coverage around specific items in the analyses is provided in the last column. Looking at the four matching variables, there were no significant difference between the Mentored group (M; *N* = 69) and the Comparison group (C; *N* = 68), on gender. The overwhelming majority of youth in the sample were male, with males representing over 75% participants from each group. Table 3 breaks down the composition of youth referred to mentoring by risk level. Interestingly, the majority of youth were low to moderate risk (low = 44.1%, moderate = 45.6%).

The table also displays the time at risk to recidivate. For the Mentored group, this variable is calculated as the amount of time, in days, between being matched with a mentor and their first instance of re-offense—or if they did not reoffend, it is calculated as the amount of time, in days, from when they were matched with a mentor, to the date recidivism data was collected. For the Comparison group, it is calculated as the amount of time from the day that the OYAS was administered for the Comparison group to the date of their first re-offense—or, if they did not reoffend, it is calculated as the amount of time, in days, from when they were matched with a mentor, to the date recidivism data was collected. The table shows that the average length of time in months between being matched with a mentor and recidivating was 435.75 days (roughly 14.5 months), with the Comparison group being 685.85 days (roughly 23 months). This difference was statistically significant, (r_{pb} = -.297, p <.01).

There are two significant differences in the groups in the OYAS domains. Youth in the Mentored group scored higher in the Pro-social Skills domain (M = 1.69) than the Comparison group (C = 1.31), a statistically significant difference (r_{pb} = .173, p < .05). The difference in scores for Mentored youth (1.66) and Comparison youth (1.15) were statistically significant for Substance Abuse, Mental Health, and Personality (r_{pb} = .242, p < .05).

Table 3. Lucas County Simple Description

Variable	**Mentored Group (n=69) Mean (sd)/%**	**Comparison Group (n=68) Mean (sd)/%**	***t/X²* (*df*)**	**% Missing**
Matching Variables				
Risk Level				
Low	44.1	45.6	0.09 (2)	0.7
Moderate	45.6	45.6		
High	10.3	8.8		
Gender				
Male	76.8	77.9	0.02 (1)	0.0
Race				

Table 3. Lucas County Simple Description				
Variable	**Mentored Group (n=69) Mean (sd)/%**	**Comparison Group (n=68) Mean (sd)/%**	***t/X²* (*df*)**	**% Missing**
Matching Variables				
Black	55.9	58.0	0.06 (1)	0.0
Age at Referral	15.46 (1.47)	15.29 (1.54)	0.64 (135)	0.0
Other Baseline Variables				
OYAS Domain Scores				
JJHx	1.19	1.26	0.35 (133)	1.5
FLA.	2.01	1.79	-0.86 (133)	1.5
PSS	2.82	3.01	0.73 (133)	1.5
EE	2.18	1.88	-1.74 (133)	1.5
PSS	1.69	1.31	-2.02 (133)*	1.5
SAMHP	1.66	1.15	-2.65 (133)*	1.5
VBA	1.01	1.06	0.23 (133)	1.5
Mentoring Variables				
Total # of Sessions	45.5 (32.1)	--	--	0.0
Completed Mentoring				
Yes	62.3	--	--	0.0
No	26.1	--	--	
Active	11.6	--	--	
Control Variable				
Time at Risk (days)	435.75 (310.93)	685.85 (483.04)	3.61 (135)*	0.0

Notes: *in t/X^2 indicates statistically significant difference at $p<.05$
t = t-statistic used for comparisons between scores or other continuous measures (e.g., age)
X^2 = Chi Square statistic used for comparisons between categorical measures (e.g., risk level)
sd = standard deviation; df = degree of freedom

Hamilton County Sample Description and Comparison of Groups

Table 4 presents the main descriptive analyses for the Hamilton County sample, stratified by Mentored and Comparison groups. Also displayed in the table are the t-test or Chi-Square test to evaluate whether there are significant between group differences. Information regarding data coverage around specific items in the analyses is displayed in the last column. Looking at the matching variables in Table 4, there were no statistically significant differences between

those youth Mentored (M; n = 18) and the Comparison group (C; n = 18) on risk level ($X^2(2)$ = .315) on race ($X^2(1)$ = .364) and age (r_{pb} = 0.150). As described above, the Hamilton County mentoring agency, I Dream Academy (IDA), receives referrals for mentoring through probation for all of the youth residing in the county's residential program.[28] Table 4 also breaks down the composition of youth referred to mentoring by risk level. The majority of youth included in the Mentored sample are low to moderate risk (low = 29.4%, moderate = 58.8%).

The baseline measures in Table 4 display the average scores of the OYAS domains. It can be seen that there is only one domain that is significantly different between the two groups. The very last domain concerning Values, Beliefs and Attitudes (VBA) shows that the youth that make up the Comparison group, on average, scored higher (C = 2.50, SD = 1.29) in this domain than the Mentored group (M = 1.06, SD = 2.67), a statistically significant difference (r_{pb} = -.334, $p < .05$). The table also displays the time at risk to recidivate. The table shows that the average length of time in months between being matched with a mentor and recidivating was 403 days (roughly 13 months), with the Comparison group at 697.17 days (roughly 23 months), a statistically significant difference (r_{pb} = -.323, $p < .05$).

Table 4. Hamilton County Sample Description

Variable	Mentored Group (n=18) Mean (sd)/%	Comparison Group (n=18) Mean (sd)/%	*t/X² (df)*	% Missing
Matching Variables				
Risk Level				
Low	29.4	33.3	.315 (2)	2.8
Moderate	58.8	50.0		
High	11.8	16.7		
Gender				

[28] Since all participants in Hamilton County were in a residential treatment setting at time of referral to mentoring, all participants are male.

Table 4. Hamilton County Sample Description				
Variable	**Mentored Group (n=18) Mean (sd)/%**	**Comparison Group (n=18) Mean (sd)/%**	***t/X²* *(df)***	**% Missing**
Male	100.0	100.0	0.0	0.0
Race				
Black	94.4	88.9	.364 (1)	0.0
Age at Referral	15.61 (1.38)	15.22 (1.26)	269.6 (405)	3.6
Other Baseline Variables				
OYAS Domain Scores				
JJHx	1.44 (2.64)	2.78 (1.31)	-1.92 (34)	0.0
FLA.	1.06 (2.62)	0.72 (.89)	0.51 (34)	0.0
PSS	2.56 (2.99)	2.89 (1.28)	-0.43 (34)	0.0
EE	1.28 (2.53)	1.11 (.90)	0.27 (34)	0.0
PSS	2.33 (2.72)	2.33 (1.46)	.00 (34)	0.0
SAMHP	1.94 (3.06)	3.44 (1.76)	-1.81 (34)	0.0
VBA	1.06 (2.67)	2.50 (1.29)	-2.07 (34)*	0.0
Mentoring Variables				
Total # of Sessions	20.89 (13.79)	--	--	0.0
Completed Mentoring				
Yes	55.5	--	--	0.0
No	22.2	--	--	
Active	22.2	--	--	
Control Variable				
Time at Risk (days)	403.67 (215.07)	697.17 (588.24)	1.988 (34)	0.0

Notes: *in t/X^2 indicates statistically significant difference at $p<.05$
t = t-statistic used for comparisons between scores or other continuous measures (e.g., age)
X^2 = Chi Square statistic used for comparisons between categorical measures (e.g., risk level)
sd = standard deviation; df = degree of freedom

Major Outcome Results

The major outcome results are broken down by research question below. The hypothesis tests associated with these comparisons were conducted using binary logistic regression models (see Appendices G through I) that included controls for months at risk of a new offense, youth

age, youth gender, youth race (coded as black/nonblack), and risk level (coded as low, moderate, high).

Research Question 1: Are the mentoring services studied here effective in reducing delinquent and criminal reoffending?

Parole Sample.[29] To determine if there was a difference in re-offending between youth in Mentoring and those in the Comparison group, the first analysis was a basic comparison between matched groups. These results are displayed in Table 5 below. The single outcome variable for this sample is a categorical variable measuring whether or not a youth recidivated defined by DYS as a revocation of parole, a new charge, or being recommitted. The percentage of youth that was found to have recidivated was equal across groups at approximately 30%.

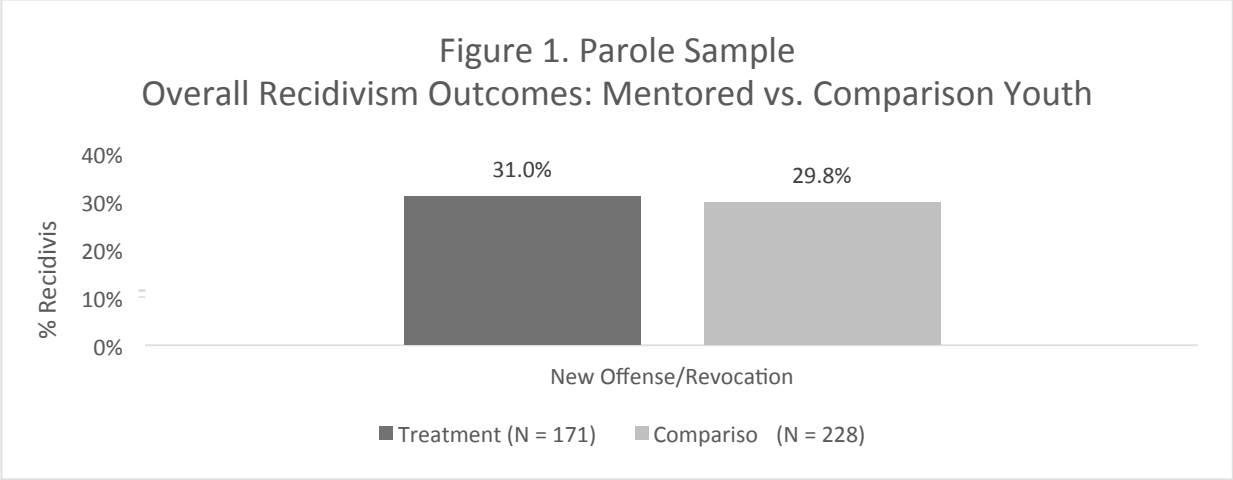
Table 5. Parole Sample Outcome Measure

Variable	Mentored Group (n=171) Mean (sd)/%	Comparison Group (n=228) Mean (sd)/%	t/X^2 (df)	% Missing
Outcome Variable				
Recidivism	31.0	29.8	.06 (1)	0.0

Notes: *in t/X^2 indicates statistically significant difference at $p<.05$
t = t-statistic used for comparisons between scores or other continuous measures (e.g., age)
X^2 = Chi Square statistic used for comparisons between categorical measures (e.g., risk level)
sd = standard deviation; df = degree of freedom

Figure 1 displays the percentage of youth in both the Mentored (31.0%) group and the Comparison group (29.8%) that recidivated. There was no statistically significant difference between the youth that participated in mentoring versus those in the Comparison group concerning their recidivism rate based on nearest neighbor matching analysis and multivariate logistic regression.

[29] Data for the parole sample was provided by DYS and was more limited than the data collected by the research team for the probation sample. Therefore, the analyses completed for the parole sample are not as extensive as the probation sample.

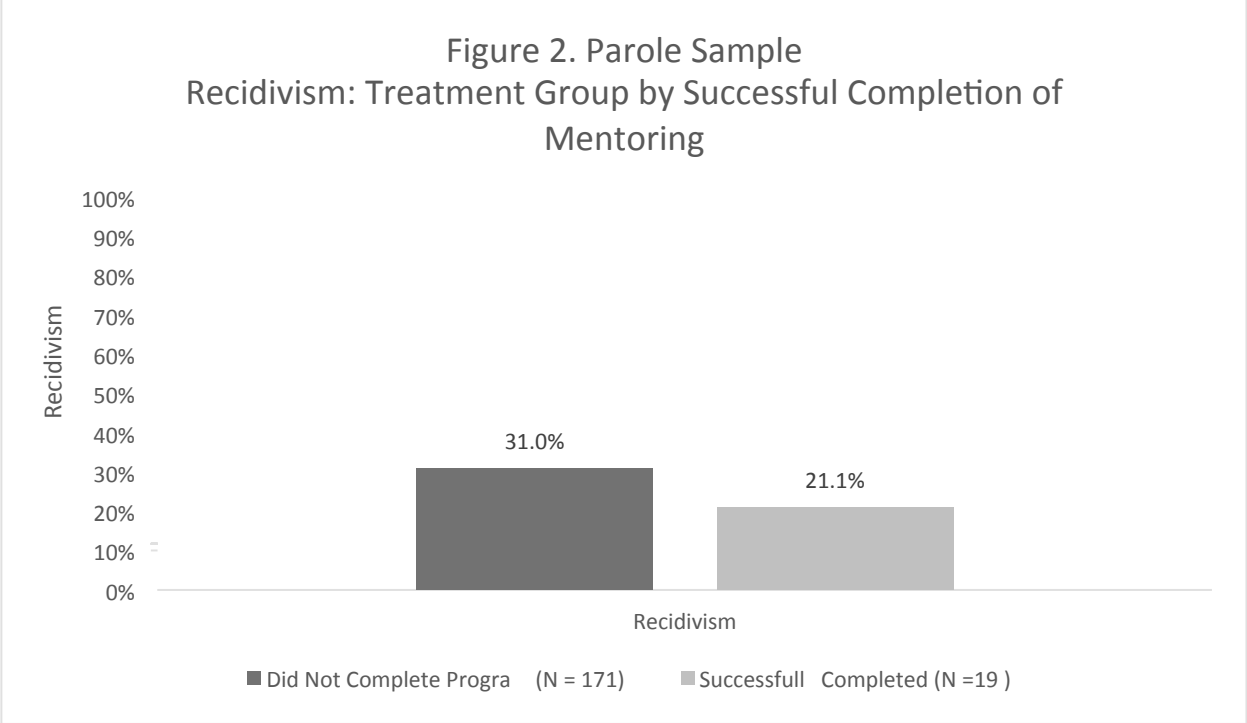


While there was a large number of youth referred to mentoring (n = 171), there were few youth that successfully completed mentoring (*N* = 17) as defined by the DYS requirements.[30] Successful completion of mentoring was based on whether a youth continued participating in mentoring services for the full six months after release from a DYS facility and did not receive a technical violation or new charge. While the number of youth that successfully completed is very small, there were higher levels of recidivism among those youth that did not successfully complete mentoring (31.0%) than those who did complete (21.1%; see Figure 2). While this difference is not trivial and suggests the potential importance of fostering completion of mentoring programs, it does not reach statistical significance in a multivariate model that includes controls for initial risk level, time at risk for a new offense, and other sociodemographic factors (see Appendix G).

A multivariate logistic regression analysis was conducted (see Appendix H) to examine the impact of mentoring on recidivism. The full model indicated that a youth who participated in mentoring was more likely to recidivate than a youth in the comparison group. The result was not statistically significant, however. The test of the full model indicated that the included

[30] As described above, female youth who participated in mentoring were removed from the analyses. This resulted in the number of youth who successfully completed mentoring to drop from 19 to youth for this analysis.

predictors (i.e. participation in mentoring and youth characteristics) reliably distinguished between those that are more likely to recidivate and those that are not (X^2(8, N = 372 = 50.07, p < .05). A review of the Hosmer and Lemeshow statistic shows that the model is a good fit (.604) and had relatively low predictive power according to the Nagelkerke statistic (.179).



Probation Sample. The results for the individual mentoring sites included in the probation sample are provided first and then the sample as a whole is discussed. In Lucas County, of the 69 youth in the Mentored group, 38 recidivated (55.1%). Of the 68 youth in the Comparison group 34 recidivated (50.0%). The difference between the two groups was not statistically significant (X^2 (1, N = 137) = 0.35.) at an alpha level of .05 (Table 6). Of the 18 youth in the Mentored group at the second probation mentoring site, Hamilton County (Table 7), 11 recidivated (61.1%) and of the 18 youth in the Comparison group 13 recidivated (72.2%). Similar to what was seen in Lucas County, the difference between the two groups was not statistically significant (X^2 [1, N = 36] = 0.50).

Table 6. Lucas County Outcome Measure				
Variable	**Mentored Group (n=69) Mean (sd)/%**	**Comparison Group (n=68) Mean (sd)/%**	***t/X² (df)***	**% Missing**
Outcome Variable				
Recidivism	55.1	50.0	0.35 (1)	0.0

Notes: *in t/X^2 indicates statistically significant difference at $p<.05$
t = t-statistic used for comparisons between scores or other continuous measures (e.g., age)
X^2 = Chi Square statistic used for comparisons between categorical measures (e.g., risk level)
sd = standard deviation; df = degree of freedom

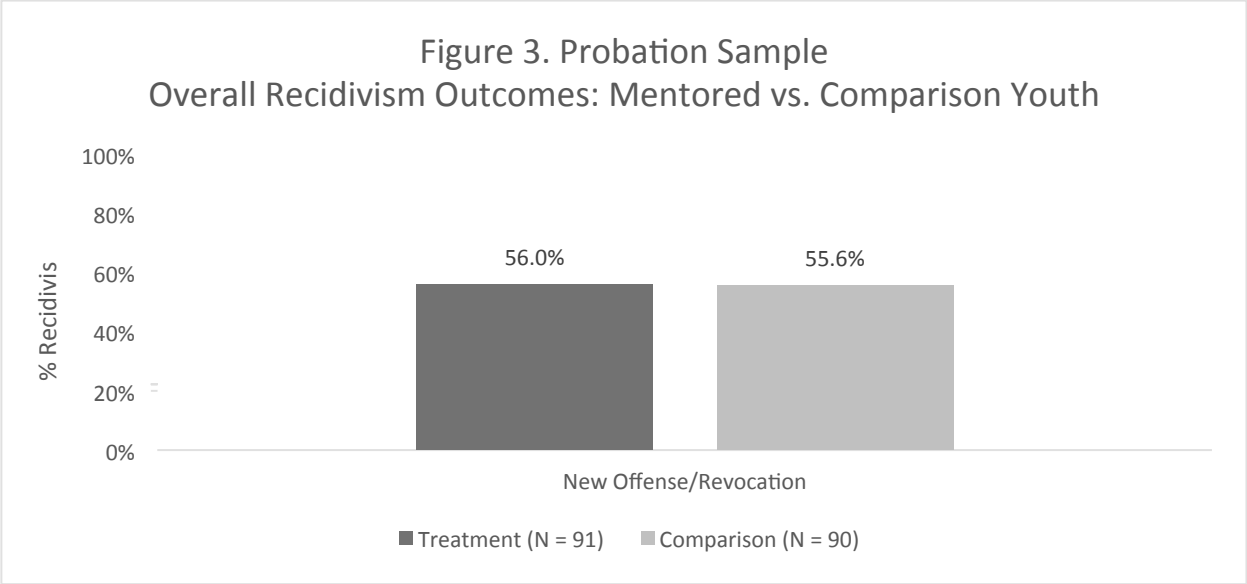
Table 7. Hamilton County Outcome Measure				
Variable	**Mentored Group (n=18) Mean (sd)/%**	**Comparison Group (n=18) Mean (sd)/%**	***t/X² (df)***	**% Missing**
Outcome Variable				
Recidivism	61.1	72.2	.50 (1)	0.0

Notes: *in t/X^2 indicates statistically significant difference at $p<.05$
t = t-statistic used for comparisons between scores or other continuous measures (e.g., age)
X^2 = Chi Square statistic used for comparisons between categorical measures (e.g., risk level)
sd = standard deviation; df = degree of freedom

The full probation sample of youth (i.e., both Lucas and Hamilton counties) was used to assess the relationship between mentoring and recidivism in the multivariate analyses. Figure 3 shows that during the tracking period (Lucas County: January 1, 2014 – August 17, 2016; Hamilton County: January 1, 2016 – August 7, 2017) 56.0% of youth that participated in mentoring recidivated, or 51 youth. Of the 90 youth that were placed on probation as usual (i.e., the Comparison group), 55.6% recidivated (N = 50). This difference between the Mentored group and Comparison group was not significant.

A multivariate logistic regression analysis was conducted with these cases as well (see Model 1 in Appendix I). This model included additional controls for risk level, time at risk, and socio-demographic characteristics. The estimate for the Mentored group was positive (OR=1.58), but non-significant in the multivariate model. In, Model 3 in Appendix I, the impact

of mentoring specific measures was examined. Two specific measures were included—successful completion of mentoring and total number of sessions completed with a mentor. Neither was a significant predictor of recidivism. Finally for the probation sample (Appendix J), possible predictors of successful completion were analyzed. None were statistically significant except the total number of sessions, which is expected to be related.

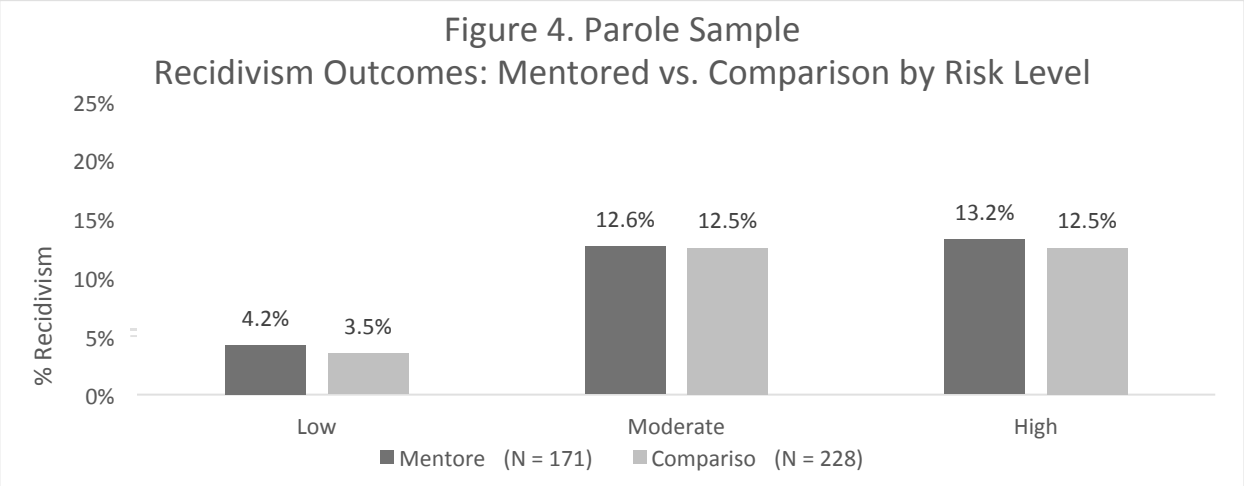


Research Question 2: Does the impact of these mentoring services differ based on youth characteristics (e.g., risk level)?

The second aim of this study involves taking a closer look at the youth characteristics that may be impacting recidivism outcomes. The study set out to test the following characteristics: gender, age, race, and risk level. Due to data limitations, only risk level was fully integrated into the analyses.

Parole Sample. One youth characteristic that was of particular interest was the impact of risk and specifically, the impact of mentoring on youth outcomes dependent on risk level. The logistic regression model for the full parole sample (Appendix H) indicates that the odds of recidivating were greater for those who were at moderate risk of reoffending (OR = 2.58), as

well as youth assessed to be at high risk to reoffend (OR = 3.73)—relative to those in the low risk group. As shown in Appendix G, the estimates for mentoring for moderate risk and mentoring for high risk were not statistically significant. This is also represented in Figure 4 below as the distances between each set of bars are relatively small (<.7%), and the distance is fairly consistent at all three levels of risk. Two covariates, race and age were significantly related to recidivism. African American youth and older youth had greater odds of recidivism.

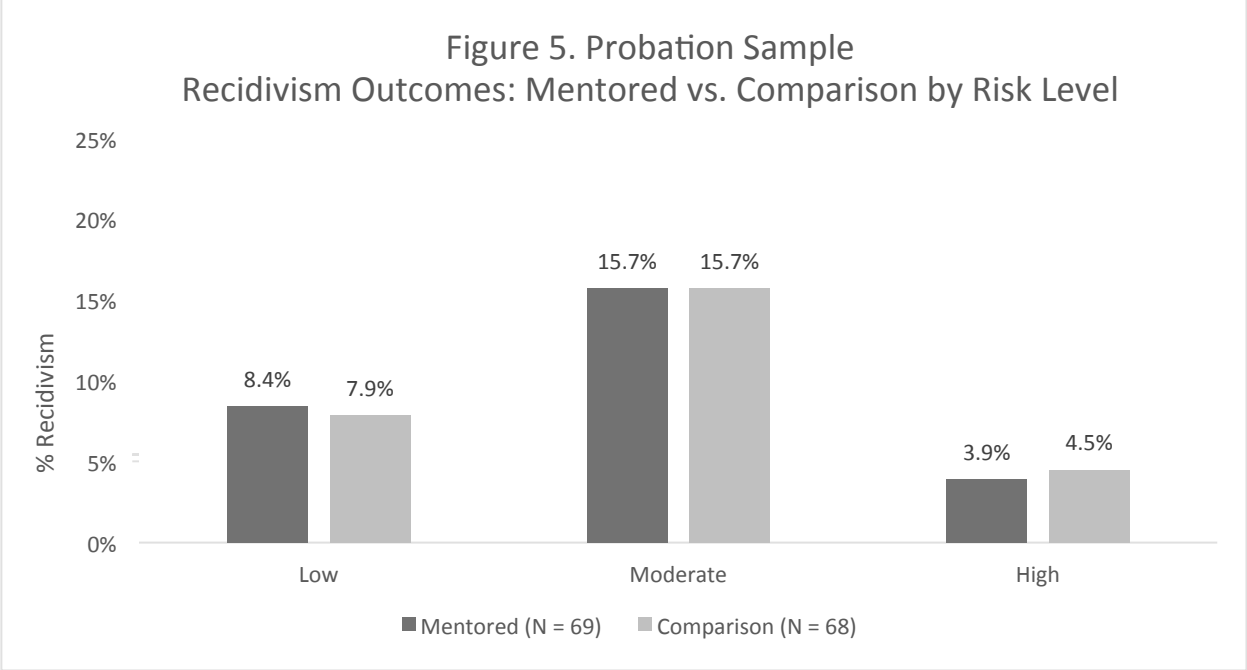


*p<.05

Probation Sample. The probation sample logistic regression models (see Models 1 and 2 in Appendix I) indicate that the odds of recidivating were far greater for those at high risk of reoffending (OR = 22.14) or the moderate risk level (OR=3.16) relative to those in the low risk group.[31] However, the interaction term estimates for mentoring and risk level were not statistically significant, suggesting that that the impact of mentoring is not dependent on the level of risk. This is also evident in the very small distances between each set of bars in the figure below (Figure 5). Furthermore, race was the only other covariate that was significantly related to

[31] Relatively few cases in the sample were assessed as high risk (n=18 total, split across the two groups) so these results should be interpreted cautiously.

recidivism. African American youth had approximately three times greater odds of recidivism compared to youth from other races.



Research Question 3: Does the quality of the match between mentor and mentee impact youth outcomes?

Researchers approached this broader aim by identifying two objectives—(1) to describe mentees' perceptions of their mentor-mentee relationship (DRI-R), match quality (YMS), and satisfaction with their mentoring program (PPE) and determine whether youth differ across sites on these variables; and (2) to determine whether the DRI-R, YMS, and PPE scores are associated with youth's outcomes. Just as with the first and second research questions, survey descriptives are provided to add context to the main results. Then, the results for each objective are provided.

Survey Sample Demographics

The full sample of probation youth in the Mentored group, 91 total, were targeted for inclusion in the survey. This number represents all youth matched to a mentor during the period of the study in the three counties targeted: Lucas, Summit, and Hamilton. In total, 75% of these

youth (N = 68) responded to recruitment efforts and completed the survey, and 25% declined participation or could not be contacted (N = 23). Those who did not complete the survey did not statistically differ from those who did on age, OYAS score, race, gender, or recidivism outcomes. The final survey sample was largely male (79.4%; N = 54), African American (69.1%; N = 47), and classified as low (43.1%, N = 28) or moderate (47.7%, N =31) risk based on the OYAS. The average age for survey participants was 15.2 (SD = 1.6).

Objective 1: To describe mentees' perceptions of their mentor-mentee relationship (DRI-R), match quality characteristics (YMS), and satisfaction with their mentoring program (PPE) and determine whether youth differ across sites on these variables.

To address this first objective, we first computed the means and standard deviations at the total and (when relevant) factor score levels, both for the full sample and by site, for each of the three measures administered. Then, whether youth across the three sites differed on these measures was examined using a one-way analysis of Variance (ANOVA). Results are shown in Tables 8-11 and discussed in detail below.

DRI-R. Results for the DRI-R indicate that youth generally report strong dual role relationship quality with their mentors (high fairness/caring and trust, and low toughness), as indicated by mean total scores higher than 5. When sites were compared to one another, omnibus tests indicated no statistically significant differences at the total score level.

Table 8. DRI-R Means & Standard Deviations for Total Average Scores

	Total (n = 70)	**Lucas** (n = 51)	**Summit** (n = 2)	**Hamilton** (n = 17)
DRI-R Total	6.66 (0.26)	6.68 (0.26)	6.77 (0.00)	6.59 (0.27)

YMS. Results for the YMS indicate that youth had generally favorable views of their match in the Internal Scale (high relational and instrumental quality and low prescription). Omnibus tests of group mean differences between the sites indicate differences in the Internal

Scale (F (df = 67) = 7.48, p < .001), and post-hoc analyses indicated that the difference was between Lucas and Hamilton counties. Specifically, Hamilton youth reported lower relationship quality than Lucas youth (t (df = 64) = 3.79, p < .001).

Table 9. YMS Means & Standard Deviations for Total Average Scores

	Total (n = 70)	**Lucas** (n = 51)	**Summit** (n = 2)	**Hamilton** (n = 17)
YMS Internal Total	3.21 (0.44)	3.31 (0.36)	3.39 (0.00)	2.86 (0.55)

PPE. Results for the PPE scale suggest that youth had generally positive views about the mentoring program, as indicated by scores of 5 or higher out of 7. Omnibus results from the ANOVA comparing youth across sites on the total PPE scale average score were significant (F (df = 69) = 3.23, p = 0.05), and post-hoc analyses indicated that the difference was again between Lucas and Hamilton counties. Consistent with the findings from the YMS, youth from Hamilton rated the mentoring program less favorably than youth from Lucas (t (df = 66) = 2.46, p = 0.02).

Table 10. PPE Means & Standard Deviations for Total Average Scores

	Total (n = 70)	**Lucas** (n = 51)	**Summit** (n = 2)	**Hamilton** (n = 17)
PPE Total	5.78 (0.81)	5.92 (0.66)	5.42 (0.82)	5.38 (1.08)

Objective 2: Determine whether the DRI-R, YMS, and PPE scores are associated with youth outcomes.

To determine the relationship between the three survey measures and recidivism, several independent samples t-tests were performed. Specifically, we compared those who did and did not recidivate on the DRI-R, YMS Internal Scale, and PPE average scores. As indicated in Table 11, the only differences observed between recidivists and non-recidivists on these measures was

on the PPE, where a medium effect was observed (*Cohens d* = -0.74).[32] Findings suggest that those youth who recidivated had more satisfaction with their mentoring program than youth who did not recidivate. Aspects of the mentor-mentee relationship, as operationalized by the YMS Internal Scale or the DRI-R scores, had no bearing on youth's juvenile and criminal justice outcomes.

Table 11. Means & Standard Deviations for Recidivists and non-Recidivists

	Non-recidivists	Recidivists
DRI-R Total	6.65 (0.31)	6.67 (0.21)
YMS Internal	3.23 (0.45)	3.17 (0.44)
PPE Total *	5.54 (0.96)	5.97 (0.62)

**t* (*df* = 66) = -2.25, *p* = 0.03

Research Question 4: Does the quality of the mentoring program lead to differing outcomes?

To investigate the final aim of the study, researchers assessed the mentoring programs that provided services to youth in both the parole and probation samples using the CPC-M. In the following pages, the results of those assessments are reviewed including an examination of the impact of the quality on youth outcomes. Results for the CPC-M are presented in three ways. First, program-level results are presented in Table 12. A checkmark is given for each CPC-M indicator that has been met. Across programs, many of the indicators in the Program Leadership and Development, Mentor Characteristics, and Mentee Assessment have been met. More variability, however, is seen in Mentoring Characteristics and Quality Assurance.

There are many CPC-M indicators that at least five of the six mentoring programs met—indicating areas of consistency across the programs. In Program Leadership and Development, these include the following indicators: program directors have adequate experience, program

[32] The relationship between PPE and recidivism maintained its directional consistency (b=0.87), but was no longer statistically significant (p=.096) in a multivariate logistic regression model that contained sociodemographic controls, time at risk for a new offense, and the assessed risk level.

directors are involved in training mentors, program directors directly supervise mentors, programs report adequate support from their juvenile justice partners, have stable funding, and consider gender when matching the mentors and mentees. In Mentor Characteristics, all or most of the programs met relevant criteria for the following indicators: having solid recruitment and hiring processes for mentors, requiring at least monthly meetings for the mentors, allowing mentors an avenue to provide input, having mentors that support the program's goals and values, and sufficient ethical guidelines for the mentors. In the next domain, Mentee Assessment, all or most of the programs met the following indicators: youth are appropriate for mentoring services, objective needs assessments are used, higher risk (moderate or higher) youth are targeted, and the assessments that are used are validated.

Table 12. CPC-M Results

	Parole			Probation		
	David's Challenge	**CND**	**Sunlight Village**	**LCYAP**	**CC**	**IDA**
Program Leadership and Development						
Program director (PD) qualified	√	√	--	--	√	--
PD experienced	√	√	√	√	√	√
PD selects mentors	√	--	--	√	√	√
PD trains mentors	√	√	√	√	√	√
PD supervises mentors	√	√	√	√	√	√
PD contact with matches	--	--	--	--	--	√
Literature review	--	--	--	--	--	--
Pilot changes	--	--	--	--	--	--
Juvenile justice support	--	√	√	√	√	--
Community support	√	√	--	√	√	√
Adequate funding	--	√	--	√	√	--
Stable funding	√	√	√	√	√	√
Program age	√	√	--	√	√	√
Gender matching	√	√	√	√	√	√
Mentor Characteristics						
Recruiting strategies	√	√	√	√	√	√

Table 12. CPC-M Results

	Parole			Probation		
	David's Challenge	**CND**	**Sunlight Village**	**LCYAP**	**CC**	**IDA**
Hiring process	√	√	√	√	√	√
Skills and values	√	√	--	√	√	√
Mentor meetings	√	√	√	√	√	√
Mentor assessment	--	--	--	--	√	--
Initial training	√	--	--	--	√	--
Annual training	√	--	√	--	--	--
Mentor input	√	√	√	√	√	√
Goals and values	√	√	√	√	√	√
Ethical guidelines	√	√	√	√	√	√
Mentee Assessment						
Youth appropriate	√	√	--	√	√	√
Exclusionary criteria	√	--	--	--	--	--
Risk assessment	√	√	√	--	--	√
Need assessment	√	√	√	√	√	√
Responsivity assessment	--	--	--	--	--	--
Higher risk youth	√	√	√	√	√	√
Tools validated	√	√	√	√	√	√
Mentoring Characteristics						
Targets criminogenic needs	√	√	√	√	√	--
Prosocial activities	--	√	√	√	√	√
Match length	--	--	--	--	--	--
Track activities	--	√	--	√	√	√
Manual developed	--	√	--	--	√	√
Manual followed	--	--	--	--	√	√
Hours per week	√	√	√	√	√	√
Mentoring intensity	--	√	--	√	--	√
Matching process	--	--	--	--	--	--
Mentee input	√	--	√	√	√	√
Rewards	√	--	--	√	√	√
Reward ratio	--	--	--	√	--	√
Reward application	--	--	--	--	--	--
Sanctions	--	--	--	√	--	√
Sanction application	--	--	--	--	--	--
Negative effects	--	--	--	√	--	--

Table 12. CPC-M Results

	Parole			Probation		
	David's Challenge	**CND**	**Sunlight Village**	**LCYAP**	**CC**	**IDA**
Completion criteria	--	--	--	--	--	√
Completion rate	--	√	--	--	√	√
Skill modeling	--	--	--	--	--	--
Skill practice	--	--	--	--	--	--
Graduated practice	--	--	--	--	--	--
Support persons trained	--	--	--	--	--	--
Quality Assurance						
Internal QA	--	--	--	--	√	√
External QA	NA	NA	NA	NA	NA	NA
Mentee satisfaction	√	--	√	√	√	√
Mentee reassessment	--	--	--	--	√	√
Recidivism tracked	--	--	--	--	--	--
Program evaluation	--	--	--	--	--	--
Program effective	--	--	--	--	--	--
Program evaluator	--	--	--	√	--	--

In looking at the domain with the largest number of indicators, Mentoring Characteristics, all or most programs met the following indicators: targeting criminogenic needs, engaging the mentees in pro-social activities, ensuring at least one hour of mentoring services happens each week, and ensuring that mentees have a structured way to provide input to the mentors and/or mentoring agency. Lastly, in the Quality Assurance domain, only one indicator was met by the majority of the programs—collecting mentee satisfaction.

Several indicators were rarely met in these mentoring programs, which help to identify common areas for improvement across the programs. In Program Leadership, there were two indicators—conducting a thorough literature search about mentoring and using that information to shape the program and formal piloting of changes to the program. In the Mentor Characteristics domain, only one indicator fell into this category—having an annual evaluation process for mentors on their skills. In the Mentee Assessment domain, this included having

formal (i.e., written) exclusionary criteria for the youth that are not appropriate to participate in mentoring services that are followed by program and staff and conducting assessment on at least two responsivity (i.e., potential barriers) factors for each youth.

Several Mentoring Characteristic indicators were not met regularly: having long-standing mentor-mentee relationships (i.e., at least one year), establishing a matching process that was informed by responsivity assessments (e.g., barriers), proper application of rewards and sanctions to increase the likelihood of program completion and positive youth changes, not monitoring negative effects that may occur when mentees or the program may have to hold youth accountable, the teaching of new skills and concepts through mentor modeling, mentee practice, and the use of graduated practice, and training family/guardians. The majority of indicators in the Quality Assurance domain fell into this category, with the following indicators not being met: formal reassessment of mentee progress, tracking recidivism, having the program evaluated and being found effective using a risk-controlled comparison group approach, and having a program evaluator that routinely reviews data and provides that information to the agency.

The second way to look at the CPC-M results is by considering the raw scores, which can be found in Table 13. This table displays the total number of points earned in each domain, each area, and the overall score of the CPC-M. Scores were quite high in Program Leadership and Development with all but one program scoring nine points or higher (out of 14; *SD* = 2.09). The scores were also very high for Mentor Characteristics with all of the programs scoring seven points or higher (out of 10; *SD* = 1.03). Quality Assurance consistently received low scores with a range of zero to three points (out of 7; *SD* = 1.21). The combination of scores in these three

areas results in the score for the Capacity area. This ranged from a low of 13 points to a high of 23 points (*SD* = 3.26).

Table 13. CPC-M Results

		Parole			Probation		
	Total Possible Points	**David's Challenge**	**CND**	**Sunlight Village**	**LCYAP**	**CC**	**IDA**
Program Leadership and Development	14	9	10	5	10	11	9
Mentor Characteristics	10	9	7	7	7	9	7
Quality Assurance	7	1	0	1	2	3	3
Capacity Total	31	19	17	13	19	23	19
Mentee Assessment	7	6	5	4	4	4	5
Mentoring Characteristics	22	4	7	4	9	9	12
Content Total	29	10	12	8	13	13	17
Overall Total	60	29	29	21	32	36	36

Mentee Assessment also received high scores. Out of a total of seven possible points, all programs scored a four or higher (*SD* = .81). For the final domain, Mentoring Characteristics, consisting of 22 items, the highest score was 12 and the lowest was four (*SD* = 3.14). The combination of Mentee Assessment and Mentoring Characteristics provides the score for the Content area. Out of a total possible 29 indicators, scores ranged from a low of eight to a high of 17 (*SD* = 3.06). By adding the total number of indicators met together, the overall total score is produced. As stated, there are 60 indicators on the CPC-M. The overall score ranged from a high of 36 points to a low of 21 points (*SD* = 5.6). This suggests that there was relatively little variability in the CPC scores for these programs—especially those that enrolled the youth in the study's probation sample.

Finally, in Table 14 the effect that the quality of the mentoring program has on recidivism is presented. The CPC-M score and the percent difference in recidivism rates for the Mentored and Comparison groups are presented. For the parole sample sites, David's Challenge (*N* = 80) and CND (*N* = 87), there were differences in the rate of recidivism for those youth in the mentoring programs as opposed to the full sample of youth who were not mentored (-3.9% and -3.6%, respectively). For the Mentored youth who participated in the Sunlight Village program (*N* = 23), the rate of recidivism was greatly increased (+41.2%). For the probation sites, both CC (N = 8) and IDA (N = 36), there were reductions in the rate of recidivism for those youth in the Mentored group (-20% and -11.1%, respectively). For LCYAP, there was a slight increase in the rate of recidivism for youth in the Mentored group (+5.1%). Generally, in each sample, the pattern is the same—programs with higher scores tend to have better outcomes in terms of overall differences in recidivism for the Mentored group versus the Comparison group.

In the multivariate regression models, presented in Appendix K, the overall program score was included in the model to determine if the CPC-M score was predictive of youth outcomes. In Model 1, in appendix K, the results of the analysis indicate that the scores of the CPC-M for each site are not significantly associated with the overall recidivism rates. In Model 2, in Appendix K, controls for the mentoring programs that served Hamilton County and Lucas County were added to the model. The conclusions were similar as there were no significant relationships between program quality and recidivism.

Table 14. CPC-M Results and Recidivism Rates

	Parole			Probation		
	David's Challenge	**CND**	**Sunlight Village**	**LCYAP**	**CC**	**IDA**
CPC-M Score	29	29	21	32	36	36

Table 14. CPC-M Results and Recidivism Rates						
	Parole			Probation		
	David's Challenge	CND	Sunlight Village	LCYAP	CC	IDA
% Recidivism Difference	-3.9%	-3.6%	+41.2%	+5.1%	-20%	-11.1%

Summary and Discussion

This study was undertaken to add to the research on the effectiveness of mentoring programs for youth involved in the juvenile justice system. Previous research has shown that mentoring leads to improvements in the areas of self-efficacy, relationships with adults and parents, improved school performance, school attendance, attitudes toward school, an increased likelihood of moving on to higher education, improved employment outcomes, and reduced delinquency (Rhodes, 2008; DuBois et al., 2002; Dubois et al., 2011; Tolan et al., 2013), but gaps in the research and inconsistent findings concerning the effectiveness of mentoring with justice-involved youth remain.

From this starting point, the research team outlined four research questions to help bridge these gaps: (1) Are the mentoring services studied here effective in reducing delinquent and criminal reoffending?; (2) Does the impact of these mentoring services differ based on youth characteristics (e.g., risk level)?; (3) Does the quality of the match between mentor and mentee impact youth outcomes?; and (4) Does the quality of the mentoring program lead to differing outcomes? The results presented above provide useful insight on the questions driving this study and the performance of mentoring agencies generally. In this section of the report, key findings are discussed in relation to the research goals, limitations are considered, and conclusions follow.

Research Question 1: Are the mentoring services studied here effective in reducing delinquent and criminal reoffending?

In looking at both samples, youth were predominantly moderate and high risk and between 15 and 16 years of age. The parole sample consisted solely of males and the probation sample was more than 80 percent male. Both samples were predominantly African-American. The samples were matched fairly well with their respective Comparison groups and this can be seen in the lack of statistically significant differences between the Mentored and Comparison groups in both samples on matching and control variables. This was true across youth characteristics, OYAS domain scores, and time at risk to recidivate.

The results from this study provide limited support for the impact of mentoring on recidivism. For the parole sample of youth, there were no statistically significant differences between those youth that participated in mentoring and those that did not. Of the nearly 200 parole youth that were matched with a mentor, only 19 successfully completed the program. In this group of successful completers, the recidivism rate was lower—31 percent in the Comparison group versus 21 percent in the Mentored group. While, multivariate modeling found no significant differences between the completers/not when other relevant controls were included in the analysis, this reduction may have reached statistical significance if more youth had successfully completed. As such, mentoring programs may wish to evaluate completion requirements and ensure they are realistic for the youth. In the current study, with this parole sample, the results suggest that participation in mentoring did not lead to a decrease in the likelihood of recidivism.

The probation sample did find that Mentored youth were slightly less likely to recidivate than their counterparts placed on probation as usual, but these results were also not statistically

significant. Two of the three probation sites (Summit and Hamilton Counties)[33] evidenced lower rates of recidivism for the Mentored group versus the Comparison group. These results are tempered by small effect and sample sizes. It is important to consider these results in the context of the differences of the two samples. Youth from the parole sample had been in state run, locked facilities. As such, there may be notable differences in youth characteristics between the parole and probation samples. Related, the parole youth may have been supervised more closely than the probation youth and/or have had different supervision expectations placed on them. Furthermore, the two samples received different mentoring programs at different times with different components and completion rates. All of these may impact the results in this study. They do suggest, however, that the impact of mentoring on recidivism was limited—regardless of the depth to which youth had penetrated the system.

The samples do have one key thing in common: they were both under formal community supervision and mentoring was an expectation of this community supervision. All of the mentoring agencies in this study had close relationships with the juvenile probation or parole department and were required to report when a youth was not complying with mentoring. This may have inadvertently increased the intensity of the supervision of these youth with the mentoring agencies serving as a pseudo community supervision agent. We did try to take this into consideration as we did not include technical violations in our operational definition of recidivism for the probation sample, but it may still have had an impact on the results observed here.

The results of this study are in line with other studies of the impact of mentoring on juvenile recidivism. For example, Jolliffe and Farrington (2008) found that reductions in

[33] Given the low sample sizes, Summit County results are reported in Appendix F.

recidivism ranged from four to ten percent in studies of lower methodological quality, while no such reduction was found for studies with higher methodological quality. Furthermore, Newburn and Shiner's (2006) analysis of British mentoring programs, serving youth with self-reported delinquent behavior (e.g., auto theft, vandalism, weapons possession, assault, etc.) found improvements in education and work, but they did not find reductions in delinquent offending.

Research Question 2: Does the impact of these mentoring services differ based on youth characteristics (e.g., risk level)?

The impact of mentoring is significantly moderated by risk level in both the parole or probation sample. When stratified by risk level, the relative recidivism levels were nearly identical in both the parole and probation samples. The similar performance across both samples and the associated risk level distributions suggests that mentoring had minimal impact on youth recidivism irrespective of the starting risk level. This was confirmed with formal analysis of interaction effects. Unfortunately, the results of this study don't allow us to proffer suggestions on which youth might benefit the most from mentoring services. Unfortunately, not all youth characteristics could be fully tested and only race and age were included in the logistic regression models. Of those, race was significant for both samples of youth; African American youth were more likely to recidivate. Age was significant for the parole sample only and indicated that older youth were more likely to recidivate. Like other studies, this study evidences a relationship between race and recidivism and age and recidivism and suggests that juvenile justice agencies must have sufficient resources and effective programming to address the risk and needs of a variety of different subpopulations of youth. It is essential that minority youth have access to beneficial programming as well.

Research Question 3: Does the quality of the match between mentor and mentee impact youth outcomes?

Results suggest that youths' perceptions of the mentor-mentee relationship quality, as operationalized by both the DRI-R and the Internal Scale of the YMS were unrelated to recidivism. However, satisfaction with the mentoring program (PPE) was related to youth outcomes, but in the opposite direction than expected; bivariate analysis suggested higher satisfaction among those who recidivated. These findings lie in contrast to past research that suggests that "common factors," such as the relationship between clients and therapists in treatment (Krupnik et al., 1996) or criminal justice officials and offenders in community supervision (Kennealy et al., 2012; Skeem et al., 2007), have a strong and positive influence on outcomes. As such, these discrepancies warrant some further discussion.

Two factors, in particular, may help contextualize these seemingly anomalous findings. First, it is possible that the sample was too small to detect an effect for DRI-R and YMS scores on youth's recidivism. However, the differences between recidivists and non-recidivists on DRI-R and YMS Internal Scale scores were negligible (i.e., fractions of a point), so it is not necessarily likely that a larger sample would have led to different conclusions. Second, it is possible that the mentoring relationship—in the context examined—is not the type of relationship that would impact delinquency outcomes. Past research shows that criminogenic needs must be targeted and/or offenders must be taught prosocial skills and held accountable for their actions (Bonta & Andrews, 2017) using a firm-but-fair approach (Skeem et al., 2007), if recidivism reduction is expected. If these relationships are mostly supportive, emphasizing friendship and companionship at the expense of prosocial skill building or improvements in criminogenic needs, they are unlikely to impact delinquent and criminal outcomes. Indeed,

although most of the mentoring locations were targeting appropriate behaviors (i.e., prosocial relationships and activities), we did not see much evidence that the mentoring agencies and the mentors were consistent in dealing with inappropriate behavior in a way that helps youth change their behavior in the long term.

Research Question 4: Does the quality of the mentoring program lead to differing outcomes?

The CPC-M results were explored in several different manners to answer questions about the link between mentoring program quality and youth outcomes. First, program level results for each CPC-M indicator were examined. These evidenced that generally, many of the indicators in the Program Leadership and Development, Mentor Characteristics, and Mentee Assessment were met. More variability, however, was seen in the Mentoring Characteristics and Quality Assurance domains. Second, raw CPC-M scores were examined. Out of a total of 60 points, scores ranged from 21 to 36, showing some variability in adherence to proven methods for effective mentoring programs and also that there is room for improvement in adherence in all of the domains. Finally, CPC-M scores and the percent difference in recidivism rates for the Mentored and Comparison groups was reviewed—this showed that programs with higher scores did evidence reductions in recidivism. However, this was not significant in the multivariate models. The limited sample sizes of youth who participated in each mentoring program combined with the lack of variability in recidivism rates do not permit us to formally add the literature on the programmatic elements of mentoring programs that lead to successful outcomes for youth involved in the juvenile justice system.

The time spent at the mentoring agencies and interacting with both youth and mentors—coupled with trends in the CPC-M data (i.e., higher scores evidenced lower recidivism rates)—

allow us to add a few tentative observations. First, youth genuinely enjoyed the mentoring services they received. These programs allowed them to participate in activities they would not normally have had the opportunity to experience. Relevant average scores from the three tools used in the youth survey all surpassed normative scores provided by the authors of the tools. Second, it was clear that the youth who participated in mentoring developed positive relationships with prosocial adults, which could help them in building positive social skills and support. The mentors acted as someone the youth could talk to that was not their parent/guardian or their peer, but also not a true authority figure. Third, the mentoring program staff and mentors believe in the work they are doing and are resolutely attempting to positively influence youth. Still, in looking at the research on what works with this population (discussed above) and the inconclusive results of this study, the mentoring services as delivered by these programs, were not enough to significantly affect recidivism in recently-paroled youth or those on probation. As such, mentoring agencies that work with youth involved in the juvenile justice system should utilize a more formalized and structured approach where criminogenic needs are systematically targeted in a way that helps the youth build skills to manage common high-risk situations. It might also be viewed (and studied) more as a complementary service that is introduced alongside other treatment and other appropriate interventions (e.g., incentives and sanctions) to effectively target multiple risk and needs.

Study Limitations

There were a number of unanticipated challenges encountered with this study and several important limitations should be discussed. These are grouped into four main areas: (1) sample sizes; (2) data concerns; (3) survey response bias; and (4) CPC-M analyses.

Sample Sizes

Sample sizes were lower than included in the original proposal. Based on discussions with relevant state and local agencies, the research team believed that a significant number of youth would receive mentoring services during the course of the study. While the overall sample was fairly large, just 19 youth actually completed the entire mentoring program in the parole portion of the study. In the probation sample, only 91 youth were enrolled in the Mentored group. Despite employing multiple problem solving strategies, the sample was well under the projected numbers. The small sample sizes limited our ability to carry out the study as designed. For example, youth characteristics, like gender, could not be tested and we were not able to analyze the Summit county data independently. Furthermore, as a result of the small sample sizes, some analyses lack statistical power. Nevertheless, the differences in recidivism between Mentored and Comparison youth were minimal in the sufficiently powered parole sample and that trend in effect sizes generally followed in the subsequent comparisons based on smaller samples. This means that the results would be unlikely to change if projected over larger, but similar, study samples.

Data Concerns

First, only official recidivism measures were included. As such, technical violations that did not result in a new arrest or charge and delinquent and criminal behavior that were not detected were not included in the results. Second, we did not have access to information on other services that youths received while involved in the juvenile justice system and this is a hindrance in contextualizing the findings and also knowing about the programming that may have been packaged with mentoring. Third, in creating the Comparison groups for each county, we extracted a report from the online OYAS system to gather a list of youth with an OYAS

assessment in the same timeframe (Lucas, N = 4,264; Summit, N = 3,969; Hamilton, N = 164). As can be seen, Hamilton County rarely used the OYAS during this time period, and we therefore had limited cases to use for matching at that site. However, it does appear to have been sufficient for this study given that there were no statistically significant differences in the Mentored group relative to the Comparison group on the matching variables.

Fourth, this study mainly relied on a comparison of outcomes for youth who participated in mentoring versus those youth who were processed through the juvenile justice system but did not receive mentoring services while on community supervision. Without random assignment, there is likely to be some residual imbalance between groups, in both samples, in terms of unobserved factors that might influence outcomes. This is observed in this study, where there is some imbalance between groups in terms of unobserved factors that might influence outcomes. While comparison groups can never be constructed with perfect fidelity in a quasi-experimental design, the groups used here tended to be quite similar on a number of important factors—particularly the OYAS risk level measure which captures a number of important baseline variables that could be confounds in comparing outcomes across these groups. In those cases where differences were identified, a number of relevant controls were utilized in the main analyses and sensitivity checks were carried out as needed to determine whether the findings were robust to possible methodological/analytic problems. In general, the consistency in the main findings across various analyses and subgroups within the larger sample suggests that the overall conclusions reached here are an accurate reflection of the data collected for the study.

Finally, successful completion is important in any comparative study of juvenile justice programming. For the parole sample, however, the SCA grant included in its definition of successful completion not committing a new offense or having their parole revoked. As such,

successful completion for the parole sample is in some ways dependent on their recidivism. In order to examine this further, we explored the reasons for unsuccessful completion. The vast majority of youth who did not successfully complete ended their participation in mentoring for reasons other than recidivism (e.g., voluntarily ending participation).

Survey Response Bias

The primary limitation of the survey concerns the possibility that some youth may have had a response bias. Specifically, even though youth had been mailed answer options for the questions in advance, youth rarely reported that they actually had the answer options in front of them at the time of the call. This may have contributed to over-use of the extreme ends of the scales and, ultimately, ceiling effects with little variance across the measures administered. Despite this possibility, confidence in the survey's generalizability was increased by the 76.9% response rate for the survey—a response rate that is quite impressive for both phone surveys and studies of justice involved samples.

CPC-M

The CPC-M scores for the parole mentoring programs were calculated based solely from the interview with the program director and the full site visit process was not utilized to score these programs. Several factors limited the ability to make formal comparisons of recidivism based on program characteristics. First, there was little variation in the CPC-M scores in the various mentoring programs included in the study. Second, given that the CPC-M was developed for this study, the tool has not been validated. As such, the research team cannot guarantee that (a) that each indicator is linked with reductions in recidivism or (b) that the higher a program scores, the more effective they should be. Rather, the CPC-M was used here as a rough measure to gauge the quality of the mentoring services being delivered and describe

relevant characteristics of those programs as a starting point for further investigation on how they might be linked to youth outcomes.

Conclusion

In spite of these limitations, the study makes some important specific contributions to the literature. Extant research has found consistently positive results for the use of mentoring with youth identified as at-risk. However, the results differ and are inconsistent for justice-involved youths—especially when the main outcome of interest is recidivism. Previous studies that have utilized more rigorous research designs have resulted in less favorable support for the use of mentoring with this population, and the results of the current study are in line with that finding. The present study produced mixed findings—in some of the analyses for this study, mentoring services reduced recidivism and in others, there was no change. When mentoring services reduced recidivism, the effects were relatively small and did not reach statistical significance.

While mentoring may be a beneficial intervention for other youth populations, the findings from this study caution the widespread use of mentoring for the *sole* purpose of reducing recidivism. Some of the results suggest that certain populations of delinquent youth, namely younger youth, may be more appropriate for mentoring than older youth. The results were not dependent on risk level, meaning that youth received the same level of benefit, regardless of his or her risks and needs. Although previous mentoring studies with at-risk youth suggest that the quality of the match relationship is a key element for improved outcomes, the present study did not replicate this observation. Such findings may be reflective of important differences between youth involved in the juvenile justice system and at-risk youth. The findings also suggest that mentors working with justice-involved youth may not necessarily be addressing issues pertinent to behavior change in areas directly relevant to ongoing delinquency.

Overall, the findings from the current study support the assertion that there needs to be more extensive and rigorous research on the impact of mentoring with different populations of youth, for a variety of outcomes. Such a body of knowledge would yield important insights into both the promise and limitations of mentoring programs for youth. Future research must address whether it is reasonable to expect that mentoring services necessarily help reduce recidivism. If so, these programs need to operate more specifically for these populations and be purposeful in delivering mentoring tailored for delinquent youth. If mentors can serve as another juvenile justice system actor—providing social support, facilitating prosocial learning, and engaging in social control, mentors must be trained in the skills and techniques needed to be effective.

The results of this study suggest that mentoring must be packaged with other interventions if it is to be successful in forestalling youths' further involvement in the juvenile justice system. This should also inform further research on these programs—additional research is needed to identify the components of mentoring services that are correlated with reductions in recidivism. Once identified, a system could be created by which mentoring agencies can be evaluated, or complete a self-assessment, as to their adherence to these components. While the CPC-M may be an important first step in this direction and it is trending in the right direction, results from the multivariate analyses did not find that higher scores on the tool were significantly correlated with the recidivism measures.

Juvenile justice resources have proven effective in reducing future juvenile and criminal justice involvement and it is important that young people are receiving the most effective interventions to help reduce future delinquency. This report presents some interesting findings that may inform practice and research to better understand how to best pursue that objective, but also suggest some caution given its limitations.

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Appendices

Appendix A: IRB Materials: IRB #: 2013-6760

Information Sheet for Research
University of Cincinnati
Department: School of Criminal Justice
Principal Investigator: Edward Latessa

Title of Study: Effectiveness of Juvenile Offender Mentoring Programs on Recidivism

Introduction:
You are being asked to take part in a research study. Please read this paper carefully and ask questions about anything that you do not understand.

Who is doing this research study?
The person in charge of this research study is Edward Latessa of the University of Cincinnati (UC) School of Criminal Justice.

What is the purpose of this research study?
The purpose of this research study is to test if mentoring services are helpful for youth on probation.

Who will be in this research study?
About 2100 people will take part in this study. You may be in this study if you are on probation and in a mentoring program. You cannot be in the research study if you are 13 or younger.

What will you be asked to do in this research study, and how long will it take?

- By agreeing to be in the study, you will allow us to access data the county and state collects on you about your court case and your participation in the mentoring program.
- You will be asked to complete one survey over the phone. This survey will ask you about your experience in the mentoring program. It will take about 25 minutes to complete. Approximately two weeks before the call you will receive a reminder and instructions in the mail.

Are there any risks to being in this research study?
Some questions may make you uncomfortable. You can refuse to answer any questions on the survey that you don't want to answer.

Are there any benefits from being in this research study?
You will probably not get any benefit from taking part in this study. But, being in this study may

help people who work in the juvenile justice system understand mentoring programs.

What will you get because of being in this research study?
If you complete the survey, you will be given a $15 gift card to a popular restaurant.

Do you have choices about taking part in this research study?
If you do not want to take part in this research study you:

- may simply not participate.
- may turn in a blank survey.
- will receive the same services you already get.
- will not be treated any differently.

How will your research information be kept confidential?
Information about you will be kept private by:

- You will be assigned a unique ID number.
- We will keep the master list of names and study ID numbers in a password protected file.
- We will use a study ID number instead of your name on the survey.
- We will limit access to research data to the research team.
- We will keep all research data on a password-protected computer.

Your consent forms will be kept at the mentoring agency for approximately a month. It will be kept in a locked file cabinet in a locked office. After that it will be given to the research staff at the University. At the University, it will be kept in a locked file cabinet in the locked office of the project manager.

Your survey will be kept in a locked file cabinet in the locked office of the project manager. The electronic data that we receive from the state or county will be kept in a password protected file on the computer of the project manager.

We will keep your consent form and survey for three years after the completion of the study. We will keep de-identified electronic data indefinitely. The data from this research study may be published; but you will not be identified by name.

Agents of the University of Cincinnati or the funding agency, the Office of Juvenile Justice and Delinquency Prevention, may inspect study records for audit or quality assurance purposes.

What are your legal rights in this research study?
Nothing in this consent form waives any legal rights you may have. This consent form also does not release the investigator, the Office of Juvenile Justice and Delinquency Prevention, the institution, or its agents from liability for negligence.

What if you have questions about this research study?
If you have any questions or concerns about this research study, you should contact Edward Latessa at 513-556-5836.

The UC Institutional Review Board reviews all research projects that involve human participants to be sure the rights and welfare of participants are protected.

If you have questions about your rights as a participant or complaints about the study, you may contact the UC IRB at (513) 558-5259. Or, you may call the UC Research Compliance Hotline at (800) 889-1547, or write to the IRB, 300 University Hall, ML 0567, 51 Goodman Drive, Cincinnati, OH 45221-0567, or email the IRB office at irb@ucmail.uc.edu.

Do you HAVE to take part in this research study?
No one has to be in this research study. Refusing to take part will NOT cause any penalty or loss of benefits that you would otherwise have. You may skip any questions on the survey that you don't want to answer.

You may start and then change your mind and stop at any time. To stop being in the study, you should tell the project director, Carrie Sullivan, at carrie.sullivan@uc.edu or 513-556-2036.

BY TURNING IN YOUR COMPLETED SURVEY YOU INDICATE YOUR CONSENT FOR YOUR ANSWERS TO BE USED IN THIS RESEARCH STUDY.

PLEASE KEEP THIS INFORMATION SHEET FOR YOUR REFERENCE.

Information Sheet for Research – Parental Verbal Consent
University of Cincinnati
Department: School of Criminal Justice
Principal Investigator: Edward Latessa

Title of Study: Effectiveness of Juvenile Offender Mentoring Programs on Recidivism

Introduction:
You are being asked to allow your child to take part in a research study. Please read this paper carefully and ask questions about anything that you do not understand. You can call or email Carrie Sullivan at sullivc7@ucmail.uc.edu or 513-556-2036 with any questions you have.

Who is doing this research study?
The person in charge of this research study is Edward Latessa of the University of Cincinnati (UC) School of Criminal Justice.

What is the purpose of this research study?
The purpose of this research study is to test if mentoring services are helpful for youth on probation.

Who will be in this research study?
About 2100 people will take part in this study. Your child may be in this study if they are on probation and in a mentoring program. Your child cannot be in the research study if they are 13 or younger.

What will you be asked to do in this research study, and how long will it take?
Your child will be asked to complete one survey over the phone. This survey will ask your child about the quality of the relationship they had with their mentor. The survey will take about 20 minutes to complete.

Are there any risks to being in this research study?
Some questions may make your child uncomfortable. He/she can refuse to answer any questions that he/she does not want to answer.

Are there any benefits from being in this research study?
Your child will probably not get any benefit from taking part in this study. But, being in this study may help people who work in the juvenile justice system understand mentoring programs.

What will you get because of being in this research study?
If your child completes the survey, he/she will be given a $15 gift card to a popular restaurant.

Do you have choices about taking part in this research study?
If you do not want your child to take part in this research study you:

- May simply not give your permission.
- Your child will not be treated any differently if you do not agree to let he/she participate.

How will your research information be kept confidential?
Information about your child will be kept private by:

- Your child will be assigned a unique ID number.
- We will keep the master list of names and study ID numbers in a password protected file.
- We will use a study ID number instead of your child's name on the survey.
- We will limit access to research data to the research team.
- We will keep all research data on a password-protected computer.

Your consent forms will be kept at the mentoring agency for approximately a month. It will be kept in a locked file cabinet in a locked office. After that it will be given to the research staff at the University. At the University, it will be kept in a locked file cabinet in the locked office of the project manager.

Your survey will be kept in a locked file cabinet in the locked office of the project manager. The electronic data that we receive from the state or county will be kept in a password protected file on the computer of the project manager.

We will keep your consent form and survey for three years after the completion of the study. We will keep de-identified electronic data indefinitely. The data from this research study may be published; but you will not be identified by name.

Agents of the University of Cincinnati or the funding agency, the Office of Juvenile Justice and Delinquency Prevention, may inspect study records for audit or quality assurance purposes.

What are your legal rights in this research study?
Nothing in this consent form waives any legal rights you may have. This consent form also does not release the investigator, the Office of Juvenile Justice and Delinquency Prevention, the institution, or its agents from liability for negligence.

What if you have questions about this research study?
If you have any questions or concerns about this research study, you should contact Edward Latessa at 513-556-5836.

The UC Institutional Review Board reviews all research projects that involve human participants

to be sure the rights and welfare of participants are protected.

If you have questions about your rights as a participant or complaints about the study, you may contact the UC IRB at (513) 558-5259. Or, you may call the UC Research Compliance Hotline at (800) 889-1547, or write to the IRB, 300 University Hall, ML 0567, 51 Goodman Drive, Cincinnati, OH 45221-0567, or email the IRB office at irb@ucmail.uc.edu.

Do you HAVE to take part in this research study?
No one has to be in this research study. Refusing to take part will NOT cause any penalty or loss of benefits that your child would otherwise have. Your child may skip any questions on the survey that he/she does not want to answer. You and your child may start and then change your mind and stop at any time. To stop being in the study, you or your child should tell the project director, Carrie Sullivan at sullivc7@ucmail.uc.edu or 513-556-2036.

Phone Script for Research Study
University of Cincinnati
Department: School of Criminal Justice
Principal Investigator: Edward Latessa

Title of Study: Effectiveness of Juvenile Offender Mentoring Programs on Recidivism

Hello, thank you for talking with me today. Your mentoring agency (INSERT NAME) has partnered with the University of Cincinnati Corrections Institute to conduct a study to test whether mentoring is helpful for youth on probation. Your child has been selected to participate in this research study due to his/her involvement in the mentoring program they were referred to. Your child's involvement in this study is completely voluntary. This means that your child does not have to be a part of this study. Your decision to participate will not affect your child's legal status. Both you and your child must agree to participate for your child to be enrolled in the study.

If you agree to allow your child to participate, your child will be one of 350 people taking part in this study. Your child will be asked to participate in one telephone survey with study staff. The survey will last about 20 minutes depending on your child's responses. The interview will ask your child questions about their experiences with their mentor and their feelings about the quality of the relationship they had with their mentor. Your child will receive a gift card for their participation and completion of the survey. Researchers at the University of Cincinnati Corrections Institute will keep the information collected from your child secure and confidential. However, there are legal limits to this. Researchers may need to divulge information when they are legally required to. I'd like to tell you more about the study, may I proceed?

Thank you for letting me read that information sheet. Do you have any questions that I can answer? I need to verify that you are willing to allow your child to participate in the study. Do you agree to let your child participate?

☐ Yes
☐ No

Name of Consenter (print): _____

Signature of Consenter: _____

Date: _____

Parent Permission for Child's Participation in Research
University of Cincinnati
Department: School of Criminal Justice
Principal Investigator: Edward Latessa

Title of Study: Effectiveness of Juvenile Offender Mentoring Programs on Recidivism

Introduction:
You are being asked to allow your child to take part in a research study. Please read this paper carefully and ask questions about anything that you do not understand.

Who is doing this research study?
The person in charge of this research study is Edward Latessa of the University of Cincinnati (UC) School of Criminal Justice.

What is the purpose of this research study?
The purpose of this research study is to test if mentoring services are helpful for youth on probation.

Who will be in this research study?
About 2100 children will take part in this study. Your child may be in this study if he or she is on probation and in a mentoring program. Your child cannot be in the research study if he or she is 13 or younger.

What will your child be asked to do in this research study, and how long will it take?

- Your child will be asked to allow us to access data from the county and state records about their court case and their participation in the mentoring program.
- Your child will be asked to complete one survey over the phone. This survey will ask about your child's experiences in the mentoring program. It will take about 25 minutes. Approximately two weeks before the call your child will receive a reminder and instructions in the mail.

Are there any risks to being in this research study?
Some questions may make your child uncomfortable. Your child can refuse to answer any questions that he or she does not want to answer.

Are there any benefits from being in this research study?
Your child will probably not get any direct benefit from taking part in this study. But, being in this study may help people who work in the juvenile justice system better understand the importance of mentoring programs.

What will your child get because of being in this research study?
If your child completes the survey, he or she will be given a $15 gift card to a popular restaurant to thank them for the time needed to complete the survey.

Does your child have choices about taking part in this research study?
If you do not want your child to take part in this research study he or she:

- may simply not participate in the research study.
- tell us that he or she does not want to do the survey.
- will continue to receive the same services he or she already gets.
- will not be treated any differently.

How will your child's research information be kept confidential?
Information about your child will be kept private by:

- Your child will be assigned a unique ID number.
- We will keep the master list of names and study ID numbers in a password protected file.
- We will use a study ID number instead of your child's name on the survey.
- We will limit access to research data to the research team at the University of Cincinnati only.
- We will keep all research data on a password-protected computer.

Your child's consent forms will be kept at the mentoring agency for approximately one month. It will be kept in a locked file cabinet in a locked office. After that it will be given to the research staff at the University. At the University, it will be kept in a locked file cabinet in the locked office of the project manager.

Your child's survey will be kept in a locked file cabinet in the locked office of the project manager. The electronic data that we receive from the state or county will be kept in a password protected file on the computer of the project manager.

We will keep your child's consent form and survey for three years after the completion of the study. We will keep de-identified electronic data indefinitely. The data from this research study may be published; but your child will not be identified by name.

Agents of the University of Cincinnati or the funding agency, the Office of Juvenile Justice and Delinquency Prevention, may inspect study records for audit or quality assurance purposes.

What are your and your child's legal rights in this research study?
Nothing in this consent form waives any legal rights your child may have. This consent form also does not release the investigator, the Office of Juvenile Justice and Delinquency Prevention, the institution, or its agents from liability for negligence.

What if you or your child has questions about this research study?
If you or your child has any questions or concerns about this research study, you should contact Edward Latessa at 513-556-5836.

The UC Institutional Review Board reviews all research projects that involve human participants to be sure the rights and welfare of participants are protected.

If you have questions about your child's rights as a participant or complaints about the study, you may contact the UC IRB at (513) 558-5259. Or, you may call the UC Research Compliance Hotline at (800) 889-1547, or write to the IRB, 300 University Hall, ML 0567, 51 Goodman Drive, Cincinnati, OH 45221-0567, or email the IRB office at irb@ucmail.uc.edu.

Does your child HAVE to take part in this research study?
No one has to be in this research study. Refusing to take part will NOT cause any penalty or loss of benefits that you or your child would otherwise have. You may give your permission and then change your mind and take your child out of this study at any time. To take your child out of the study, you should tell the project director, Carrie Sullivan, at carrie.sullivan@uc.edu or 513-556-2036.

Your child will be asked if he or she wants to take part in this research study. Even if you say yes, your child may still say no.

Agreement:
I have read this information and have received answers to any questions I asked. I give my permission for my child to participate in this research study. I will receive a copy of this signed and dated Parent Permission form to keep.

You Child's Name (please print) _____

Your Child's Date of Birth _____ (Month / Day / Year)

Parent/Legal Guardian's Signature _____ Date _____

Signature of Person Obtaining Permission _____ Date _____

Youth Assent Form for Research
(Ages 12-17 Years)
University of Cincinnati
Department: School of Criminal Justice
Principal Investigator: Edward Latessa

Title of Study: Effectiveness of Juvenile Offender Mentoring Programs on Recidivism

Introduction:
You are being asked to be in a research study. Please ask questions about anything you do not understand.

Who is doing this research study?
The person in charge of this research study is Edward Latessa of the University of Cincinnati (UC) School of Criminal Justice.

What is the purpose of this research study?
The purpose of this research study is to test if mentoring services are helpful for youth on probation.

How many people will be in this research study?
About 2100 people will take part in this study. You may be in this study if you are on probation and in a mentoring program. You cannot be in the research study if you are 13 or younger.

What will you be asked to do in this research study, and how long will it take?

- By agreeing to be in the study, you give us permission to access information about your court case and your participation in the mentoring program that is already collected by the county and state.
- You will be asked to complete one survey over the phone. This survey will ask you about your experience in the mentoring program. It will take about 25 minutes to complete. Approximately two weeks before the call you will receive a reminder and instructions in the mail.

Are there any risks to being in this research study?
Some questions may make you uncomfortable. You can refuse to answer any questions on the survey that you do not want to answer.

Are there any benefits from being in this research study?
You will probably not get any direct benefit from taking part in this study. But, being in this study may help people who work in the juvenile justice system understand mentoring programs.

What will you get because of being in this research study?
If you complete the survey, you will be given a $15 gift card to a popular restaurant.

Do you have choices about taking part in this research study?
If you do not want to take part in this research study:

- You may tell us you do not want to participate in the research study.
- You can participate in the study, but not participate in the survey.
- You will receive the same services you already get.
- You will not be treated any differently.

How will your research information be kept confidential?
Information about you will be kept private by:

- You will be assigned a unique ID number.
- We will keep the master list of names and study ID numbers in a password protected file.
- We will use a study ID number instead of your name on the survey.
- We will limit access to research data to the research team.
- We will keep all research data on a password-protected computer.

Your consent forms will be kept at the mentoring agency for approximately a month. It will be kept in a locked file cabinet in a locked office. After that it will be given to the research staff at the University. At the University, it will be kept in a locked file cabinet in the locked office of the project manager.

Your survey will be kept in a locked file cabinet in the locked office of the project manager. The electronic data that we receive from the state or county will be kept in a password protected file on the computer of the project manager.

We will keep your consent form and survey for three years after the completion of the study. We will keep de-identified electronic data indefinitely. The data from this research study may be published; but you will not be identified by name.

Agents of the University of Cincinnati or the funding agency, the Office of Juvenile Justice and Delinquency Prevention, may inspect study records for audit or quality assurance purposes.

What are your legal rights in this research study?
Nothing in this assent form takes away your rights.

What if you have questions about this research study?
If you have any questions or concerns about this research study, you should contact Edward Latessa at 513-556-5836.

Do you HAVE to take part in this research study?
No one has to be in this research study. You will not get in any trouble if you say no. You may start and then change your mind and stop at any time. You may skip any questions on the survey that you don't want to answer. To stop being in the study, you should tell the project director, Carrie Sullivan, at carrie.sullivan@uc.edu or 513-556-2036.

Agreement:
I have read this information. I want to be in this research study.

Your Name (please print) _____

Your Date of Birth _____ (Month / Day / Year)

Your Signature _____ Date _____

Signature of Person Obtaining Assent _____ Date _____

Adult Consent Form for Research
University of Cincinnati
Department: School of Criminal Justice
Principal Investigator: Edward Latessa

Title of Study: Effectiveness of Juvenile Offender Mentoring Programs on Recidivism

Introduction:
You are being asked to be in a research study. Please ask questions about anything you do not understand.

Who is doing this research study?
The person in charge of this research study is Edward Latessa of the University of Cincinnati (UC) School of Criminal Justice.

What is the purpose of this research study?
The purpose of this research study is to test if mentoring services are helpful for youth on probation.

How many people will be in this research study?
About 2100 people will take part in this study. You may be in this study if you are on probation and in a mentoring program. You cannot be in the research study if you are 13 or younger.

What will you be asked to do in this research study, and how long will it take?

- By agreeing to be in the study, you will allow us to access data the county and state collects on you about your court case and your participation in the mentoring program.
- You will be asked to fill out one survey. It will take about 15 minutes. The survey will be mailed to your home. We will call you to remind you to complete the survey and you can complete the survey on the phone.

Are there any risks to being in this research study?
Some questions may make you uncomfortable. You can refuse to answer any questions on the survey that you don't want to answer.

Are there any benefits from being in this research study?
You will probably not get any benefit from taking part in this study. But, being in this study may help people who work in the juvenile justice system understand mentoring programs.

What will you get because of being in this research study?
If you complete the survey, you will be given a $15 gift card to a popular restaurant.

Do you have choices about taking part in this research study?
If you do not want to take part in this research study:

- You may simply not participate.
- You may turn in a blank survey.
- You will receive the same services you already get.
- You will not be treated any differently.

How will your research information be kept confidential?
Information about you will be kept private by:

- You will be assigned a unique ID number.
- We will keep the master list of names and study ID numbers in a password protected file.
- We will use a study ID number instead of your name on the survey.
- We will limit access to research data to the research team.
- We will keep all research data on a password-protected computer.

Your consent forms will be kept at the mentoring agency for approximately a month. It will be kept in a locked file cabinet in a locked office. After that it will be given to the research staff at the University. At the University, it will be kept in a locked file cabinet in the locked office of the project manager.

Your survey will be kept in a locked file cabinet in the locked office of the project manager. The electronic data that we receive from the state or county will be kept in a password protected file on the computer of the project manager.

We will keep your consent form and survey for three years after the completion of the study. We will keep de-identified electronic data indefinitely. The data from this research study may be published; but you will not be identified by name.

Agents of the University of Cincinnati or the funding agency, the Office of Juvenile Justice and Delinquency Prevention, may inspect study records for audit or quality assurance purposes.

What are your legal rights in this research study?
Nothing in this consent form takes away your rights. This consent form also does not release the investigator, the Office of Juvenile Justice and Delinquency Prevention, the institution, or its agents from liability for negligence.

What if you have questions about this research study?
If you have any questions or concerns about this research study, you should contact Edward Latessa at 513-556-5836. The UC Institutional Review Board reviews all research projects that involve human participants to be sure the rights and welfare of participants are protected. If you

have questions about your rights as a participant or complaints about the study, you may contact the UC IRB at (513) 558-5259. Or, you may call the UC Research Compliance Hotline at (800) 889-1547, or write to the IRB, 300 University Hall, ML 0567, 51 Goodman Drive, Cincinnati, OH 45221-0567, or email the IRB office at irb@ucmail.uc.edu.

Do you HAVE to take part in this research study?
No one has to be in this research study. You will not get in any trouble if you say no. You may start and then change your mind and stop at any time. You may skip any questions on the survey that you don't want to answer. To stop being in the study, you should tell the project director, Carrie Sullivan, at carrie.sullivan@uc.edu or 513-556-2036.

Agreement:
I have read this information. I want to be in this research study.

Your Name (please print) _____

Your Date of Birth _____ (Month / Day / Year)

Your Signature _____ Date _____

Signature of Person Obtaining Consent_____ Date _____

Appendix B: Youth Survey

Mentoring Best Practices Research:
Effectiveness of Juvenile Offender Mentoring Programs on Recidivism

Survey Instructions:
Hello, my name is _____ and I am calling from the University of Cincinnati Corrections Institute. Is _____ (youth's name) available?
Hi _____ (youth's name). A couple of weeks ago you should have received a letter in the mail explaining that I would be calling to complete a survey with you over the phone about your experiences in the mentoring program. We are doing a study to see how well this program works, and your input would be really helpful to us. Do you have about 20 to 25 minutes to complete the survey with me now?
(If YES, continue.)

If NO:
Okay, is there a better time I can call so we can complete the survey?
Day: _____ Time: _____
Okay, I will talk to you then! Thank you, _____ (youth's name).

Great! I just want to let you know that your participation is completely voluntary and you do not need to respond to any questions you don't wish to. Additionally, because this is a confidential questionnaire I am going to ask that you not share any of the specific questions I ask you with your mentor or probation officer. In turn, I keep your answers just between you and I. Does that make sense?

You will receive a $15 gift card in the mail if you participate. May I continue?

Okay good. In the letter you received there should have been a second sheet of paper labeled a "Score Card". Do you still have that piece of paper?

(If YES, continue.)

If NO:
Do you have access to a computer so that I could email you a copy?
- If yes, email and stay on the line while youth retrieves score card from email.
    - If no, ask about texting option.
        - If no, inform youth they will need to write the options down.

The first thing I am going to do is ask you to get the score card and pen in order to jot some things down as we go. As I move through the survey I will provide you directions for the different types of questions I will ask and direct you to the write portion of the score card you should be consulting when giving a response. Does that make sense?

Okay, are you ready? Great!

Looking at your score guide, do you see where it says **section 1**? Okay, those are the responses choices for this first set of questions.

The following sentences describe some of the different ways a person might think or feel about his or her mentor. Each sentence will come with a seven point scale.

1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	7 Always

If the statement describes the way you ***always*** think or feel respond with the number 7; if it is ***never*** applies to you respond with the number 1. Please try hard to use the numbers in between to exactly how you feel.

As a reminder, this questionnaire is CONFIDENTIAL: neither your mentor nor the agency will see your answers.

Please answer honestly.
Also, answer as quickly as you can, your first impressions are the ones we would like to see. What is your mentor's name? Ok, ready? Great!

1. _____ cares about me as a person.

1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	7 Always

2. I feel free to discuss the things that worry me with _____.

1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	7 Always

3. _____ explains what I am supposed to do and why it would be good to do it.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

4. _____ tries very hard to do the right thing by me.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

5. When I have trouble doing what I am supposed to do, _____ talks with me and listens to what I have to say.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

6. If I break the rules, _____ calmly explains what has to be done and why.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

7. _____ is enthusiastic and optimistic with me.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

8. I feel safe enough to be open and honest with _____.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

9. _____ talks down to me.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

10. _____ encourages me to work together with him/her.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

11. _____ trusts me to be honest with him/her.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

12. _____ really considers my situation when deciding what I'm supposed to do.

1	2	3	4	5	6	7

Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

13. _____ seems devoted to helping me overcome my problems.

1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	7 Always

14. _____ puts me down when I've done something wrong.

1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	7 Always

15. _____ is warm and friendly with me.

1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	7 Always

16. _____ treats me fairly.

1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	7 Always

17. _____ really cares about my concerns.

1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	7 Always

18. _____ praises me for the good things I do.

1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	7 Always

19. If I'm going in a bad direction, _____ will talk with me before doing anything drastic.

1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	7 Always

20. I know that _____ truly wants to help me.

1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	7 Always

21. _____ considers my views.

1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	7 Always

22. I feel that _____ is looking to punish me.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

23. _____ does gives me enough of a chance to say what I want to say.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

24. _____ makes unreasonable demands of me.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

25. _____ expects me to do all the work alone and doesn't provide enough help.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

26. _____ knows that he/she can trust me.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

27. _____ is someone that I trust.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

28. _____ takes enough time to understand me.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

29. _____ take my needs into account.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

30. _____ shows me respect in absolutely all his/her dealings with me.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

Okay we are done with that section, and we are one third of the way through the survey.

This next set of questions has slightly different options for a response. On your score card, I would like you to find where it says **section 2.** Did you find it? Okay, these are the responses that we will be using for the next set of questions. And remember; try to be precise and honest with your responses and use the full scale. We want to capture exactly how you really feel.

YMS Section 1 – How does your match feel?

This time for each sentence, please choose a number from the scale below to say how true it is for you. 1 = Not at all True; 2 = A Little True; 3 = Pretty True; 4 = Very True

1. I talk with my mentor when I have problems or things that worry me.

1	2	3	4
Not at all True	A Little True	Pretty True	Very True

2. My mentor lets me choose what we do, or else we choose it together.

1	2	3	4
Not at all True	A Little True	Pretty True	Very True

3. I have learned a lot from my mentor.

1	2	3	4
Not at all True	A Little True	Pretty True	Very True

4. My mentor makes me happy.

1	2	3	4
Not at all True	A Little True	Pretty True	Very True

5. My mentor and I hit it off right away (liked each other quickly).

1	2	3	4
Not at all True	A Little True	Pretty True	Very True

6. My mentor and I are close (very good friends).

1	2	3	4
Not at all True	A Little True	Pretty True	Very True

7. I just want my mentor to be fun, not someone who helps with schoolwork or problems.

1 Not at all True	2 A Little True	3 Pretty True	4 Very True

8. My mentor focuses too much on school.

1 Not at all True	2 A Little True	3 Pretty True	4 Very True

9. My mentor makes me feel special.

1 Not at all True	2 A Little True	3 Pretty True	4 Very True

10. My mentor is a good match for me.

1 Not at all True	2 A Little True	3 Pretty True	4 Very True

11. I am doing better at school because of my mentor's help.

1 Not at all True	2 A Little True	3 Pretty True	4 Very True

12. I know a lot about my mentor's life (his/her family, job, etc.).

1 Not at all True	2 A Little True	3 Pretty True	4 Very True

13. I want my mentor to teach me how to do things.

1 Not at all True	2 A Little True	3 Pretty True	4 Very True

14. I wish my mentor would not try so hard to get me to talk about things I don't want to talk about.

1 Not at all True	2 A Little True	3 Pretty True	4 Very True

15. My mentor has helped me with problems in my life.

1 Not at all True	2 A Little True	3 Pretty True	4 Very True

16. I can always count on my mentor (to show up, to do what he/she promises, etc.).

1	2	3	4

Not at all True	A Little True	Pretty True	Very True

17. My mentor and I like to do the same things.

1 Not at all True	2 A Little True	3 Pretty True	4 Very True

18. My mentor really cares about me.

1 Not at all True	2 A Little True	3 Pretty True	4 Very True

19. I am willing to try new things that my mentor suggests (food, activities, etc.).

1 Not at all True	2 A Little True	3 Pretty True	4 Very True

20. I wish my mentor would not get on my case so much (about how I act, what I wear, etc.).

1 Not at all True	2 A Little True	3 Pretty True	4 Very True

21. My mentor helps me get in less trouble (make better decisions, behave better, etc.).

1 Not at all True	2 A Little True	3 Pretty True	4 Very True

22. I get to see my mentor regularly.

1 Not at all True	2 A Little True	3 Pretty True	4 Very True

23. My mentor and I like to talk about the same things.

1 Not at all True	2 A Little True	3 Pretty True	4 Very True

24. My mentor knows what is going on in my life.

1 Not at all True	2 A Little True	3 Pretty True	4 Very True

25. I want my mentor to help me do better at school.

1 Not at all True	2 A Little True	3 Pretty True	4 Very True

Alright, we are done with that set of questions and we are more than half way through!

Again, this next set of questions has slightly different options for a response. On your score card, I would like you to find where it says **section 3.**

Did you find it?

Okay, these are the responses that we will be using for the next set of questions. And remember; try to whole scale to tell me what *best* describes how you feel.

YMS Section 2 – What do you do with your mentor?
This time for each sentence, please choose a number from the scale below to tell us how often you do different things with your mentor.
1 = Never 2 = Less than half the time 3 = Half the time 4 = More than half the time 5 = Every time

1. Do activities that are really fun?

1 Never	2 Less than half the time	3 Half the time	4 More than half the time	5 Every time

2. Talk about things you hope will happen in your life (your hopes and dreams)?

1 Never	2 Less than half the time	3 Half the time	4 More than half the time	5 Every time

3. Do new things—things you never did before you got matched?

1 Never	2 Less than half the time	3 Half the time	4 More than half the time	5 Every time

4. Goof around and do things that make you laugh?

1 Never	2 Less than half the time	3 Half the time	4 More than half the time	5 Every time

5. Talk about problems you have or things that worry you?

1 Never	2 Less than half the time	3 Half the time	4 More than half the time	5 Every time

6. Talk about how you are doing at school?

1 Never	2 Less than half the time	3 Half the time	4 More than half the time	5 Every time

7. Just hang out and do things like watch tv, eat, or play games together?

1	2	3	4	5
Never	Less than half the time	Half the time	More than half the time	Every time

8. Talk together about kids you know (friends, brother/sisters, neighbors, etc.)?

1	2	3	4	5
Never	Less than half the time	Half the time	More than half the time	Every time

9. Talk about how to behave well and stay out of trouble (self-control, making better decisions, etc.)?

1	2	3	4	5
Never	Less than half the time	Half the time	More than half the time	Every time

10. Do things that are boring or that you do not like.

1	2	3	4	5
Never	Less than half the time	Half the time	More than half the time	Every time

11. Talk about good things that happen to you (things that make you happy)?

1	2	3	4	5
Never	Less than half the time	Half the time	More than half the time	Every time

12. Learn about things that interest you (Interests are things you like or things that can keep your attention).

1	2	3	4	5
Never	Less than half the time	Half the time	More than half the time	Every time

13. Do the thing that you really wanted to do that day (your top choice)?

1	2	3	4	5
Never	Less than half the time	Half the time	More than half the time	Every time

14. Talk about any bad things that happen in your life?

1	2	3	4	5
Never	Less than half the time	Half the time	More than half the time	Every time

15. Work on school assignments or projects together?

1	2	3	4	5
Never	Less than half the time	Half the time	More than half the time	Every time

16. Do something that is a big deal, like traveling or going to a special event?

1	2	3	4	5
Never	Less than half the time	Half the time	More than half the time	Every time

17. Talk about the things you care about the most?

1	2	3	4	5
Never	Less than half the time	Half the time	More than half the time	Every time

18. Talk about how to be a good person (being honest, responsible, etc.)?

1	2	3	4	5
Never	Less than half the time	Half the time	More than half the time	Every time

19. Do activities with kids you know (friends, brother/sisters, neighbors, etc.)?

1	2	3	4	5
Never	Less than half the time	Half the time	More than half the time	Every time

20. Go places you had never been before you got matched?

1	2	3	4	5
Never	Less than half the time	Half the time	More than half the time	Every time

21. Talk about your family (how you're getting along with them, what it's like at home, etc.)?

1	2	3	4	5
Never	Less than half the time	Half the time	More than half the time	Every time

22. Do activities that teach you something or make you think (like reading, puzzles educational games, etc.)?

1	2	3	4	5
Never	Less than half the time	Half the time	More than half the time	Every time

23. **Where do you meet with your mentor?**

Wherever we choose$_1$	In school$_2$	At a supervised site (other than school)$_3$	Email/Phone$_4$

24. **Over the past few months, how often have you *usually* gotten to see your mentor?**

Less than once a month$_1$	Once a month$_2$	At least twice a month$_3$	At least once a week$_4$

25. **When you get together with your mentor, how much time do you *usually* spend together?**

One hour or less$_1$	A few hours$_2$	About half a day$_3$	Most of the day$_4$

Okay, that was the last question for that section and we only have 6 more questions to go.

Just like with the previous sections this last section will have a different set of response. On your score card, I would like you to find where it says **section 4.** Got it?

Now, we are going to switch gears a little bit. Instead of focusing just on your mentor like all the previous questions, I'd like you to think about the mentoring program as a whole. Ok?

Perceived Program Effectiveness

This time for each sentence, please choose a number from the scale to say how much you agree or disagree with the statement?
1 = Strongly Disagree 2 = Disagree 3 = Disagree a little 4 = Neutral 5 = Agree 6 = Agree a little 7 = Strongly Agree

1. The formal mentoring program in my organization is effective.

1 Strongly Disagree	2 Disagree	3 Disagree a little	4 Neutral	5 Agree a little	6 Agree	7 Strongly Agree

2. The formal mentoring program allows me access to mentors who otherwise would have been unattainable.

1 Strongly Disagree	2 Disagree	3 Disagree a little	4 Neutral	5 Agree a little	6 Agree	7 Strongly Agree

3. I am satisfied with the formal mentoring program.

1 Strongly Disagree	2 Disagree	3 Disagree a little	4 Neutral	5 Agree a little	6 Agree	7 Strongly Agree

4. The formal mentoring program smoothed the way for me to get a mentor.

1 Strongly Disagree	2 Disagree	3 Disagree a little	4 Neutral	5 Agree a little	6 Agree	7 Strongly Agree

5. I would be unable to get a mentor if not for the formal mentoring program.

1 Strongly Disagree	2 Disagree	3 Disagree a little	4 Neutral	5 Agree a little	6 Agree	7 Strongly Agree

6. The formal mentoring program is a waste of time.

1 Strongly Disagree	2 Disagree	3 Disagree a little	4 Neutral	5 Agree a little	6 Agree	7 Strongly Agree

Those were the last six questions so that concludes the survey! Thank you so much for your time and thoughtful responses. As I said at the beginning of the survey I will send you a $15 gift card as a token of appreciation for participating in this study. We have gift cards from Chipotle, Subway, and Taco Bell. From that list can you tell me which would be your first, second, and third choice?

1._____ 2._____ 3._____

I will try and send you your first choice but at least now I have your second choice. What is the best address to mail your gift card to?

_____

Great, I should be mailing that out to you today or tomorrow. Unless you have any questions for me, we are all done. If you end up having any questions or concerns later and would like to get in touch with me, my contact information is on the letter and the score card you received a couple weeks ago. Would you like that information again?

Thank you again for taking time to complete the survey with me and I hope you have a great rest of your week. Thanks _____ (youth's name). Goodbye.

Appendix C: List of Measures Collected by CCJR

Data Collected from Probation and Parole

DOB
First Name
Last Name
Gender
Matched to Mentor
OYAS Date

Date of Subsequent Adjudication for New Juvenile Offense
Offense Level
Offense Type
Disposition

Date of Subsequent Conviction for New Adult Offense
Offense Level
Offense Type
Disposition

Data Collected from Mentoring Programs

DOB
First Name
Last Name
Gender
Matched to Mentor
Race/Ethnicity
Total Number of Individual one-on-one sessions
Total Number of Group Sessions
Arrested while participating in mentoring
Enrolled in School
Any other services youth is receiving outside of mentoring (mental health, substance abuse, etc.)
Goals youth worked on
Status in the program (Active, Successful Completion, Unsuccessful Completion)
If completed, date of discharge

Appendix D: Static and Dynamic OYAS Items by Tool and Domain

OYAS Static Items					
Diversion Tool	Detention Tool	Disposition Tool	Residential Tool	Reentry Tool	**Risk / Need**
Juvenile Justice History Items					
1	1				Prior Offenses
2	2				Current Charge
3	3				First Contact with Juvenile Justice System
4					Prior Probation
		1.1	1.1	1.1	Documented Contact with Juvenile Justice System
		1.2	1.2		Previous Adjudications
			1.3		Probation Violations
				1.2	Attempted and/or Escaped from Residential Facility
				1.3	History of Selling Drugs
				1.4	Physical Altercation with an Authority Figure
				1.5	Weapon Used During a Crime
				1.6	Victim Physically Harmed During Offense
				1.7	Received Major Sanction while in Residential Care
Substance Abuse, Mental Health, and Personality Items					
		6.1	6.1	6.1	Age of Drug Onset

OYAS Dynamic Items					
Diversion Tool	Detention Tool	Disposition Tool	Residential Tool	Reentry Tool	**Risk / Need**
Family and Living Arrangements Items					
6					Parents/Caregivers have Difficult Time Supervising Youth
		2.1	2.1	2.1	Family is Important
				2.3	Parents/Caregivers Uses Appropriate Consequences
		2.2			Consistently Applies Consequences
		2.3			Follows Caregivers' Rules
		2.4			Follows Through with Consequences
		2.5			Contact with Biological/Adoptive Parent
		2.6			Relationship with Adults
			2.2		Parental/Caregiver Support
			2.3		Effective Communication with Family
5	4			2.2	Family Member(s) Arrested
				2.4	Positive Relationship with Person at Planned Residence

OYAS Dynamic Items					
Diversion Tool	Detention Tool	Disposition Tool	Residential Tool	Reentry Tool	**Risk / Need**
Peers and Social Support Networks Items					
				3.1	Acquaintances Use Drugs
		3.1	3.1	3.2	Friends Fight
		3.2	3.5	3.4	Friends Arrested
		3.3	3.4	3.7	Friends/Family Associated with Gang Activity
		3.4	3.2	3.8	Arrested/Charged with Friends
		3.5			Friends Suspended/Expelled from School
				3.3	Friends Use Drugs
		3.6			Friends are Important
			3.3		Friends Support Drug Use
			3.6		Fight with Significant Other
			3.7		Relationship with Juvenile Justice Personnel
				3.5	Relationship with Youth on Unit
				3.6	Relationship with Staff
				3.9	Adults in the Community are Supportive
Education and Employment Items					
		4.1			Suspended from School – Ever
		4.2			Suspended from School - Last 6 Months
		4.3	4.1	4.2	Expelled – Ever
		4.4	4.2	4.4	Relationship with Current School Personnel/Employer
				4.3	Effort in School
			4.3	4.1	Truant from School
Pro-Social Skills Items					
		5.1	5.1	5.1	Can Identify Triggers/High-Risk Situations
		5.2	5.2	5.2	Weighs Pro/Cons of a Situation
		5.3	5.3	5.3	Pro-Social Decision Making
			5.4	5.4	Frustration Tolerance
Substance Abuse, Mental Health, and Personality Items					
	5				Difficulty Controlling Anger
		6.2			Used Drugs Recently
		6.3			Used Alcohol Recently
		6.4			Likely to Quit
			6.2		Most Recent Use of Alcohol/Drugs
			6.3	6.2	Others Complain about Drug/Alcohol Use
			6.4	6.3	Positive Drug Test within Past 6 Months
			6.5	6.4	Alcohol/Drugs have Caused Problem in Major Life Area

OYAS Dynamic Items					
Diversion Tool	Detention Tool	Disposition Tool	Residential Tool	Reentry Tool	**Risk / Need**
		6.5	6.6	6.6	Inflated Self-Esteem
			6.8	6.7	Risk Taking Behavior
			6.7		Serious Head Injury
				6.5	Used Substances/Alcohol while in Residential Facility
		6.6			Mental Health Issues
Values, Beliefs, and Attitudes Items					
	6				Negative Attitude Towards Juvenile Justice System
		7.1	7.1	7.1	Pro-Criminal Sentiments
		7.2			Future Criminal Behavior
		7.3			Blames Others
		7.4	7.5	7.6	Attitude Towards Gangs
		7.5			Self-Efficacy
			7.2	7.2	Negative Attitude Towards Supervision
			7.3	7.3	Attitude Supports Substance Use
			7.4	7.5	Demonstrates Empathy Towards Others
				7.4	Demonstrates Remorse for Offense

Appendix E: Summit County Description

Summit County Sample Description				
Variable	**Mentored Group (n=4) Mean (sd)/%**	**Comparison Group (n=4) Mean (sd)/%**	**t/X^2 (df)**	**% Missing**
Matching Variables				
Risk Level				
Low		25.0	--	25.0
Moderate	75.0	75.0		
High				
Gender				
Male	50.0	50.0	--	0.0
Race				
Black	50.0	100.0	--	0.0
Age at Referral	15.5 (1.732)	16.0 (.000)	--	12.5
Follow-up Variable				
Time at Risk (days)	180.0 (4.546)	75 (3.317)	--	0.0

Notes: *in t/X^2 indicates statistically significant difference at $p<.05$
t = t-statistic used for comparisons between scores or other continuous measures (e.g., age)
X^2 = Chi Square statistic used for comparisons between categorical measures (e.g., risk level)
sd = standard deviation; df = degree of freedom

The above table presents the limited data that researchers were able to collect on the youth in the mentored and comparison youth in Summit County. Due to limitations in the data researchers were not able to complete any group comparisons between the mentored and comparison groups. Additionally, it is important to note that of the four youth that received mentoring services, one of them did not have a risk assessment recorded prior to the referral. In 2014, when the study began enrollment, the juvenile court in Summit County had not yet finalized their assessment process (i.e., fully implemented the OYAS).

Appendix F: Logistic Regression Model for full Probation Sample, includes Summit County

Probation Multivariate Logistic Regression Model – Full Sample

DV: Recidivated (yes/no)	Full Sample Model		
	b	SE	OR
Control Variables			
Age	.121	.204	1.129
Male	-.667	.808	.513
African American	.596	.649	1.815
Time at Risk	-.005*	.001	.995
Covariates			
Successful Completion	-1.055*	.512	.348
Moderate Risk	.143	.607	1.154
High Risk	1.840	1.094	6.294
Constant	1.606	3.199	4.982
Model X^2 (df)		35.317	
Nagelkerke R^2		.456	
N		85	

Appendix G: Analysis of Successful Completion and Recidivism in Parole Sample

Parole Multivariate Logistic Regression Model

DV: Recidivated (yes/no)	Model		
	b	SE	OR
Control Variables			
Age	-.39*	.14	.67
Male	.93	.68	2.53
African American	.99	.54	2.68
Time at Risk	.03	.03	1.03
Covariates			
Moderate Risk	.40	.48	1.49
High Risk	1.60*	.52	4.97
Successful Completion of Mentoring	-.48	.66	.621
Constant	2.27	2.96	9.63
Model X^2 (df)		30.94 (7)*	
Nagelkerke R^2		.22	
N		186	

*p < .05, **p < .001

Appendix H: Logistic Regression Model for Parole Sample

Parole Multivariate Logistic Regression Model

DV: Recidivated (yes/no)	Model 1		
	b	SE	OR
Control Variables			
Mentored vs. Comparison	.139	.571	1.149
Age	-.357**	.102	.699
African American	.694*	.356	2.003
Time at Risk	.000	.014	1.000
Covariates			
Moderate Risk	.949*	.456	2.584
High Risk	1.317*	.478	3.732
Moderate Risk * Mentoring	-.443	.675	.642
High Risk * Mentoring	.572	.716	1.773
Constant	3.984*	2.017	53.713
Model X^2 (df)	50.07 (8)**		
Nagelkerke R^2	.179		
N	372		

*p < .05, **p < .001

Appendix I: Logistic Regression Models for Probation Sample

Probation Multivariate Logistic Regression Models

DV: Recidivated (yes/no)	Model 1			Model 2			Model 3 – Mentored Youth Only†		
	b	SE	OR	b	SE	OR	b	SE	OR
Mentored v. Comparison	0.46	.428	1.58	0.80	.588	2.22	--	--	--
Control Variables									
Age	0.03	.121	0.80	0.02	.122	1.02	-0,12	.186	0.88
Male	0.22	.465	1.25	0.21	.466	1.24	0.18	.667	1.19
African American	1.14*	.374	3.14	1.17*	.378	3.23	0.56	.558	1.76
Time at Risk	0.03	.020	1.03	0.03	.020	1.04	0.08*	.030	1.09
Covariates									
Moderate Risk	0.96*	.352	2.60	1.15*	0.50	3.16	0.94	.530	2.57
High Risk	2.22*	.715	9.20	3.10*	1.17	22.14	1.13	.939	3.08
Moderate Risk * Mentored	--	--	--	-0.38	0.70	0.69	--	--	--
High Risk * Mentored	--	--	--	-1.65	1.49	0.19	--	--	--
Successful Completion	--	--	--	--	--	--	0.02	.095	1.02
Total Number of Sessions with Mentor	--	--	--	--	--	--	-0.003	.003	0.99
Constant	-2.92	2.07	0.05	-3.05	2.11	0.05	-0.43	3.01	0.65
Model X^2 (df)		29.50 (7)**			30.87 (9)**			16.21 (8)*	
Nagelkerke R^2		.212			.221			.233	
N		171			171			85	

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

†This model only includes youth from the mentored group in the prospective sample.

Appendix J. Logistic Regression Models for Mentored Youth in the Probation Sample

Prospective Multivariate Logistic Regression Models

DV: Successfully Completed Mentoring (yes/no)	Model 1			Model 2		
	b	SE	OR	b	SE	OR
Control Variables						
Age	-.441	.235	.644	-.298	.266	.742
Male	.228	.664	1.256	.346	.790	1.413
African American	.213	.564	1.237	.440	.676	1.553
Time at Risk	.001	.001	1.001	.000	.001	.977
Covariates						
Moderate Risk	-.781	.602	.458	-.994	.707	.370
High Risk	-1.169	.913	.311	-1.064	1.036	.345
Total Number of Sessions with Mentor	--	--	--	.065*	.020	1.068
Constant	7.504*	3.730	1814.498	3.370	4.334	29.093
Model X^2 (df)	7.224 (6)			27.174 (7)**		
Nagelkerke R^2	.128			.425		
N	76			76		

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

Appendix K: Linkage of Program Performance and Outcome for Mentored Youth

Prospective Multivariate Logistic Regression Model

DV: Recidivated (yes/no)	Model 1			Model 2		
	b	SE	OR	b	SE	OR
Control Variables						
Age	-.164	.185	.849	-.176	.189	.898
Male	-.032	.643	.969	-.094	.694	.910
African American	.321	.544	1.379	.251	.548	1.29
Time at Risk	.002*	.001	1.002	.078*	.029	1.08
Covariates						
Moderate Risk	.824	.509	2.279	.917	.525	2.50
High Risk	.984	.936	2.675	.914	.950	2.49
Overall Score on CPC-M	.099	.098	1.105	--	--	--
CCSC Program	--	--	--	-.816	1.37	.442
IDA Program	--	--	--	.943	.714	2.57
Constant	-4.871	5.431	.008	.507	2.957	1.66
Model X^2 (df)		13.965 (7)*			15.09 (8)	
Nagelkerke R^2		.202			.220	
N		86			86	

*p < .05, **p < .001