

ABSTRACT

BROWN, SARAH BLEAM. Exploring Possible Moderation Effects on the Outcomes of the Check, Connect, and Respect Program. (Under the direction of Dr. Scott Stage).

Mentorship-based interventions have been found to have positive effects for youth at-risk of negative academic and behavioral outcomes. Implementation studies of school-based mentorship programs, such as the Check & Connect (C&C) program, have mixed results with some studies supporting positive academic and behavioral outcomes for students at-risk of dropping out of school. Limited research supports the efficacy of the Check, Connect, & Respect program (CCR), an adaptation of the C&C program, which uses a strength-based mentorship model in hopes to improve student psychological engagement at school. Thus, the following study investigated the effects of the CCR intervention on student academic (i.e., weekly grades) and behavioral (i.e., attendance and office discipline referrals) outcomes as well as the potential moderating effects of measures of psychological wellbeing and engagement on these outcomes. Participants included a diverse sample of 17 middle-school students from a 2019-2020 school-based implementation of the CCR program using undergraduate students as mentors. Linear growth curve analyses were performed to investigate changes in the participants' grades and for possible moderation effects. Behavioral data was analyzed using Poisson and negative binomial regression along with possible moderation effects. The results showed no significant changes in the CCR students' academic or behavioral outcomes. In addition, the measures of the students' psychological wellbeing and school engagement were not associated with the student outcomes. Limitations to this study include a great deal of variability in the student outcomes suggesting alternative research designs might have better explained the results.

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Exploring Possible Moderation Effects on the Outcomes of the Check, Connect, and Respect Program

by

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Sarah Brown is committed justice in her practice as a clinician and researcher. She hopes to contribute to equitable educational and mental health practices in her career.

TABLE OF CONTENTS

LIST OF TABLES	iv
LIST OF FIGURES	v
Introduction	1
The Check, Connect, and Respect Program	5
Current Study	6
Methods	8
Data and Participants	8
Measures	8
Procedures	9
Results	13
Descriptive Statistics.....	13
Hierarchical Linear Modeling.....	18
Difference in Relative Increase in Absences and ODRs	22
The Best Fitting Statistical Model for Subscales Predicting Absences and ODRs	23
Discussion	27
RQ1: Do CCR participants show a positive change in their weekly grades over the course of the intervention in ELA, math, science, and social studies?	27
RQ2: Do CCR participants show on average less than one absence or ODR each week over the course of the intervention?	29
RQ3: Do students' psychological wellbeing and engagement moderate students' weekly grade percentages?	30
RQ4: Do students' psychological wellbeing and engagement moderate students' number of absences and ODRs?	31
Limitations and Other Considerations	31
Future Directions	35
References	36
Appendices	39

LIST OF TABLES

Table 1	Descriptive Statistics of Course Grades by Week of Session	13
Table 2	Correlation Matrix of the Student Subjective Wellbeing Questionnaire and the School Engagement Versus Disaffection Scale Subscales.....	15
Table 3	Linear Growth Curves of Students Grades by Subjective Wellbeing Questionnaire Subscales and Engagement vs. Disaffection with Learning Subscales.....	19
Table 4	Goodness of Fit for the Absence and the Office Discipline Referral by the Student Subjective Wellbeing Questionnaire and the School Engagement Versus Disaffection Scale Subscales.....	24
Table 5	Predicting Students' Office Discipline Referrals (ODRs) and Absences by Student Wellbeing Questionnaire Subscales and Engagement vs. Disaffection with Learning Subscales	26

LIST OF FIGURES

Figure 1	Descriptive Statistics for Week 8 Absences.....	17
Figure 2	Descriptive Statistics for Week 8 ODRs	18

INTRODUCTION

“Tell me and I forget, teach me and I may remember, involve me and I learn.” Benjamin Franklin’s words embody the incredible transactional impact of authentic mentorship. The research on mentorship is extensive with well-documented positive relationships influencing youths’ lives, particularly as it applies to educational settings (Anderson et al., 2004). Adult mentorship for students has been concomitant with a myriad of positive student outcomes, which is why it is advantaged in various intervention programs (McQuillin & Lyons, 2016). For example, the literature supports that adult mentorship can reduce the achievement gap between White and African American adolescents (Grey, 2009).

Check & Connect (C&C) is a program based on mentorship that is a two-phase, intervention that was developed to support improvements in school engagement for elementary, middle, and high school students at risk of absenteeism or dropping out of school (Anderson et al., 2004; Christenson et al., 2012). C&C pairs students with trained professionals who serve as monitors – a positive and consistent adult influence much like a mentor – who build relationships with students and document their progress (Sinclair et al., 2003; Sinclair et al., 2005). During the *Check* phase of the intervention, monitors perform weekly check-ins and document their students’ progress towards academic goals set by the students by examining school data. During the *Connect* phase of the intervention, mentors support the students’ engagement in school by implementing specialized interventions and connecting students with resources in their school and community. Utilizing cognitive-behavioral techniques, monitors model problem-solving skills, assist students in identifying consequences associated with their decisions, and encourage engagement in their classes (Sinclair et al., 2005). The What Works Clearinghouse (2015) identified two studies by Sinclair and colleagues (1998, 2005) that demonstrate evidence for the

program's effectiveness at reducing dropout rates and potential positive evidence for helping high school students' progress in school. More importantly, the study samples included students from diverse backgrounds (i.e., African American students, urban students, students with free and reduced-price lunch, and students that receive special education services).

In the initial efficacy study, 94 students with learning disabilities or an emotional behavioral disability who were at-risk for school dropout based on students' absences, problem behavior, and course failures were randomly assigned to C&C or control (Sinclair et al., 1998). Participating students received the intervention in the 7th grade through the 9th grade. Results after two-years of treatment showed C&C students with increased attendance, enrollment, class credits earned and assignment completion, and inconsistent results with general education and special education teachers' rating for their problem behavior and academic competence.

In 2005, Sinclair and colleagues conducted a replication study with C&C and high school students eligible for special education in the categories of emotional disabilities, learning disabilities, or other health impairments. Most of the participants (n = 144) were African American, male, and qualified for free or reduced lunch. Utilizing a longitudinal experimental design, the authors randomly assigned the participants to intervention or control (treatment as usual) groups. Following the implementation of the C&C program, the intervention group had higher levels of school engagement and participation in IEP meetings, lower likelihood of dropping out of school, greater consistency of school attendance and school completion, and less school mobility than the control group (Sinclair et al., 2005). Effect sizes ranged from small to medium, overall.

In a large-scale multi-level randomized block design that was not conducted by the original program authors, Maynard and others (2014) explored the additive impact of C&C with

Communities in Schools (CIS), a community-based dropout prevention program with 260 mostly Hispanic and economically disadvantaged students in urban middle and high schools.

Hierarchical linear modeling accounted for pretest scores of the students nested within schools and school demographic variables. The outcome measures included absences, total number of office discipline referrals (ODRs), and academic performance (i.e., using a composite score of English, math, science, and social studies grades). The addition of the C&C intervention to the CIS program showed improvements in academic performance and reductions in disciplinary referrals. However, there were interestingly no statistically significant effects for attendance.

In a relatively small study with 54 middle school students from diverse backgrounds at-risk for dropout, Powers and colleagues (2017) randomly assigned students to C&C or business-as-usual in sixth grade. C&C students showed better attendance in eighth grade than the business-as-usual group. However, there were no significant differences between the two groups in eighth grade cumulative GPA or ODRs. A descriptive case study analysis considered mentor adherence, numbers of sessions, and student responsiveness as possible differences in C&C efficacy. However, C&C has also been found efficacious when implemented with relatively low fidelity.

Goulet and colleagues (2018) examined outcomes associated with discrepancies in implementation fidelity of the C&C program for elementary and secondary schools in Canada. For Study 1, they implemented the C&C program for 2 years with 145 elementary students across two school boards. They randomly placed the students in an intervention or control group and measured behavioral engagement, cognitive engagement, affective engagement, and student self-reported academic achievement in math and literacy ratings pre- and post-intervention. Results of the association of intervention fidelity showed that check-ins, performance feedback,

promotion of school success, and family communication were related to positive outcomes for students (Goulet et al., 2018). Though the second school board implemented the intervention with higher fidelity, the first school board had better outcomes overall including increases in affective and behavioral engagement with only high check-in fidelity (Goulet et al., 2018). The authors noted that School Board A had more resources, as it was funded by a government grant. School Board B had significant decreases in academic achievement, while School Board A had no significant change for academic achievement. Study 2 investigated the implementation of C&C with 200 students at risk of dropping out in secondary schools. In both school boards, the mentors were teachers who served as part-time mentors. Like the previous study, academic achievement was self-reported by students. Across the school boards in this study, there were mixed with no main effects on students' self-reported grades.

Overall, even with “lower-than-expected” fidelity, C&C was associated with positive outcomes (e.g., student self-reported higher behavioral engagement and affective engagement) for students across elementary and secondary schools. However, higher fidelity was associated with better outcomes (Goulet et al., 2018). Of note, higher fidelity was associated with having more resources (e.g., grant funding) and full-time professional mentors. Ultimately, the authors argued that tailoring the intervention components to the students' developmental abilities and setting as well as involving family members contributed to the effectiveness of the intervention beyond implementing the intervention with fidelity.

In addition, mentor and mentee personal behavioral characteristics do not appear to affect the implementation of C&C. For example, Tsai and Kern (2019) showed that mentors who perceived C&C as acceptable implemented it with greater integrity than mentors' rating C&C with lower acceptability. However, the number of sessions, student behavior severity, special

education eligibility, and mentors' years of experience did not predict mentors' treatment acceptability ratings. Finally, Kern and others (2019) found mentor and mentee variables such as sex, ethnicity, race, or age did not predict the quality of their relationship. However, the mentors willingness to discuss certain topics, such as family and friends, and the mentees willingness to discuss future-plans and school help significantly predicted their perceptions of their quality of their relationship.

In sum, the student outcome research on the C&C program shows mixed results with the initial study showing student improvement in attendance, reduced dropout, assignment completion, course grades and mixed results for improvement in student problem behavior (Sinclair et al., 1998). The replication study with at-risk high school students showed overall less drop out, more participation in the IEP process, and involvement in transition plans when leaving high school (Sinclair et al., 2005). However, other research showed students who received the C&C program increased their academic performance over the program and decreased the number of discipline referrals, although they did not improve their attendance (Maynard et al., 2014). However, Powers and colleagues (2017) showed C&C participants had better attendance, lower GPAs, and more discipline referrals. Furthermore, in attempts to investigate the role of the treatment fidelity and mentor-mentee relationship on the C&C outcomes, little evidence of these variables appears to explain the overall effects (Goulet et al., 2018; Kern et al., 2019; Tsai & Kern, 2019).

The Check, Connect, and Respect (CCR) Program

CCR differs from the C&C because the treatment mechanism includes aspects of positive psychology (Kim, 2019). CCR mentors are trained to provide strengths-based mentoring to improve psychological skills such as hope, persistence, self-efficacy, and gratitude, all of which have been shown to improve overall wellbeing of students (e.g., Furlong et al. 2014; Wilkins et

al., 2015). In essence, Respect encompasses the mentor's orientation to their mentee to enable positive strength-based connections that should moderate school outcomes for the mentees. This includes additional time (i.e., 1-3 sessions) for rapport building between mentors and mentees. However, there is limited evidence for the effectiveness of the CCR intervention. In 2015, Mayworm and colleagues presented a small study with 21 high school students who met with undergraduate students as mentors and implemented the intervention weekly for 30 minutes for "9-session cycles." They collected measures of student social emotional wellbeing (i.e., Social Emotional Health Survey – Secondary [SEHS]), emotional and behavioral difficulties (i.e., Strengths and Difficulties Questionnaire), school satisfaction, mentor-student relationship, teacher feedback, and student historical data (i.e., attendance, grades, and suspensions). There were no significant changes in emotional or behavioral difficulties and school satisfaction or beliefs for the CCR participants. Although, participants' semester GPAs significantly increased from $M = 1.51$ (D+) to $M = 1.77$ (C-), so did their absences as measured by tardies and trancies.

Current Study

Because there are mixed results on the outcomes for students who receive the C&C program, it is possible that their individual differences in positive mental-health indicators moderate academic and behavioral outcomes. Specifically, CCR mentors work with their mentees using a positive psychology framework that include the constructs, *school connectedness*, *educational purpose*, and *academic efficacy*, which are measured by the SSWQ for this study (Renshaw, Long, & Cook, 2015). In addition, the CCR also focuses on *psychological engagement*, which includes mental effort (i.e., attention and concentration or on-task behavior, focused academic skill, and class participation). *Emotional engagement* is also included in the *psychological engagement* construct (i.e., enthusiasm, interest, and enjoyment)

(Skinner et al. 2009). In addition, *disengagement* is also measured which includes passivity, lack of initiation, and giving up which is associated with emotions such as dejection, discouragement, and apathy all of which are captured by the *School Engagement Versus Disaffection Scale – Student Report (EvsD)*; Skinner et al., 2009). For the current study, I suggest that the psychological engagement captured by the *EvsD* scale and wellbeing constructs captured by the *SSWQ* scale could potentially moderate CCR mentees’ response to their mentors resulting in increased school engagement and academic performance while reducing inappropriate school behavior indicators, or their initial academic performance and inappropriate behavior prior to intervention. Therefore, the current study assessed the mentees on these measures prior to beginning the CCR program. It is expected that the change in these measures should moderate the CCR students’ engagement, academic performance, and discipline assignment over weeks of intervention.

The purpose of the proposed study is to examine the effectiveness of the CCR intervention on student grades (i.e., linear growth in weekly class grade percentages for English language arts [ELA], math, science, and social studies), school engagement (i.e., the number of absences), and the number of ODRs received for middle school students participating in the program who were identified as at-risk for school failure. It was expected that the students’ initial psychological wellbeing and engagement measured at the beginning of the intervention would moderate the student outcome results. Thus, this study’s primary research questions were as follows:

RQ1: Do CCR participants show a positive change in their weekly grades over the course of the intervention in ELA, math, science, and social studies?

RQ2: Do CCR participants show on average less than one absence or ODR per week over the course of the intervention?

RQ3: Do students' psychological wellbeing and engagement moderate their weekly grade percentages?

RQ4: Do students' psychological wellbeing and engagement moderate the number of absences and ODRs they received during intervention?

Methods

Data and Participants

Data analyzed in this study was collected in 2019 – 2020 during the implementation of the CCR program in a southeastern middle school that was funded by the Society for the Study of School Psychology. This study was approved by the host university's Institutional Review Board. The initial middle school dataset ($N = 25$) included several students who were not placed with a mentor, so they were waitlisted or were missing significant data ($n = 8$). Those students were removed from the analyses; thus, the final total included 17 participants. Descriptive statistics are described in subsequent sections.

Measures

Demographics. Participant race, grade, and sex were provided by the school administrative staff.

School engagement. The School Engagement Versus Disaffection Scale – Student Report (EvsD) was administered and collected by the mentors prior to the students engaging in the CCR program. It is considered a measure of school engagement. The EvsD has 20 items evaluated on a Likert-type scale with 1 = *not at all true* to 4 = *very true*. The scale measures *behavioral engagement, behavioral disaffection, emotional engagement, and emotional disaffection*. Behavioral Engagement measures putting forth effort, participating, and paying attention in

class, while Behavioral Disaffection measures lack of effort or participation and inattention. Emotional Engagement measures positive feelings (i.e., enjoyment) and interest in activities in class, while Emotional Disaffection measures negative feelings (i.e., discouragement, worry, lack of enjoyment) and boredom in class. The EvsD has adequate internal consistency reliability ($\alpha > .79$) (Fredricks et al., 2011; Skinner et al. 2009).

Psychological wellbeing. The Student Subjective Wellbeing Questionnaire (SSWQ) is an open science measure that was administered and collected at baseline by the mentors. The SSWQ is a progress-monitoring tool that has 16 items evaluated on a Likert-type scale with 1 = *almost never* to 4 = *almost always* that measures positive psychological functioning at school, which includes *joy of learning, school connectedness, educational purpose, academic efficacy,* and an *overall student subjective wellbeing* score. The Joy of Learning subscale measures a student's excitement and interest to learn and work at school. School Connectedness measures a student's feelings of belonging and care from others at school. Educational Purpose measures a student's feelings that their contributions at school are important. Academic Efficacy measures a student's feelings that they are successful and do well in school. The SSWQ was created as a screening assessment for tiered systems in school settings. It has adequate internal consistency and construct reliability and validity ($\alpha > .70$; Renshaw et al., 2015) and was significantly associated with adolescent subjective wellbeing (Renshaw, 2015).

Academic information. Participants' grades, attendance, and ODR data were collected weekly from the school's office staff.

Procedure

Data were originally collected from two local schools (i.e., one a middle school and one a high school) from August 2019 to March 2020. The purpose, procedures, and potential outcomes

of the study were presented to local school administrative teams by the principal investigator of the research study. Following their agreement to participate, CCR procedures were initiated with the two participating schools.

Before implementing the CCR program, undergraduate psychology students ($n = 27$) were recruited from a local university and interviewed to provide more detail of the project and to determine their suitability to act as mentors. Interviewers examined factors such as interest, professionalism, and previous work or volunteer experiences. Selected mentors were trained in two 3-hr sessions covering a variety of topics relevant to working with youth (e.g., the CCR procedures, which included basic cognitive behavioral techniques, active listening skills, and mandatory reporting laws). A mentorship pre- and post- training efficacy scale (see Appendix A: Document A1 and Document A2) was utilized to determine mentor preparedness. Mentors demonstrated improvements in major areas of mentor preparedness following training (see Appendix A: Table A1). In addition to the interviewing process, all mentors completed the school district's volunteer form that required a background check and approval from the school principal and district administration. Mentors also completed a school tour with the school principal, project director, and program director to review the location and become familiar with available spaces to host sessions.

To recruit participants, teachers were asked to refer students for the program who were 1) at risk of failing classes or 2) had significant behavioral referrals. All students referred to the program who met one of these criteria were accepted to the CCR program. Parent consent was collected by the schools for students participating in the study. Once referrals and parental consent were collected, students were paired with mentors by the principal based on ethnicity and gender. This pairing process was requested by the school administration and supported by

the CCR project director (i.e., these characteristic pairings included matching mentees with mentors based on ethnic and/or gender backgrounds when possible). Students that were not immediately placed with a mentor were placed on a waitlist and were paired with a mentor once available.

Following the pairing process, participants were scheduled to meet weekly with their mentor at school for 30 minutes, preferably during study or free periods. In the first session, mentors collected participant assent and intake information, discussed limits to confidentiality, and began developing rapport with their mentees. Mentees were informed they could earn a small incentive (i.e., \$10 gift card) for accomplishing their academic goal by the end of their sessions. In the following sessions, mentors followed the CCR phases for 9-week cycles with each phase lasting approximately 3 weeks (e.g., Sessions 1-3 = Respect phase, Sessions 3-6 = Connect phase, Sessions 7-9 = Check phase). Mentors were encouraged to flexibly transition between phases according to the needs of their students and guidance from the CCR program director. During the Respect phase of the intervention, mentors focused time in sessions on building a trusting relationship with their mentee and identifying the problem and corresponding goals for the mentee. Once rapport and goals were established, mentors worked with mentees to develop strategies and plans to address their problems and identified resources to help mentees meet their goals in the Connect phase. Finally, mentors continued to check on progress in the Check phase and determine next steps for their mentee (i.e., refining techniques to reach goals and terminating sessions) (Kim, 2019). Throughout each phase, mentors helped mentees problem-solve and utilized positive reinforcement to encourage engagement in their classes. The number of sessions students reached varied due to several observed factors (e.g., student mobility, absences, or suspensions). In the case that a mentee could no longer attend the CCR

sessions, a student on the waitlist was paired with the mentor by the school's administration. Of note, mentors were in frequent contact with the school administrative staff throughout implementation of the intervention but had limited contact with parents or teachers, as this contact was facilitated by the school's administrative staff. Mentors could reach their CCR supervisor by phone or email when needed.

Each mentor had an electronic encrypted folder where they maintained their notes and could view helpful resources for their sessions, such as organizational outlines and note-taking strategies. Mentors completed weekly logs to document their sessions and allow the CCR program director (a school psychology doctoral student) to check weekly for intervention fidelity (e.g., moving forward with phases of intervention and problem-solving techniques) and address questions or concerns. In addition, they were asked to record one of their sessions at random for the research team to review. Mentors also participated in weekly supervision with the program director to discuss and receive peer feedback for their sessions, review student data, and receive additional training for topics relevant to their mentees' presenting concerns. Such topics included techniques for building positive mentor/mentee relationships, developing mentee sense of belonging at school, problem-solving mentee behaviors and responsiveness to intervention, and addressing ethical issues and confidentiality. A number of mentors ($n = 8$) completed a mid-year qualitative feedback form to allow the program director to adjust the supervision sessions and address areas of need in the program implementation (see Appendix A3). On the feedback form, one mentor described wanting improved consistency in scheduled sessions at the school, while another mentor reported concerns for transportation to the schools from the university. Several mentors reported improvements in communication between mentors and the school (i.e., phone call to staff the morning of sessions to inquire about student absences), which appeared to

improve session scheduling. One mentor expressed that the communication with teachers could be helpful in understanding their student's social-emotional functioning and progress in the classroom.

Results

Descriptive Statistics and Correlations

The total of 17 students with complete data were studied. There were three 6th grade- and 7th grade-students, and 11 8th grade-students. Most of the students were male ($n = 12$, 70.6%) and white ($n = 11$, 64.7%). Of the students, five identified as biracial and three identified as being of Hispanic or Latin origin. The means and standard deviations for each the course percentile grade by week of intervention are reported in Table 1.

Table 1.

Descriptive Statistics of Course Grades by Week of Session

Course Grade	Minimum	Maximum	Mean	SD
W1_ELA	37	100	80.7	16.1
W2_ELA	37	100	82.2	15.2
W3_ELA	30	98	79.6	17.2
W4_ELA	22	98	78.8	18.7
W5_ELA	22	98	78.3	19.3
W6_ELA	41	98	75.9	18.1
W7_ELA	44	96	77.1	15.0
W8_ELA	50	95	77.6	13.6
W1_Math	65	97	80.5	10.4
W2_Math	61	94	77.4	10.4
W3_Math	49	97	75.8	12.9
W4_Math	44	97	75.6	14.7

Table 1 (Continued).*Descriptive Statistics of Course Grades by Week of Session*

Course Grade	Minimum	Maximum	Mean	SD
W5_Math	21	95	74.9	18.1
W6_Math	25	94	75.9	18.0
W7_Math	28	92	72.4	17.8
W8_Math	35	92	74.4	16.2
W1_SocialStudies	37	100	81.8	21.1
W2_SocialStudies	42	100	81.2	17.3
W3_SocialStudies	42	100	81.5	17.0
W4_SocialStudies	48	100	83.8	14.0
W5_SocialStudies	51	100	82.5	14.8
W6_SocialStudies	51	100	79.9	13.7
W7_SocialStudies	55	95	78.3	11.6
W8_SocialStudies	55	95	79.2	12.3
W1_Science	34	94	66.1	18.1
W2_Science	50	95	77.5	11.8
W3_Science	50	95	77.0	11.9
W4_Science	50	95	77.1	12.4
W5_Science	50	92	75.1	12.3
W6_Science	47	93	75.4	15.6
W7_Science	40	97	74.7	17.1
W8_Science	42	96	70.4	17.4

N = 17. All course grades are reported as percentages. ELA is English language arts.

The correlation of the initial scores on the SSWQ subscales which included Joy of Learning, School Connectedness, Educational Purpose, Academic Efficacy and the EvD subscales which included Behavioral Engagement, Emotional Engagement, Behavioral Disaffection, and Emotional Disaffection are presented in Table 2.

Table 2.

Correlation Matrix of the Student Subjective Wellbeing Questionnaire and the School Engagement Versus Disaffection Scale Subscales

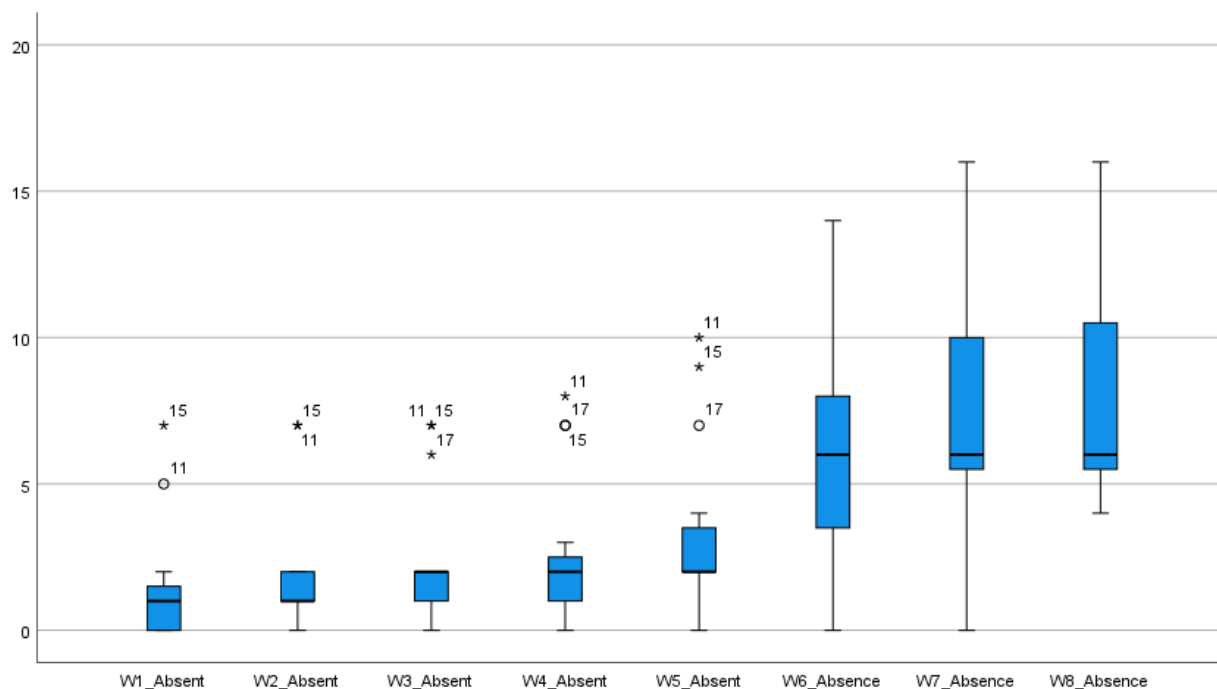
Variables	Joy of Lrn.	Sch. Cnxn.	Ed. Pur.	Acad. Eff.	B. Engage.	B. Disaff.	Emo. Engage.	Emo. Disaff.
Joy of Lrn.	--							
Sch. Cnxn.	.679**	--						
Ed. Pur.	.675**	.713**	--					
Acad. Eff.	.372	.285	.174	--				
B. Engage.	.414	.266	.359	.572*	--			
B. Disaff.	-.116	-.192	-.040	.365	.394	--		
Emo. Engage.	.632**	.456	.742**	.031	.309	.224	--	
Emo. Disaff.	.269	.314	.389	.383	.237	.453	.514*	--
Means (SD)	10.4 (2.1)	12 (3.1)	11.7 (2.4)	11.2 (2.0)	2.7 (0.4)	2.9 (0.50)	2.5 (0.6)	3.0 (0.4)

$N = 17$. *** = $p < .001$, ** = $p < .01$, * = $p < .05$. Joy of Lrn = Joy of Learning. Sch. Cnxn. = School connection. Ed. Pur. = Educational Purpose. Acad. Eff. = Academic efficacy. B. Engage. = Behavioral engagement. B. Disaff. = Behavioral disaffection. Emo. Engage. = Emotional engagement. Emo. Disaff. = Emotional disaffection.

The Joy of Learning, School Connection, Educational Purpose, Academic Efficacy, Behavioral Engagement, Behavioral Disaffection, Emotional Engagement, and Emotional Disaffection subscales were all relatively normally distributed. Of note, Joy of Learning subscale

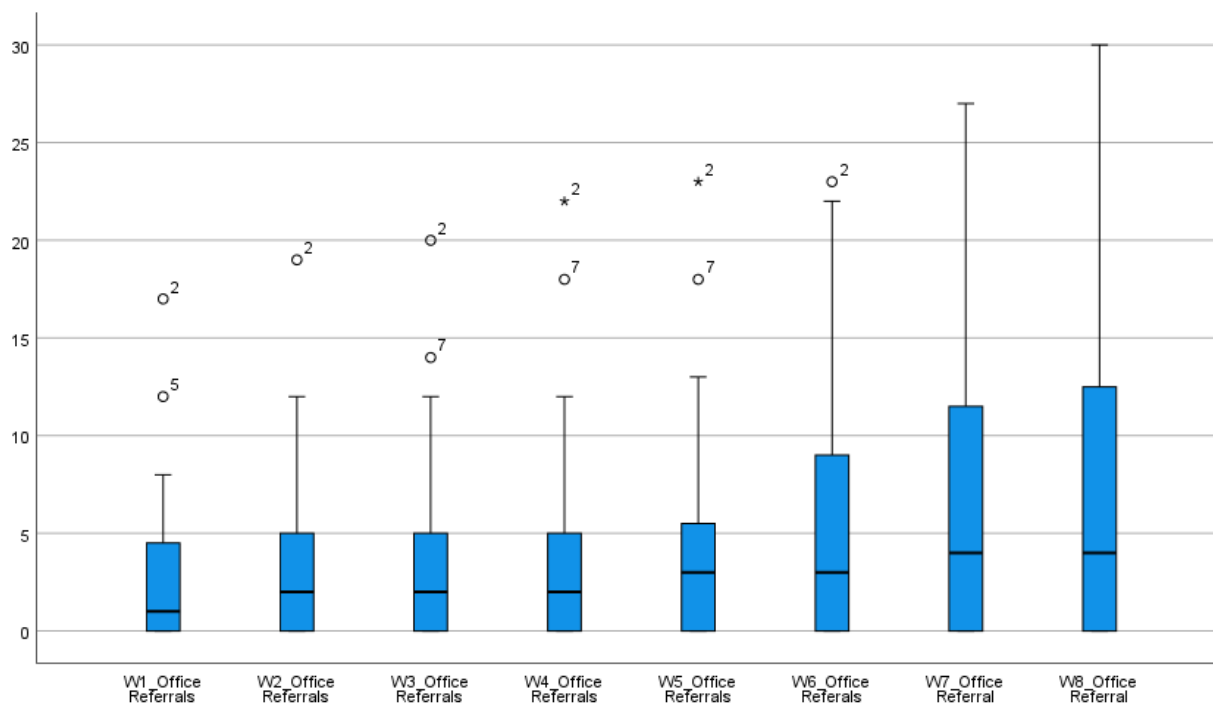
was significantly and positively associated with School Connection, Educational Purpose, and Emotional Engagement. The Educational Purpose subscale was significantly and positively correlated with the School Connection, Emotional Engagement, and Joy of Learning subscales. The Academic Efficacy and Behavioral Engagement subscales were positively correlated, and the Emotional Engagement and Emotional Disaffection subscales were positively correlated. Emotional Engagement measures positive feelings and interest in activities in class, while Emotional Disaffection measures negative feelings, so a positive correlation seems difficult to understand. Of note is that the EvsD subscales were mostly not correlated with each other.

Figure 1 shows the cumulative frequency across weeks of CCR sessions. At the eighth week, the average absence total was 8.7 absences ($SD = 4.2$, $Mdn = 7$) with a mode of 6 absences. The minimum number of absences accrued by a student was 4, and the maximum number of absences was 16.

Figure 1.*Descriptive statistics for Week 8 absences*

$N = 17$. Cumulative absences across weeks of the intervention.

Figure 2 shows the cumulative frequency of ODRs over the weeks of CCR sessions. At the eighth week, the average ODR total was 7.6 ODRs ($SD = 9.4$, $Mdn = 4$) with a mode of 0 ODRs. The minimum number of ODRs accrued by a student was 0 and the maximum number of ODRs was 30.

Figure 2.*Descriptive statistics for Week 8 ODRs*

$N = 17$. ODRs accumulated over weeks of CCR.

Hierarchical Linear Model

A linear growth curve analysis was conducted on course grade percentages over weeks of treatment using Hierarchical Linear Modeling statistical software (HLM 8; Raudenbush & Congdon, 2021). A two-level linear growth curve analysis was conducted with the students' course percentage grades at level one and the SSWQ and EvsD subscales as moderating variables at level two. Each subscale was analyzed in a separate model in order not to saturate the complete model with the eight subscales used given the total number of participants was only 17.

Table 3.

Linear Growth Curves of Student Grades by Student Subjective Wellbeing Questionnaire Subscales and Engagement vs. Disaffection with Learning Subscales

Outcome	Variable	Fixed Effects		Random Effects	
		Intercept	Slope	Var. Intercept	Var. Slope
		Coeff. (S.E.)	Coeff. (S.E.)	SD	SD
English Language Arts		77.5*** (3.8)	-1.26** (0.4)	15.55***	1.59***
	Joy of Learning	-0.16 (1.8)	0.14 (0.2)	17.42***	1.06*
	School Connection	-1.89 (1.4)	0.03 (0.1)	16.57***	1.05*
	Educational Purpose	-0.52 (1.6)	0.13 (0.1)	17.38***	1.05*
	Academic Efficacy	3.14 (1.7)	0.22 (0.2)	16.00***	1.05*
	Behavioral Engagement	4.80 (2.3)	0.92 (0.8)	17.28***	1.03*
	Behavioral Disaffection	10.14 (9.3)	0.82 (0.7)	16.70***	.98*
	Emotional Engagement	-4.24 (6.2)	0.76 (0.6)	17.18***	1.02*
	Emotional Disaffection	17.65 (11.1)	1.06 (1.0)	16.31***	.99*
Math		74.0*** (2.7)	-.24 (0.4)	13.3***	1.85***
	Joy of Learning	1.83 (1.4)	-.14 (0.2)	13.41***	1.86***
	School Connection	-.06 (1.1)	-.10 (0.2)	14.06***	1.85***
	Educational Purpose	.70 (1.3)	-.06 (0.2)	13.97***	1.87***
	Academic Efficacy	3.17 (1.3)	-.17 (0.2)	12.17***	1.84***
	Behavioral Engagement	2.40 (7.2)	-.31 (1.1)	14.05***	1.87***
	Behavioral Disaffection	7.41 (6.5)	-.51 (1.0)	13.59***	1.86***
	Emotional Engagement	0.26 (5.1)	-.48 (0.7)	14.09***	1.86***
	Emotional Disaffection	12.32 (9.0)	-.49 (1.4)	13.36***	1.87**

Table 3 (Continued).

Outcome	Variable	Fixed Effects		Random Effects	
		Intercept	Slope	Var. Intercept	Var. Slope
		Coeff. (S.E.)	Coeff. (S.E.)	SD	SD
Social Studies		77.87*** (3.9)	-.22 (0.5)	18.92***	1.83***
	Joy of Learning	-2.78 (1.6)	.29 (0.2)	15.23***	1.38*
	School Connection	0.32 (1.4)	-.14 (0.2)	16.58***	1.48**
	Educational Purpose	-0.49 (1.6)	-.07 (0.2)	16.59***	1.56**
	Academic Efficacy	0.96 (1.8)	.07 (0.2)	16.42***	1.53**
	Behavioral Engagement	-0.27 (8.9)	-.32 (1.1)	16.63***	1.56**
	Behavioral Disaffection	12.33 (7.6)	-1.50 (1.0)	15.42***	1.38*
	Emotional Engagement	-5.71 (6.1)	.05 (0.8)	16.18***	1.57**
	Emotional Disaffection	13.92 (11.1)	-1.25 (1.4)	15.84***	1.50**
Science		73.09*** (2.9)	.00 (0.5)	13.55***	2.17***
	Joy of Learning	0.81 (1.4)	-.37 (0.2)	12.60***	1.45**
	School Connection	-1.46 (1.1)	.05 (0.2)	11.93***	1.56**
	Educational Purpose	-0.38 (1.3)	-.14 (0.2)	12.72***	1.58**
	Academic Efficacy	1.90 (1.4)	-.16 (0.2)	12.00***	1.57**
	Behavioral Engagement	2.25 (7.0)	-1.11 (1.2)	12.68***	1.57**
	Behavioral Disaffection	11.90 (5.8)	-2.19* (0.9)	11.17***	1.14*
	Emotional Engagement	0.02 (4.8)	-1.73* (0.7)	12.64***	1.15*
	Emotional Disaffection	10.87 (8.7)	-2.84* (1.2)	12.05***	1.23*

$N = 17$, * = $p < .05$, ** = $p < .01$, *** = $p < .001$.

Table 3 shows the statistical results of all the linear growth curve analyses of the students' grades for ELA, Math, Science, and Social Studies by *Subjective Wellbeing Questionnaire Subscales* (i.e., School Connection, Educational Purpose, and Academic Efficacy) and *Engagement vs. Disaffection with Learning Subscales* (Behavioral Engagement, Behavioral Disaffection, Emotional Engagement, and Emotional Disaffection). The first row for each variable tested shows the fixed effect null model at the intercept or baseline before the participants received CCR and the slope or change in grades over the eight weeks of CCR sessions. In addition, the random effects of the intercept and slope are shown for each null model and subscale models tested. The random effects results show the significance of the degree of variance of the components tested in the models. The fixed effects show the results of the subscales' association with grades at baseline and whether it predicted change in the linear slope of the students' grades over time on average.

For the ELA null model, there was a significant baseline intercept at 77.5% and a significant negative slope over the weeks of CCR sessions (i.e., -1.26%). There was a significant random effect at baseline (i.e., $SD = 15.55$) and slope (i.e., $SD = 1.60$). None of the subscales statistically predicted baseline or slope in each independent test with ELA. There was a great deal of variability across the subscale baseline fixed effects (i.e., a range from Academic Efficacy, $SD = 16$ to Joy of Learning, $SD = 17.42$) and likewise for the slopes (i.e., Behavioral Disaffection, $SD = .98$ to Joy of Learning, $SD = 1.06$).

For the Math null model, there was a significant baseline intercept at 74.0% and a non-significant negative slope over the weeks of CCR sessions (i.e., -0.24%). There was a significant random effect at baseline (i.e., $SD = 13.3$) and slope (i.e., $SD = 1.85$). None of the subscales statistically predicted baseline or slope in each independent test with Math course grades. There

was a great deal of variability across the subscale baseline random effects (i.e., Academic Efficacy, $SD = 12.17$ to Emotional Engagement, $SD = 14.09$) and likewise for the random effects slopes (i.e., Academic Efficacy, $SD = 1.84$ to a $SD = 1.87$ for several subscales).

For the Social Studies null model, there was a significant baseline intercept at 77.9% and a non-significant negative slope over the weeks of CCR sessions (i.e., -.22%). There was a significant random effect at baseline (i.e., $SD = 18.92$) and slope (i.e., $SD = 1.83$). None of the subscales statistically predicted baseline or slope in each independent test with Social Studies. There was a great deal of variability across the subscale baseline random effects (i.e., Joy of Learning, $SD = 15.23$ to Behavioral Engagement, $SD = 16.63$) and likewise for the slopes (i.e., a couple of subscales with a $SD = 1.38$ to Emotional Engagement with a $SD = 1.57$).

For the Science null model, there was a significant baseline intercept at 73.09% and a non-significant slope over the weeks of CCR sessions (i.e., .00%). There was a significant random effect at baseline (i.e., $SD = 13.55$) and slope (i.e., $SD = 2.17$). There were three subscales, Behavioral Disaffection, Emotional Engagement and Emotional Disaffection that statistically predicted change in the slope with Social Studies course grades all predicting a decrease in grades from 1.73% to 2.84% per week. There was a great deal of variability across the subscales baseline random effects (i.e., Behavioral Disaffection, $SD = 11.17$ to Educational Purpose, $SD = 12.72$) and likewise for the slopes (i.e., Behavioral Disaffection, $SD = 1.14$ to Educational Purpose $SD = 1.58$).

Differences in the Relative Increase in Absences and ODRs

The average increase in absences over eight weeks per student was calculated and then recoded as 0 for students whose increase in absences was less than one per week and 1 for

students whose increase in absences was greater than one per week. Seven students (41%) showed an average increase over one absence per week and 10 students (59%) showed less than one absence per week increase in total absences. A one sample chi-square test showed no significant difference between the number of students with less than one absence per week versus more than one absence per week, $\chi^2 (1, N = 17) = .529, p = .467$. A similar test was conducted for the average weekly increase in office discipline referrals with six students (35%) who increased in over one office discipline referral per week and 11 students (65%) who did not increase by one office discipline referral per week, which also showed no significant difference, $\chi^2 (1, N = 17) = 1.471, p = .225$.

The Best Fitting Statistical Model for Subscales Predicting Absences and ODRs

Because absences and ODRs are count data and not normally distributed, they were analyzed with Poisson regression or negative binomial models using the Generalized Linear Models in SPSS (v27). The first subscale Joy of Learning was used to predict its relationship with total student absences collected at week eight. The goodness of fit statistics for the Poisson model showed a log likelihood of -47.068, AIC = 98.136, AICC = 98.993, BIC = 99.802, and CAIC = 101.802. For the negative binomial model a log likelihood of -54.554, AIC = 113.108, AICC = 113.965, BIC = 114.775, and CAIC = 116.775. The fit indices with smaller values are considered better fitting, so absences were analyzed with Poisson regression models. A similar comparison was made with ODRs as the dependent measure. The goodness of fit statistics for the Poisson model showed a log likelihood of -102.651, AIC = 209.303, AICC = 210.160, BIC = 210.969, and CAIC = 212.969. For the negative binomial model a log likelihood of -50.032, AIC = 104.064, AICC = 104.921, BIC = 105.73, and CAIC = 107.73. Therefore, negative binomial regression was used for the ODRs models.

For relative comparison of level of fit for each of the one subscale prediction models, Table 4 shows the scale deviance values for each model. The relative fit of the tested model compared to a saturated model or perfect fit model can be shown with scaled deviance values, which assesses the over- or under-prediction of a perfectly fit or saturated model. A value of one indicates a perfect fit and values above one are over-predicted and values under one are under-predicted. Models with scaled deviance values equal to or greater than two and much less than one would be considered poor fitting models. The scaled deviance values in Table 4 show that the models were mostly over-predicted.

Table 4.

Goodness of Fit for the Absence and the Office Discipline Referral by the Student Subjective Wellbeing Questionnaire and the School Engagement Versus Disaffection Scale subscales

Variables	Absences Poisson Distribution Models Deviance Value /df	Office Discipline Referrals Negative Binomial Models Deviance Value/df
Joy of Learning	1.84	1.97
School Connection	2.00	1.73
Educational Purpose	1.89	2.18
Academic Efficacy	2.07	2.27
Behavioral Engagement	1.76	2.27
Behavioral Disaffection	1.94	2.22
Emotional Engagement	1.92	2.26
Emotional Disaffection	2.04	2.31

$N = 17$.

The outcomes of the negative binomial models predicting the number of ODRs that students had received by the eighth week they were in CCR showed none of models predicted the number received and that only two subscales were associated with receiving ODRs. The exponential standard beta or odds ratio showed an inverse relationship with Joy of Learning, which was negatively associated with receiving ODRs and yielding a positive odds of 1.47, suggesting students who scored higher on this scale evidenced increased odds of not receiving ODRs. Likewise, there was an inverse relation between students, who endorsed more items on the School Connection subscale having increased odds of 1.37 of not receiving ODRs.

Table 5.

Predicting Students' Office Discipline Referrals (ODRs) and Absences by Student Subjective Wellbeing Questionnaire Subscales and Engagement vs. Disaffection with Learning Subscales

Outcome	Variable	Intercept		Variable	
		Coeff. (S.E.)	Exp (B)	Coeff. (S.E.)	Exp (B)
ODRs	Joy of Learning	-2.18 (1.91)	0.11	0.39 (0.18)	1.47*
	School Connection	-2.04 (1.34)	0.13	0.31 (0.11)	1.37**
	Educational Purpose	-0.26 (1.62)	0.77	0.19 (0.14)	1.21
	Academic Efficacy	3.08 (1.62)	21.74	-0.10 (0.14)	0.91
	Behavioral Engagement	3.45 (2.04)	31.60	-0.53 (0.74)	0.59
	Behavioral Disaffection	3.46 (1.40)	31.89*	-0.51 (0.48)	0.60
	Emotional Engagement	1.07 (1.14)	2.91	0.38 (0.45)	1.45
	Emotional Disaffection	1.53 (2.30)	4.62	0.16 (0.74)	1.18
Absences	Joy of Learning	2.93 (0.41)	18.70***	-0.07 (0.04)	0.93
	School Connection	2.50 (0.33)	11.93***	-0.03 (0.03)	0.98
	Educational Purpose	2.80 (0.40)	16.50***	-0.05 (0.04)	0.95
	Academic Efficacy	2.10 (0.50)	8.07***	0.07 (0.04)	1.00
	Behavioral Engagement	3.34 (0.54)	28.12***	-0.44 (0.20)	0.65*
	Behavioral Disaffection	1.44 (0.55)	4.21**	0.25 (0.18)	1.28
	Emotional Engagement	2.65 (0.34)	14.19***	-0.20 (0.14)	0.82
	Emotional Disaffection	1.71 (0.73)	5.55*	0.15 (0.24)	1.16

$N = 17$. * $p < .05$, ** $p < .01$, and *** $p < .001$.

For the Poisson regression models used in the prediction of absences, all the models tested showed very large odds of receiving absences (i.e., ranging from 5.55 to 28.12). However,

only one subscale, Behavioral Engagement, showed a significant negative relation with receiving absences with an odds ratio of .65.

Discussion

While the Check & Connect (C&C) program is considered efficacious with long-term implementation and fidelity (Sinclair et al., 1998; Sinclair et al., 2005), there are mixed academic outcomes regarding the intervention. Building on the principals and structure of the C&C, the Check, Connect, & Respect (CCR) program was developed to bolster student wellbeing and engagement in hopes to support academic outcomes and engagement for students at risk of dropping out of school (Mayworm et al., 2015). However, there is limited evidence of its effectiveness since its initial implementation. Thus, the current study was intended to build upon previous literature and examine possible factors contributing to its effectiveness – or possible lack thereof. The research questions of this study are outlined and answered below.

RQ1: Do CCR participants show a positive change in their weekly grades over the course of the intervention in ELA, math, science, and social studies?

Ultimately, results from the data analyses did not support an association across weeks of the CCR intervention and changes in grades. CCR participants showed either no change or a decrease in weekly grades over the course of the intervention. ELA grades decreased by 1.26% , Math grades decreased by 0.24%, Social Studies grades decreased by 0.22%, and Science grades showed no change over the course of the intervention. However, there were significant random effects or variability around the average ELA, Math, Social Studies, and Science grades for students with standard deviations ranging from 13.3 to 18.92 at baseline.

Some studies have examined academic achievement in relation to the CCR and C&C interventions. In a previous implementation of the CCR program with a similar sample size using college-level mentors, Mayworm and colleagues (2015) demonstrated general semester GPA improvements ($M = 1.51$ (D+) to $M = 1.77$ (C-)) at the end of the intervention including at least five sessions. In Maynard and colleagues (2014) C&C study with 89 middle and high school students at risk for drop out, the results showed a significant increase of 1.5% in the students' grades from a baseline of 76.5%. However, another study implementing the C&C program found no significant increase in academic achievement, even with larger sample sizes and longer durations. For example, Goulet and colleagues (2018) implemented the C&C program across a span of two years with large samples of elementary ($n = 145$) and secondary students ($n = 200$). The authors found no association between the therapeutic ingredients (i.e., feedback, problem-solving, and communication) in the C&C program with final elementary and secondary school students' self-reported school achievement. With respect to the other studies with positive academic achievement results (Maynard et al., 2014; Mayworm et al., 2015), this study found no significant changes in the students' grades in math, social studies, and science with average course grades of 73 to 78% on the fixed effect models. However, the ELA baseline course average of 77.5% on the fixed effects model showed a 1.26% decrease per week resulting in a final course grade of 67.42%, although the observed ELA baseline average was 80.7% and ended at 77.6%. Taken together, the students' course grades in this CCR study showed comparable grades to the other studies although the lack of change in grades suggests a negligible effect of the CCR intervention and a great deal of variability as noted by the significant random effects.

RQ2: Do CCR participants show on average less than one absence or ODR each week over the course of the intervention?

Results from the data analyses did not show that the CCR intervention was associated with the students having less than one absence per week on average. Likewise, on average, the students in the CCR intervention did not show less than one ODR per week. Power and colleagues (2017) utilized a sample of 54 students in sixth and eighth grade in treatment and control conditions and found only the eighth graders in the CCR program showed less absence compared to the control students, whereas the sixth graders in the CCR program did not show fewer absences compared to control students. Likewise, Maynard and others did not find statistically significant improvements in attendance for their sample of 260 students when implementing the C&C along with the CIS interventions (2014). Mayworm and colleagues' (2015) found increased absences across the CCR intervention, which they partially attributed to the shortened length of their intervention. Comparatively, the original experimental C&C studies showed sustained attendance (< 15 absences) by the middle and high school students over a two-year period or even longer (Sinclair et al., 1998; Sinclair et al., 2005). Again, in the current study, there was a great deal of variability, although all the students had some absences. The range was 4 to 16 absences at the eighth week.

Likewise, results from the ODR data analyses did not indicate that the students in the CCR intervention received less than one ODR per week on average. As with total absences, studies of the C&C and CCR programs demonstrate inconsistent results regarding ODRs. Maynard and colleagues (2014) found fewer ODRs for the students receiving C&C than the students not receiving C&C, whereas Power and others (2017) did not find significant

differences in ODRs across groups for their sample. Again, there was a great deal of variability with the mode number of ODRs per student being zero.

RQ3: Do students' psychological wellbeing and engagement moderate students' weekly grade percentages?

Pre-test scores on psychological wellbeing and engagement subscales did not predict change in grades over time across subjects; therefore, psychological wellbeing and engagement did not moderate grade percentages for students. None of the subscales predicted baseline or change in grades for each course measured, although there was significant variability as found in the random effects models.

Ultimately, a unique component of the CCR program is the implementation of the Respect phase before proceeding to problem-solving phases with the goal of developing a positive mentor and mentee relationship to bolster overall wellbeing for mentees. However, the wellbeing subscale measures did not moderate grade percentages at baseline or over weeks of intervention.

Interestingly, there were three subscales (i.e., Behavioral Disaffection, Emotional Engagement, and Emotional Disaffection) that statistically predicted a decrease in the slope for Science course grades. While Behavioral Disaffection (e.g., being distracted in class) and Emotional Disaffection (e.g., feeling bored or upset in class) might be expected to predict decreases in grades in a classroom setting, Emotional Engagement (e.g., positive feelings in class) would be less likely to predict decreases in grades; thus, this finding is unusual. It is difficult to identify an accurate explanation for this finding.

RQ4: Do students' psychological wellbeing and engagement moderate students' number of absences and ODRs?

Separate models were conducted testing the odds that initial ODR intercepts were above chance levels. Results indicated that only the model with Behavioral Disaffection showed an increased odds of receiving an ODR at baseline, although it did not predict the total number ODRs after eight weeks of CCR sessions. None of the other subscale models showed a significant ODR intercept, and none of the subscales were associated with significant odds of receiving ODRs at the eighth week of CCR sessions. Again, the ODR descriptive data showed a relatively large number of students received no ODR, so the prediction of receiving one seems accurate. All the models testing whether absences occurred above zero showed significant odds ratios of the student receiving absences above chance levels. This is supported by the descriptive statistics showing that all the students had four or more absences by the eighth week of CCR sessions. However, none of the subscales predicted students accumulated ODRs by the eighth week of CCR sessions. Although Mayworm and colleagues (2015) showed an association in some students' subjective wellbeing using the Social Emotional Health Survey (Furlong et al. 2014), this study used the Student Subjective Wellbeing Questionnaire (Renshaw et al., 2015) which has had a series of validation studies conducted with it. However, there appears not to be any treatment studies that used the measure. It is possible that the instrument is not well suited to predict students' future academic and behavioral outcomes for a sample of at-risk middle school students.

Limitations and Other Considerations

There were several significant limitations to this study and other considerations that should be discussed. First, there was a significant lack of statistical power to achieve statistical

significance for the measures used in this study. Using G*Power (Faul et al., 2007) to calculate the statistical power yielded power at .27 with 17 participants, 1 measure and estimated effect size of .07 taken from the effect size from Goulet and colleagues (2018) study. Obviously, the chances of finding significance with this limited power very much hampered the study. In addition, there was no control group so the causal interpretation that the CCR program effected the outcomes can be challenged, because there is no comparison group (Shadish et al., 2002). Both of these limitations occurred in part due to the collaboration with the school personnel who supported the data collection of the school outcome measures used in this study. In the original proposal, a sample size of 68 participants using G*Power a priori suggest adequate power at .80. However, school site attrition and difficulty in acquiring the repeated student wellbeing measures over the course of the study added to the lack of the assessment in the change in the CCR participants' subjective wellbeing over the course of the eight weeks that they met with their college mentors. The findings reported by Mayworm and colleagues (2015) were pre- and post-treatment scores on the student wellbeing subscales. However, the most salient statistical finding in the current study was the significant amount of variability in the students' outcome measures. Given the heterogeneity in the sample, it might have been better to have conceptualized the study as a mixed methods or qualitative study to get a more detailed account of the differences in the students who participated in this CCR program and how these differences affected their outcomes.

Second, the structure of this CCR intervention was less rigorous than previous implementations of the C&C program. For example, in the original implementations of the C&C program (Sinclair et al., 1998; Sinclair et al., 2003), the intervention was held over the span of two years with hired mentors who were employed by the school, who worked 20 hours per week

meeting with teachers and parents to problem-solve on ways to keep their students and adolescent children engaged in school. Maynard and colleagues (2014) implemented the intervention within a span of one year and utilized school-based practitioners employed previously by the district who served as daily “case managers” for the students and their families. This CCR implementation utilized undergraduate university students who visited the school once a week and met with their mentees for 30 minutes instead of routinely hired school personnel. On average, CCR mentors hosted 5-6 sessions with their mentees. It may be possible that this limited contact with the students – and lack of contact with the mentees’ families – was associated with the limited change in outcomes of this intervention. In contrast, Powers and colleagues (2017) found no difference in GPA or ODRs in a small group of C&C middle school students and a control group with a 2 ½ year implementation of school psychology graduate student mentors, though they did find improved attendance.

Third, significant variability was observed in the collected data, which could be due to a number of factors, including individual factors that were not examined during this intervention. Within this study, students had variable behavioral data with some students having many absences and ODRs and some having few. It is unclear at this time what factors contribute to the discrepancies in the data for these participants. Given that behavioral concerns were considered as part of the recruitment criteria for students considered by school personnel, it is possible teachers and administration referred some students they perceived as having significant behavioral difficulties (e.g., higher ODRs). However, some students never received an ODR during the study, suggesting school-based discipline procedures were not uniformly of concern for all the students.

As described by Power and colleagues (2017), there are various factors that could have important associations with the outcomes of the C&C program. One factor noted was lower treatment fidelity, including less face-to-face mentoring time due to individual student factors (i.e., chronic absences) (Power et al., 2017). In this implementation of the CCR intervention, treatment fidelity was qualitatively measured throughout the intervention through weekly supervision with the mentors and the program director. Several barriers were observed by the director, which made implementation difficult for the intervention team. Data collection for the participants at the schools was contingent on the data manager located at the school, as the research team did not have open access to student records. The data manager would regularly share student data with the program director on a weekly basis for each student. This system was preferred by the school, but also put a significant time burden on the school personnel. At times, the data would not be acquired in time for the mentors to view it before their sessions, which resulted in some missing data points for certain students. Timely and frequent communication with school staff is a major component of this intervention, though it can be difficult at times given the changes to school schedules. Delayed communication and changes in schedule (e.g., testing) resulted in missed sessions for some mentors who traveled to the schools; thus, having mentors who are employed at the school could be beneficial for limiting these barriers. It is also possible that mentor implementation variables (e.g., perceived relationship with mentee, or efficacy of problem-solving techniques) or mentee perceptions (e.g., perceived relationship with mentor) that were not directly measured could explain some of the results. Last, toward the conclusion of the study, the COVID pandemic of 2019 shut down all operations at the school, including the CCR program. The initial proposed plan for the study was to collect a final data point for the SSWQ and EdvS for each student and post intervention data from the teachers.

However, this was not possible, and many mentees did not have sufficient time to complete their goals.

Future Directions

This study contributes to the growing body of literature demonstrating mixed, if not limited, results of the CCR program. Though statistical analyses did not support growth outcomes with the CCR program, some anecdotal gains were reported throughout this intervention. For example, CCR mentors described assisting mentees in identifying their needs and empowering them to have conversations with their teachers to advocate for their needs in the classroom. In addition, a few mentors assisted in connecting students and their families with community resources. Though these outcomes were not objectively measured, these qualitative gains are important when considering the pragmatics of implementing interventions in school settings. Thus, future research may consider implementing mixed methods or qualitative methods to better capture the possible gains across students or schools (such as Power and colleagues, 2017). Future implementations of this program in school settings should examine recruiting a larger number of participants from multiple schools or districts to compare possible improvements across grade levels or years. It is possible that utilizing paraprofessionals located and trained within the school setting could minimize some limitations noted by recruiting external mentors (e.g., communication, data collection). However, university students could still be efficacious given a longer timeframe of implementation and recruiting students could be more cost effective for a school system. Discrepant session length and phase initiation could be interesting to explore in future implementation of this adapted intervention, as Power and colleagues (2017) argued that fewer sessions were informally associated with poorer fidelity and delivery of the intervention.

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APPENDICES

Appendix A

Table A1

Mentor Efficacy Pre- and Post-Training Results

Statement	Day 1		Day 2	
	Pre-Training	Post-Training	Pre-Training	Post-Training
I can explain the purpose of CCR to someone who knows nothing about it.	3.08	4.75	3.53	4.67
I can build rapport with a CCR mentee.	4.17	4.75	4.13	4.53
I can listen non-judgmentally to a CCR mentee.	4.92	4.92	4.73	5
I can help a CCR mentee problem-solve.	3.92	4.42	4.13	4.6
I can connect a CCR mentee to other school services they may need.	3.33	4.17	3.27	4.14
I can set up appropriate boundaries between a mentor and mentee (e.g., difference between teacher, friend, mentor).	4.42	4.75	4.2	4.73
I know what to do if a CCR mentee brings up sensitive personal issues.	3.5	4.58	3.73	4.6

Note. All responses were scaled from 1 = Strongly disagree to 5 = Strongly agree with a neutral option. The mean of all mentor responses was calculated for each day of training.

Document A1

CCR Program Training Pre-Survey

Name: _____

Please circle the answer that best describes you.

- 1) I can explain the purpose of CCR to someone who knows nothing about it.
 1. Strongly disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree

- 2) I can build rapport with a CCR mentee.
 1. Strongly disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree

- 3) I can listen non-judgmentally to a CCR mentee.
 1. Strongly disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree

- 4) I can help a CCR mentee problem-solve.
 1. Strongly disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree

- 5) I can connect a CCR mentee to other school services they may need.
 1. Strongly disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree

- 6) I can set up appropriate boundaries between a mentor and mentee (e.g., difference between teacher, friend, mentor)
 1. Strongly disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree

- 7) I know what to do if a CCR mentee brings up sensitive personal issues.

1. Strongly disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

Document A2

CCR Program Training Post-Survey and Qualitative Feedback

Name: _____

Please circle the answer that best describes you.

- 1) I can explain the purpose of CCR to someone who knows nothing about it.
 1. Strongly disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree

- 2) I can build rapport with a CCR mentee.
 1. Strongly disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree

- 3) I can listen non-judgmentally to a CCR mentee.
 1. Strongly disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree

- 4) I can help a CCR mentee problem-solve.
 1. Strongly disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree

- 5) I can connect a CCR mentee to other school services they may need.
 1. Strongly disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree

- 6) I can set up appropriate boundaries between a mentor and mentee (e.g., difference between teacher, friend, mentor)
 1. Strongly disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree

- 7) I know what to do if a CCR mentee brings up sensitive personal issues.
 1. Strongly disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree

- 8) How satisfied are you with the training you received?
 1. Not satisfied
 2. Mostly satisfied
 3. Very satisfied

- 9) What was the most beneficial aspect of training?

- 10) What was the least beneficial aspect of training?

- 11) What do you still feel like you need more training on?

- 12) Is there anything the trainers could have done differently to increase the usefulness of the training?

- 13) After the training, how are you feeling about being a CCR mentor? Circle all that apply.
 1. Excited
 2. Nervous
 3. Inspired
 4. Hopeful
 5. Unprepared
 6. Not Sure
 7. Worried

Document A3

CCR Mid-year Feedback Form (Paper Copy)

We would like to get your feedback about this semester with the CCR Program. We appreciate the feedback you have given us in the past several months, and we also want to give you a platform to anonymously share how things have been going for you with this program. There are just a few questions, but they are open ended.

1. What improvement(s) could be made to your sessions at the schools?
2. What do you think is going well with your sessions at the schools?
3. What improvement(s) could be made to our weekly supervision meetings?
4. What do you think is going well with our weekly supervision meetings?
5. If you have other feedback, please put it here.