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Student Engagement Among High School English Learners With Reading Comprehension Difficulties

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ABSTRACT

Adolescents' school engagement is associated with high school completion; yet, few studies have examined interventions to improve school engagement for English Learners (ELs). In this mixed-methods study, we conducted a randomized controlled trial (RCT) to examine the effects of two years of the *Check & Connect* intervention on engagement outcomes (i.e., a self-report engagement questionnaire, attendance, disciplinary referrals, and course failures) of 358 high school ELs with reading comprehension difficulties. No significant differences were found between the treatment and comparison groups on a self-report questionnaire's subscales of behavioral disengagement (*ES* = −0.14), psychological engagement (*ES* = −0.22), academic and cognitive engagement (*ES* = −0.12), student-teacher relationships (*ES* = −0.10), and goal-setting and problem-solving (*ES* = −0.11), or on measures of attendance, disciplinary referrals, and core course failures. Then, we conducted qualitative interviews with a subset of the participants ($n = 34$) from the RCT to explore their perceptions of their engagement and the contextual factors affecting their engagement. Although interviewed participants reported being generally engaged in school, this finding was not corroborated by their interview responses nor other indicators of engagement collected during the efficacy study. Participants reported positive relationships with their *Check & Connect* mentors; however, these relationships were not sufficient to facilitate participants' academic, behavioral, or cognitive engagement. Implications for implementing *Check & Connect* with high school ELs with reading comprehension difficulties and measuring engagement with this population are discussed.

IMPACT STATEMENT

This study tested the effects of *Check & Connect*, an intervention designed to improve students' engagement with school, with 358 high school English learners (ELs) with reading comprehension difficulties. The intervention did not have a significant impact on participants' self-reported engagement, attendance, behavior referrals, or course grades. Schools that implement Check & Connect with high school ELs with reading comprehension difficulties should consider reducing mentor's caseloads to better support students' engagement.

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Over the past two decades, meeting the needs of all learners has become particularly challenging for schools, in part, due to increased enrollment of students from culturally and linguistically diverse backgrounds, many of whom are also acquiring proficiency in the English language (McFarland et al., 2019). Collectively referred to as English Learners (ELs), these students represent a heterogeneous groups of learners of varying academic strengths and needs. Many of these students require specialized programs to support their acquisition of the English language (McFarland et al., 2019) and to attain grade-level achievement standards (Genesee et al., 2005). In the secondary grades, ELs who have not yet acquired proficiency in English demonstrate concurrent difficulties with reading comprehension (Lesaux & Harris, 2017; Lesaux & Kieffer, 2010; Slama et al., 2017). Some of these difficulties are expected because reading comprehension is dependent upon language comprehension (Gough & Tunmer, 1986) and ELs may not yet have developed the language comprehension skills necessary to comprehend grade-level text (Lesaux et al., 2010; Lesaux & Harris, 2017); however, low reading comprehension can also result from concurrent difficulties with word-recognition (Lesaux & Kieffer, 2010).

Low reading achievement consistently predicts high school dropout (Reschly & Christenson, 2012), and students who are not reading proficiently are four times more likely to drop out of high school than proficient readers (Callahan, 2006; Hernandez, 2011; Kim & Garcia, 2014). Recent results from the National Assessment for Educational Progress (NAEP) reading subtest show that

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ELs in grades 8 and 12 demonstrated significantly lower reading achievement than students who were not identified as ELs (National Center for Education Statistics, 2016, 2018). Students who do not complete high school may face economic and societal barriers, such as lower participation rates in the labor force and lower median annual earnings (Brundage, 2017; National Research Council & National Academy of Education, 2011). Reading difficulties and a sustained lack of academic success are related to disengagement from school and high school dropout, particularly for students from at-risk groups (e.g., ELs, students with disabilities, racial or ethnic minorities, low socio-economic status), higher levels of school engagement can lead to increased rates of school completion for these groups (Fall & Roberts, 2012; Finn & Rock, 1997; Reschly & Christenson, 2006). For adolescent ELs in the U.S., the majority of whom are Hispanic and speak Spanish as their first language, contextual factors such as their relationships with and support from peers, teachers/school personnel, parents, and the community significantly influence their school engagement (Garcia-Reid et al., 2005; Green et al., 2008; Ream & Rumberger, 2008; Vaquera, 2009). Research suggests that these contextual factors are malleable and can be targeted with interventions (Finn & Zimmer, 2012; Fredricks et al., 2004; Reschly & Christenson, 2012); therefore, in the current mixed-methods study, we examined the efficacy of *Check & Connect,* an intervention designed to increase students' engagement with school (Christenson et al., 2012), on the engagement outcomes (i.e., a self-report engagement questionnaire, attendance, behavior referrals, and course grades) of ninth- and tenth- grade ELs with reading comprehension difficulties. Then, we conducted structured interviews to explore participants' perceptions of their engagement and the contextual factors that influenced their engagement.

The Theoretical Underpinnings of the Check & Connect Intervention

Check & Connect is an empirically supported, structured mentoring intervention designed to improve student engagement and promote school completion (Sinclair et al., 1998, 2005). The intervention consists of four main components: (1) an adult mentor with whom students and their families develop a relationship across at least two years, (2) frequent monitoring of academic and behavioral data by the mentor, (3) interventions based on the data, and (4) frequent contact and engagement with the student's family (Christenson et al., 2012). *Check & Connect* is informed by a vast body of theoretical research on resilience, cognitive-behavioral theory, systems theory, intrinsic motivation, social capital, and high school dropout (Christenson et al., 2012). For example, the mentor helps students become more resilient (i.e., competent; Masten & Coatsworth, 1998) by reducing risk factors for dropout (e.g., low academic achievement) and supporting student's problem-solving skills through cognitive-behavioral approaches to problem solving (Christenson et al., 2012). The mentor works with the student to make connections in the contexts (e.g., home, school, community) where learning occurs and is supported (i.e., systems theory; Bronfenbrenner, 1979). Relationships are fostered when the mentors support students and their families personally and academically (i.e., social capital; Coleman, 1987).

Check & Connect's theory of change draws on this body of theoretical research and emphasizes the malleable factors (e.g., completion of school/homework, academic support, supportive teachers) to increase students' engagement and promote school completion (Christenson et al., 2012; Reschly & Christenson, 2006, 2012). Student engagement is conceptualized as a dynamic metaconstruct comprised of academic, behavioral, and cognitive, and affective dimensions that are inextricably linked (Appleton et al., 2008; Christenson et al., 2012). The academic and behavioral dimensions of engagement include overt indicators of academic engagement, such as homework completion, and attendance, as well as indicators of behavioral engagement (e.g., extracurricular participation, and disciplinary referrals). Cognitive and affective dimensions include more covert indicators, such as goal-setting and self-regulated learning (i.e., cognitive engagement) and connection/identification with school and supportive individuals (i.e., affective engagement). These dimensions of engagement are influenced by various contextual factors such as school support, peer or community influences, and family support (Lam et al., 2012; Patrick et al., 2007; Wang & Holcombe, 2010), and the *Check & Connect* mentor helps facilitate the student's interactions with these contextual factors (Christenson et al., 2012).

The Efficacy of Check & Connect

Two seminal randomized controlled trials (RCTs) of *Check & Connect* (Sinclair et al., 1998; 2005) examined the intervention's impact on engagement and school completion outcomes for urban, high school students with learning disabilities (LD) and emotional/behavioral disorders (EBD). In the first study (Sinclair et al., 1998), participants who received the *Check & Connect* intervention were significantly more likely than students in the comparison condition to be enrolled in school at the end of ninth grade, complete course assignments, earn more credits, and be on track to graduate (i.e., they were more engaged academically and behaviorally). There were no differences

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between groups on affective measures of engagement. In the second study (Sinclair et al., 2005), participants with LD and EBD in the treatment group who received four years of intervention had significantly higher attendance rates (behavioral engagement) and were significantly less likely to drop out of high school than participants in the control condition.

Several studies have examined the effect of the *Check & Connect* intervention with younger student populations, yielding mixed results (Guryan et al., 2017; Powers et al., 2017); however, only one recent study (Heppen et al., 2018) has been conducted with high school students. Heppen et al. (2018) completed an RCT of *Check & Connect* with a sample of general education high school students, the majority of whom were Hispanic and current or previous ELs. Students who received the *Check & Connect* intervention did not outperform students in the comparison group on any measures of academic engagement (i.e., course failures, high school exit exam, credits), behavioral engagement (i.e., attendance, citizenship grades, extracurricular participation), cognitive and affective engagement (i.e., a self-report questionnaire of engagement), or school completion (Heppen et al., 2018).

Check & Connect has demonstrated initial effects on academic and behavioral engagement and school completion rates for students with LD and EBD; however, studies of its efficacy with other populations report mixed findings (Guryan et al., 2017; Heppen et al., 2018; Powers et al., 2017). Therefore, it is difficult to interpret for whom and under what conditions *Check & Connect* is effective. Although Heppen et al. (2018) and Powers et al. (2017) included a large percentage of participants who were ELs, these studies did not specifically recruit ELs with reading comprehension difficulties. As such, the effect of the *Check & Connect* intervention for ELs with reading comprehension difficulties, who are at greater risk than students without reading comprehension difficulties, is unknown. Additionally, the majority of the aforementioned *Check & Connect* studies measured only academic and behavioral engagement which are considered observable indicators of engagement (e.g., grades, behavior referrals, school completion, attendance). Prior studies rarely measured the cognitive and affective dimensions of engagement, such as students' perceptions about school's relevance to their personal goals, their perceived connection to school, and their sense of support from peers, teachers, and family members (Christenson et al., 2012). Although a few studies used self-report questionnaires to measure students' engagement (Heppen et al., 2018; Sinclair et al., 1998), none have conducted qualitative interviews with students to examine their perceptions of their engagement and the contextual factors affecting their engagement.

Approach and Research Questions

The current study addressed these gaps in research through an explanatory sequential mixed-methods design in which a quantitative phase was followed by a qualitative phase (Creswell, 2009; Creswell & Plano Clark, 2018). In the Quantitative Phase, we conducted a RCT to determine the extent to which two years of participation in the *Check & Connect* intervention affected the engagement of high school ELs with reading comprehension difficulties ($n = 358$). This phase was guided by the following research question: (1) What is the effect of the *Check & Connect* mentoring intervention on engagement outcomes for high school ELs with reading comprehension difficulties? This was followed sequentially by a qualitative phase in which we conducted structured interviews with a subset of the participants ($n = 34$) from the Quantitative Phase who reported large changes (positive and negative) in engagement as measured by the self-report engagement questionnaire. The purpose was to further explore participants' perceptions of their own engagement with school and the contextual factors (e.g., school, peer, and familial support) that influenced the self-reported changes in their engagement. This phase was guided by a second research question: (2) How do high school ELs with reading comprehension difficulties perceive their engagement with school and to what extent do they attribute changes in their engagement to contextual factors?

Study Context

The quantitative and qualitative data on school engagement outcomes reported in this manuscript are from a large-scale efficacy trial that examined the effects of an intensive reading intervention and the *Check & Connect* intervention for high school ELs with reading comprehension difficulties. The efficacy trial was conducted in three comprehensive high schools (enrollment range: 1,635–2,661) in a large urban district in the southwestern United States. The majority of students enrolled in the participating schools were Hispanic (range: 55%-91%) and received free- or reduced-price lunch (range: 75%-90%). Eligible participants were randomly assigned to one of four conditions: (1) *Check & Connect*, (2) an intensive reading intervention, (3) *Check & Connect* + an intensive reading intervention, or (4) a business-as-usual (BaU) comparison condition. Participants in reading intervention enrolled in a supplemental reading class in lieu of an elective class (e.g., auto mechanics, ROTC, art) that addressed word-study, fluency, vocabulary, and comprehension for two years. Participants who received the intensive reading intervention for two years ($n = 175$) performed significantly higher than participants in the comparison

condition ($n = 183$) on a measure of sentence-level reading fluency and comprehension ($g = 0.18$) and a proximal vocabulary measure ($g = 0.41$). We found no significant differences between groups on standardized measures of word-reading, vocabulary, or comprehension (Vaughn et al., 2019). Additional information about the reading intervention and its effects on reading achievement are published in a separate manuscript (Vaughn et al., 2019).

QUANTITATIVE PHASE METHODS

Participants and Eligibility

Students were eligible to participate in the large-scale efficacy study if they: (1) were designated as an EL or had been designated as an EL in the previous 5 years by the participating school district, and (2) had scored below 1,612 (i.e., one standard error of measurement above the failing score of 1,575) on the reading subtest of the eighth-grade state assessment. This cut-score for determining participants' reading comprehension difficulties was selected based on its reliability in prior studies research with similar populations (Vaughn et al., 2015). Students who had been reclassified by the district as proficient in English (i.e., former ELs) within the past 5 years were eligible to participate as long as they scored below the identified cut score of 1,612, because low reading achievement is an academic risk factor for dropping out of high school (Callahan, 2006; Hernandez, 2011; Kim & Garcia, 2014). Newcomer ELs, defined as students who had been in the United States for less than a year, were excluded from participation because their needs related to assimilation and language acquisition were quantitatively and qualitatively different from ELs with reading comprehension difficulties who had been enrolled longer in school and were still experiencing persistent academic challenges. The final analytic sample included 358 ninth-grade students with reading comprehension difficulties, including 226 identified as ELs by their school and 132 formerly identified as ELs (see Table 1). The majority of participants were Hispanic (89%, $n = 320$), spoke Spanish at home (89%; $n = 320$), and were economically disadvantaged as determined by free- and reduced-price lunch data (75%, $n = 270$). There were also 45 participants with disabilities, including 37 with learning disabilities, three with intellectual disabilities, two with other health impairments, one with an orthopedic impairment, one with emotional/behavioral disorder, and one with speech/language impairment.

DESIGN

Eligible participants were blocked by school and randomly assigned to one of four conditions: (1) *Check & Connect*, (2) an intensive reading intervention, (3) *Check & Connect*

Table 1. Student Demographics

	Overall ($n = 358$)		Treatment ($n = 168$)		Comparison ($n = 190$)	
	n	%	*n*	%	*n*	%
Race						
African American	3	0.8	0	0	3	1.8
Hispanic	320	89.4	167	87.9	153	91.1
American Indian	1	0.3	1	0.5	0	0
White	1	0.3	1	0.5	0	0
Missing	33	9.2	21	11.1	12	7.1
Gender						
Male	188	52.5	103	54.2	85	50.6
Female	137	38.3	66	34.7	71	42.3
Missing	33	9.2	21	11.1	12	7.1
English learner status						
Former	132	36.9	77	40.5	55	32.7
Current	226	63.1	113	59.5	113	67.3
Home Language						
Spanish	320	89.4	167	87.9	153	91.1
French	2	0.6	0	0	2	1.2
Other	3	0.9	2	1.0	1	.6
Missing	33	9.2	21	11.1	12	7.1
Economically disadvantaged						
No	55	15.4	26	13.7	29	17.3
Yes	270	75.4	143	75.3	127	75.6
Missing	33	9.2	21	11.1	12	7.1
Special education services						
No	281	78.5	144	75.8	137	81.5
Yes	45	12.6	26	13.7	19	11.3
Missing	32	8.9	20	10.5	12	7.1

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+ an intensive reading intervention, or (4) a business-as-usual (BaU) comparison condition. We hypothesized based on a previous study (Vaughn et al., 2015), that students assigned to the *Check & Connect* conditions to outperform the BaU condition on self-reports of school engagement. Therefore, we formed two distinct groups (i.e., treatment and comparison) from the four originally randomized conditions. The treatment group included participants from the *Check & Connect* condition or the *Check and Connect* + intensive reading intervention condition, and the comparison group consisted of participants in the intensive reading intervention condition or the BaU condition. We also ensured that participation in reading intervention did not affect absence rate, disciplinary referrals, and course failure by comparing the students in the reading intervention to the students in BaU and students in the reading intervention to the students in reading intervention + Check and Connect intervention. Collapsing the groups is reasonable to the extent that treatment in one domain is not expected to affect outcomes in the other. In this case, *Check & Connect* did not impact reading outcomes and the reading intervention did not affect engagement outcomes, which we evaluated by contrasting reading outcomes for students in the *Check & Connect* condition with those in the BaU and engagement outcomes across the reading intervention and BaU conditions. These comparisons resulted in no significant differences between groups (p-values ranged from .11 to .54), confirming the assumption that it was reasonable to collapse the four originally randomized conditions.

Attrition Analysis and Baseline Equivalence

Screening and randomization occurred in the summer of 2015 before students enrolled in ninth grade. The district provided the research team with screening data to determine eligibility (i.e., EL status, eighth-grade state reading assessment scores) for students who were expected to enroll at one of the three participating high schools; however, the participating district allowed students to attend high schools other than their zoned school. Based on prior studies involving students transitioning to high school in large districts that permit school choice (Vaughn et al., 2015), we expected that only about 50% of the students zoned to the three participating schools would actually enroll at their assigned school. Therefore, we oversampled during screening and randomization to ensure the study was adequately powered to detect treatment effects.

In the fall of 2015, we obtained consent for and conducted pretesting with 358 of the randomized ninth-grade participants (Time 1). By the end of participants' ninth-grade year (Time 2), 317 participants completed a posttest battery, which represented 45% of the originally randomized sample prior to enrollment and 89% of participants who consented and completed pretesting at Time 1. Because *Check & Connect* was implemented across two years (i.e., participants' ninth- and tenth-grade years), the Year 2 pretest battery was administered in the fall of 2016 (Time 3) and completed by 306 students (43% of the originally randomized sample and 86% of the Time 1 sample). By the end of Year 2 (Time 4), 265 students completed the posttest battery (37% of the originally randomized sample and 74% of the Time 1 sample).

Overall and differential attrition were calculated on the sample that consented to participate in the study using the procedures outlined in the *What Works Clearinghouse (WWC) Procedures Handbook* 4.1 (U.S. Department of Education [U.S. DOE] & Institute of Education Sciences [IES], 2020). By the end of Year 2, overall attrition was 26% and differential attrition was 4%. Because the intervention received by the treatment group could have an effect on whether students remain enrolled in school, we applied the WWC's conservative attrition standard to evaluate the bias associated with overall and differential attrition. The combination of 26% overall attrition and 4% differential attrition at Time 4 (after two years of the intervention) is associated with tolerable amounts of attrition. Additionally, we used scores from the preintervention (Time 1) assessment battery to determine baseline equivalence and ensure there were no differences among the groups at Time 1. Standardized difference scores were calculated for each group's pretest means, and all differences were 0.06 or less in absolute value, indicating that the four groups were equivalent at Time 1 (U.S. DOE & IES, 2020). Because some of the differences exceed the .05 threshold we regressed the growth factor on the initial status factor.

Measures

Participants were assessed at four timepoints throughout the study: preintervention implementation during the fall of Year 1 (Time 1), after one year of intervention during the spring of Year 1 (Time 2), fall of Year 2 (Time 3), and after two-years of intervention implementation during spring of Year 2 (Time 4). All tests were administered in a quiet area at participating schools by trained examiners, who had prepared to administer standardized assessment protocols. Test administrators were blind to the participants' conditions.

Self-Report Engagement Questionnaire

Engagement was assessed with the *Dropout Risk Inventory (DRI)*, a researcher-created, self-report questionnaire that is administered in a whole-group setting (Vaughn et al., 2020). The *DRI* takes approximately 20 to 30 minutes to

administer, and respondents rate each item on a 5-point scale (never, rarely, sometimes, often, and always). Higher scores indicate higher levels of engagement. A printed questionnaire written in English was administered to students and questions were read aloud to student participants who requested assistance. Five subscales from the *DRI* were included in the current analysis: behavioral disengagement, psychological engagement, academic and cognitive engagement, student-teacher relationships, and goal-setting and problem-solving, because these subscales most closely relate to the four dimensions of engagement underlying *Check & Connect* (Christenson et al., 2012). The *behavioral disengagement subscale* consists of eight items that measure the extent to which students conform to school norms and rules and avoid disruptive behaviors. The *academic and cognitive engagement subscale* consists of seven items that investigate students' effort and persistence in their classes, such as completing homework, studying for classes, and paying attention in class. The *psychological engagement subscale* (i.e., affective engagement) includes seven items that assess students' interest in and identification or connectedness with the school (e.g., "I like my school"). The *student-teacher relationship subscale* includes eight items that also measure students' affective engagement, but with respect to their perception of the level of care, acceptance, and support from teachers (e.g., "I feel understood by my teachers"). The *goal-setting and problem-solving subscale* includes nine items measure aspects of cognitive engagement such as students' perceived ability to solve problems (e.g., "When a problem exists, I brainstorm potential solutions and pick the best") and set goals for themselves (e.g., "I keep a written set of long-term goals for my academic life").

To assess the psychometric properties of the DRI, we first assessed the factor structure of each subscale. confirmatory factor analyses. Following the Hu and Bentler (1999) guidelines, goodness of fit was evaluated using CFI (values above 0.95 indicate very good fit, and those at or above 0.90 indicate reasonable fit; Bentler, 1990) and RMSEA (values below 0.05 indicate a very good fit, and those at or below 0.10 indicate a reasonable fit; Steiger, 1990). Results of confirmatory factor analyses found that the measurement models for engagement fit the data well (behavioral disengagement: $\chi2 = 23.332$, $df = 20$, $p = .27$, CFI = .99, TLI = .99, RMSEA = .021, RMSEA C.I. = .00–.05; psychological engagement: $\chi2 = 31.177$, $df = 14$, $p = .01$, CFI = .97, TLI = .96, RMSEA = .06, RMSEA C.I. = .03–.09; academic and cognitive engagement: $\chi2 = 26.74$, $df = 14$, $p = .02$, CFI = .98, TLI = .98, RMSEA = .05, RMSEA C.I. = .02–.08; student-teacher relationships: $\chi2 = 27.536$, $df = 20$, $p = .12$, CFI = .99, TLI = .99, RMSEA = .03, RMSEA C.I. = .00–.06; goal-setting and problem solving: $\chi2 = 80.965$, $df = 27$, $p = .00$, CFI = .95, TLI = .93, RMSEA = .07, RMSEA C.I. = .06–.09). These results replicate the factor structure observed in other *DRI* samples (Vaughn et al., 2020), and they support the *DRI*'s construct validity in the present sample. The coefficients for Cronbach's alpha ranged from .71 to 85. More specifically, subscales of behavioral engagement (α = .83), academic and cognitive engagement (α = .82), goal setting and problem solving (α = .85), and student-teacher relationship (α = .85) had good internal consistency while psychological engagement (α = .71) had acceptable reliability.

Attendance, Disciplinary Referrals, and Core Course Failures

Academic and behavioral engagement were also measured through extant data provided by the participating district. At Time 2 and Time 4, we collected participants' yearly attendance, number of disciplinary referrals. and number of core course failures. We used attendance data to calculate an absence rate, which represented the ratio of the number of days absent divided by the number of days present for each year. For course failures, we created a dichotomous variable to indicate whether a student failed two or more core courses (English language arts, mathematics, science, and social studies) each year.

The Check & Connect Intervention

Students assigned to the treatment condition participated in the *Check & Connect* intervention program for two consecutive school years and were assigned to work with a mentor who proactively collected and monitored students' tardies, absences (from school and classes), office referrals, detentions, suspensions (both in and out of school), failing classes, and credits accumulated (i.e., the "Check" component of the intervention). Mentors downloaded and accessed participants' progress reports and report card data each reporting period, and used this data to create caseload reports that summarized the data and indicated a level of risk (i.e., little risk, some risk, or high risk) for each student. Mentors also accessed real-time data through the district's grade and attendance reporting system and routinely reviewed this data with participants. The goal of the "Check" component was for the mentor to proactively monitor data to increase the mentors' efficiency and provide them with the opportunity to focus their time and attention on the participants with the highest levels of risk.

The "Connect" component of the intervention involved regular, formal and informal communication from the mentors with participants, their caregivers, schools, and other applicable outside agencies. When the "Check" data indicated that students were at the "some" or "high" risk levels and required intensive interventions, mentors implemented these interventions and kept records of the

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interventions provided. Individualized interventions included meetings and discussions about how to set goals, understand the academic impact of a student's behavior or choices, obtain tutoring services from teachers, organize school materials or assignments, and solve problems within the school, home, or community. Mentors also served as advocates for their students by speaking on their behalf when accompanying them to meet with teachers, school administrators, truancy officers, and guardians.

Check & Connect Mentors

Three female mentors were hired and trained by the research staff to implement *Check & Connect* at each of the three participating schools. All mentors were Hispanic, bilingual, and licensed educators with an average of 14 years of experience in secondary settings. Two of the three mentors had a master's degree in school counseling and the third mentor had previously worked at her assigned school as a Pregnancy Related Services teacher. Prior to implementing *Check & Connect*, mentors participated in a 2-day training on the intervention in addition to five days of training on the research project. Each mentor was assigned a caseload of approximately 50 students to monitor. Mentors and research staff members met every two weeks (at a minimum) to discuss participants' data and interventions and to address any problems that arose.

BAU Comparison Condition

Students assigned to the comparison condition did not receive the *Check & Connect* intervention; however, they were able to receive any interventions targeted at dropout prevention available at the participating schools, which included monitoring by a truancy officer, meetings with guidance counselors and administrators, and ad-hoc actions by school teachers and staff members. Additionally, the research team collected data from school personnel and determined that none of the participating schools' dropout prevention efforts overlapped with key components of *Check & Connect* implemented by the mentors.

Fidelity of Implementation

Intervention adherence and quality of implementation were assessed through in-person observations for each mentor at least three times per year. Adherence was evaluated across four items relating to the presence or absence of key intervention markers (i.e., checking and responding to student data). Quality of implementation was evaluated via 4-point Likert-type scores (4 = highest quality to 1 = lowest quality) across five domains: (1) seeking information, (2) connecting with mentees, (3) maintaining relationships, (4) providing reinforcements and motivation, and (5) problem solving. Additionally, the observer rated global implementation quality on a 7-point scale with 7 indicating highest implementation quality and 1 the lowest. Across both years, indicators of adherence were high with very little variability across the mentors. Quality of implementation was generally high (mean range = 3.30–3.73). Global implementation quality varied by mentor, although scores were generally high, indicating good implementation quality ($M = 5.67$; $SD = 1.02$; range: 3–7).

Data Analysis

In this intent-to-treat analysis, the effect of the *Check & Connect* intervention on the self-report engagement questionnaire, the *DRI* (Vaughn et al., 2020), was estimated using multiple-indicator growth modeling analysis (GMA; Wu et al., 2010). Because variables were measured repeatedly across two years, we also assessed the invariance of the measurement models to confirm that the relationship between observed variables and their underlying latent variables did not change over time and across groups (Meredith & Horn, 2001). We tested measurement invariance across groups over time (Cheung & Rensvold, 2002) by fitting and comparing a series of increasingly restricted nested models where each new model is nested in the previous model. Configural invariance was specified as the baseline model to evaluate similarities in the patterns of factor structures across groups. If the configural invariance was supported, further parameter constraints were imposed on the model. First, factor loadings were constrained to be equal across groups and time to test invariance of factor loadings. A difference test was then conducted to determine whether the baseline model was significantly different from the loading-constrained model. A nonsignificant difference test indicated that the strength of the relationship between each item and its factor was the same across time and groups, satisfying metric invariance. Further, based on the metric invariance model, intercepts were constrained to be equal across time and groups. Difference tests between the metric invariance model and scalar invariance model were also conducted. A nonsignificant difference test meant that intercepts were invariant across time and group, satisfying scalar invariance. To determine whether constraints in each model yielded a significant decrease in fit, comparative fit index (CFI) values were monitored for changes exceeding .01 and root mean square error of approximation (RMSEA) values were monitored for changes exceeding .015. Changes exceeding both .01 and .015 indicated a lack of invariance (Chen, 2007).

Following invariance analysis, we estimated unconditional models to determine the overall intercept and slope of engagement and the overall fit of each model to the data. Next, covariates were added to the models to determine the effects of treatment on the latent slopes and intercepts. Effect sizes for the difference between treatment and control groups in linear slopes were calculated using the recommendations put forth by Feingold (2015): GMA d = (b*duration)/SD, where b is the unstandardized coefficient for the effect of group (treatment vs. comparison, dummy-coded); duration is the number of time points minus 1 when time codes differ by 1 point, and SD is the square root of the sum of the residual variance of the intercept and the mean of the four observed residual variances.

Regressions models were used to analyze the impact of *Check & Connect* on absence rate and disciplinary referrals, and core course failures. Models were fit using Mplus 8.1 (Muthén & Muthén, 1998–2017), which addresses missing data using full information maximum likelihood estimation (Little & Rubin, 1987). In full information maximum likelihood estimation, each parameter is estimated using all data available for that particular parameter (Enders, 2010).

QUANTITATIVE PHASE RESULTS

Effects on the Self-Report Engagement Questionnaire

First, we tested whether each of the five engagement constructs conducted under different times of measurement show identical psychometric properties (Cheung & Rensvold, 1999). A separate longitudinal CFA model was fit to each construct, constraining each item's factor loading and threshold parameters to be equal across assessments. There was no substantial change in CFI and RMSEA (Δ_{CFI} and Δ_{RMSEA} ranged from .00 to .01); therefore, we conclude that full measurement invariance was evident for the five subscales of the *DRI*.

Table 2 displays the estimated means for the latent variables while Table 3 displays the effects of *Check & Connect* on the five *DRI* subscales. Participants in the treatment group did not have significantly higher levels of engagement than participants in the comparison group on any *DRI* subscale. There were also no significant differences between groups on the behavioral disengagement subscale (β = −.04, *SE* = .04, p = .32; ES = −.14 (95% CI = −0.41, .13)), the academic and cognitive engagement subscale (β = −.04, *SE* = .04, p = .37; ES = −.12 (95% CI = −0.39, .14)), the psychological engagement subscale (β = −.08, *SE* = .05, p = .14; ES = −.22 (95% CI = −0.51, .07)), the student-teacher relationship subscale, (β = −.04, *SE* = .06, p = .50; ES = *−.10 (*95% CI = −0.38, 0.19)), or the goal-setting and problem-solving subscale (β = −.04, *SE* = .05, p = .36; ES = −.11 (95% CI = −.38, .16)).

Effects on Absence Rate, Disciplinary Referrals, and Course Failures

Table 4 displays descriptive statistics for each measure. We estimated the effect of *Check & Connect* on absence rate, disciplinary referrals, and course failures by fitting a series of regression models (Table 5). Students in the treatment group did not have significantly fewer absences than students in the comparison condition at the end of ninth-grade (β = −.81, *SE* = .99, ES = −0.08 (95% CI = −1.05, .90)) or tenth grade (β = .41, *SE* = 1.13, ES = 0.06 (95% CI = −1.12, 1.23)). Furthermore, the two groups did not differ on the number of disciplinary referrals at the end of ninth-grade (β = −.10, *SE* = .14, ES = −0.07 (95%CI = −.20, .07)) or tenth-grade grade (β = −.03, *SE* = .16, ES = −0.01 (95% CI = −.18, .15). Also, students in the treatment group did not have fewer core course failures than students in the

Table 2. Estimated Means for the Latent Variables, Raw Means, and Standard Deviations

	Time 1			Time 2			Time 3			Time 4		
	Latent M	*raw M*	*raw SD*	Latent M	*raw M*	*raw SD*	Latent M	*raw M*	*raw SD*	Latent M	*raw M*	*raw SD*
Behavioral disengagement												
Control	0.00	15.81	5.93	−0.10	14.70	7.45	−0.19	15.31	7.36	−0.29	12.86	8.52
Treatment	0.06	16.08	6.05	−0.08	15.68	6.92	−0.21	14.62	8.18	−0.35	13.13	9.14
Psychological engagement												
Control	0.00	18.82	6.24	−0.20	16.87	8.52	−0.39	16.98	8.40	−0.59	14.90	8.49
Treatment	0.08	19.10	6.26	−0.20	17.76	7.48	−0.47	16.22	8.65	−0.75	14.64	9.10
Academic and cognitive engagement												
Control	0.00	20.78	6.88	−0.18	17.96	8.86	−0.36	18.73	8.77	−0.54	15.60	99.33
Treatment	0.00	20.59	7.02	−0.22	18.77	8.34	−0.44	17.68	9.44	−0.65	15.25	10.57
Student-teacher relationship												
Control	0.00	25.06	8.08	−0.22	23.01	10.88	−0.43	22.63	10.51	−0.65	19.19	12.38
Treatment	0.01	24.71	8.23	−0.26	23.77	9.84	−0.53	21.79	11.35	−0.80	18.79	12.73
Goal-setting and problem solving												
Control	0.00	26.09	9.14	−0.23	22.02	11.45	−0.46	22.15	10.87	−0.69	19.03	12.76
Treatment	0.05	25.98	9.01	−0.24	22.61	10.60	−0.52	21.54	12.14	−0.80	18.25	13.35

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Table 3. Main Effect of Check & Connect Intervention on Student Engagement

	Behavioral Disengagement	Psychological Engagement	Academic and Cognitive Engagement	Student-Teacher Relationship	Goal-Setting and Problem-Solving
	Estimate (*SE*)	Estimate (*SE*)	Estimate (*SE*)	Estimate (*SE*)	Estimate (*SE*)
Model parameter					
Intercept	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)
Slope	-.10 (.03) ***	-.20 (.04) ***	-.18 (.03) ***	-.23 (.04) ***	-.23 (.04) ***
Variance intercept	.36 (.05) ***	.49 (.09) ***	.42 (.07) ***	.61 (.12) ***	.54 (.09) ***
Variance slope	.07 (.01) ***	.13 (.03) ***	.11 (.02) ***	.16 (.03) ***	.14 (.02) ***
Slope on intercept	-.02 (.05)	-.02 (.07)	-.13 (.06) *	-.03 (.07)	-.14 (.06)
Intercept on treatment	.05 (.08)	.08 (.10)	.01 (.08)	-.01 (.11)	.05 (.10)
Slope on treatment	-.04 (.04)	-.08 (.05)	-.04 (.04)	-.04 (.06)	-.04 (.05)
Effect size (95% CI)	-.14 (-.41, .13)	-.22 (-.51, .07)	-.12 (-.39, .14)	-.10 (-.38, .19)	-.11 (-.38, .16)
Model fit					
χ2 (df)	1182.93 (534)	641.26 (366)	509.14 (366)	629.26 (490)	947.42 (624)
CFI	0.93	.96	.98	.99	.96
TLI	0.93	.95	.98	.98	.96
RMSEA (90% CI)	.06 (.05, .06)	.05 (.04, .05)	.03 (.03, .04)	.03 (.02, .03)	.04 (.03 – .04)

Note. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Table 4. Descriptive Statistics for Absence Rate, Disciplinary Referrals, and Course Failures

	Control		Treatment	
	M	*SD*	*M*	*SD*
Absence rate at the end of 9th grade	7.28	9.98	6.90	8.78
Absence rate at the end of 10th grade	7.68	9.34	8.70	12.28
Number of disciplinary referrals at the end of 9th grade	0.64	1.35	0.55	1.27
Number of disciplinary referrals at the end of 10th grade	0.67	1.72	0.66	1.45
	%		%	
Percent of students failing two or more courses at the end of 9th grade	51.2		54.2	
Percent of students failing two or more courses at the end of 10th grade	36.9		31.6	

Table 5. Main Effect of Check & Connect Intervention on Absence Rate, Disciplinary Referrals, and Core Course Failure

		Estimate	*SE*	*p*-value	ES (95% CI)
Absence rate at the end of 9th grade	Intercept	7.56	0.78	0.00	
	Treatment	−0.81	0.99	0.41	-.08 (-1.05, .90)
Absence rate at the end of 10th grade	Intercept	7.57	0.74	0.00	
	Treatment	0.41	1.13	0.72	.06 (-1.12, 1.23)
Number of disciplinary referrals at the end of 9th grade	Intercept	0.66	0.10	0.00	
	Treatment	−0.10	0.14	0.48	-.07 (-.20, .07)
Number of disciplinary referrals at the end of 10th grade	Intercept	0.64	0.13	0.00	
	Treatment	−0.03	0.16	0.83	-.01 (-.18, .15)
Percent of students failing two or more courses at the end of 9th grade	Intercept	0.53	0.04	0.00	
	Treatment	0.03	0.05	0.61	.05 (-.01, .10)
Percent of students failing two or more courses at the end of 10th grade	Intercept	0.42	0.04	0.00	
	Treatment	−0.04	0.05	0.43	-.10 (-.15, .04)

comparison group in ninth-grade ($\beta = .03$, $SE = .05$, ES = 0.05 (95%CI = −.01, .10) or in tenth-grade ($\beta = -.04$, $SE = .05$, ES = −0.10 (95% CI = −.15, .04).

QUALITATIVE PHASE METHODS

The purpose of the Qualitative Phase was to explore adolescent ELs' perceptions of their engagement and the contextual factors affecting their engagement. Structured interviews were conducted with 34 participants who received the *Check & Connect* intervention for two years and self-reported large positive and negative changes in their engagement from pre- to postintervention. The interviews took place during participants' eleventh-grade school year and were conducted by *Check & Connect* mentors. A grounded-theory approach (Corbin & Strauss, 2008) was used to analyze and interpret students' responses.

Participant Recruitment

Students were eligible for participation if they: (1) had received two years of the *Check & Connect* intervention, and (2) self-reported large positive or negative changes on the *Dropout Risk Inventory* (DRI; Vaughn et al., 2020). We recruited participants with large changes in engagement on the *DRI* because we were interested in exploring the contextual factors that participants believed to be affecting their engagement. We used pre- and postintervention scores from the *DRI* to calculate standardized difference scores for all participants in the Quantitative Phase. Then, we rank ordered the difference scores and identified 29 students in the top quartile who reported positive changes and 29 students in the bottom quartile who reported negative changes. The *Check & Connect* mentors obtained consent for and interviewed 34 of the 58 eligible students. Sixteen students did not provide consent and eight no longer attended one of the participating schools. Table 6 displays the demographics of the interviewed participants ($n = 34$).

Interview Questions

The interview questions were developed from the self-report engagement questionnaire (the *DRI*; Vaughn et al., 2020) administered during the Quantitative Phase of the study. We used the *DRI* to develop the interview protocol because we wanted to further explore participants' perceptions of their engagement, but the close-ended structure of the *DRI* did not allow for this level of exploration. The final interview protocol consisted of nine open-ended interview questions about participants' academic, behavioral, affective, and cognitive engagement. Two questions were created to explore students' academic and behavioral engagement and to make comparison with the data collected from students during the Quantitative Phase (e.g., attendance, disciplinary referrals, course grades, credits). The remaining questions focused on participants' cognitive and affective engagement and the factors influencing their engagement. For example, participants were asked about what motivated them and kept them engaged in school, what their plans for the next two to three years (in and out of school) were, and how their peers, families, and communities influenced their engagement.

Table 6. Interviewed Student Demographics

	n	%
Race		
Hispanic	34	100
Gender		
Male	20	57.6
Female	14	42.4
English learner status		
Former	19	55.9
Current	15	44.1
Economically disadvantaged		
No	6	17.6
Yes	27	79.5
Missing	1	2.9
Special education services		
No	31	91.2
Yes	3	8.8

Interview Procedures

Prior to conducting the interviews, the research team trained the mentors on the interview procedures by reviewing the questions on the interview guide and discussing how to probe students for additional clarification on their responses. The *Check & Connect* mentors conducted structured interviews at the participants' school in a quiet office. The average length of each interview was 30 minutes. Participants were interviewed by the same mentors who delivered the intervention and had existing relationships with the students. Although it is possible that this preexisting relationship biased some student responses, we thought that participants would be more likely to provide honest, introspective answers to a trusted adult. This procedure also helped establish credibility, as the mentors had already formed trusting relationships with the participants (Pandey & Patnaik, 2014). The mentors recorded each interview on a digital audio recorder and uploaded the files to a secure server. Interviews were then transcribed by a digital transcription service.

Members of the research team reviewed the audio files and written transcripts and created follow-up questions for each participant. The purpose of the follow-up interviews was to clarify responses and ensure credibility through triangulation of sources (i.e., the students) at a second point in time (Pandey & Patnaik, 2014). Mentors used the same procedures from the initial interviews and asked participants the follow-up questions to help clarify their initial response and to ensure the data collected were consistent at different points in time. Follow-up interviews were conducted with 27 of the initial 34 participants.

Interview Analysis

Two researchers used *NVivo for Mac* version 12 software (QSR International, 2018) software to analyze interview data. Both researchers completed the *NVivo 12 Fundamentals* online training course, which consisted of 12–14 hours of training about coding, analyzing, and interpreting qualitative data. Both researchers read each interview transcript and created memos in *NVivo* to document questions about the participants' responses and to make theoretical comparisons (Corbin & Strauss, 2008). Then, the researchers discussed these questions and theoretical

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comparisons to help develop a deeper understanding of students' perceptions of their engagement with school. An open-coding system (Corbin & Strauss, 2008) was used to code the written transcripts for participants' statements about goal-setting, relationships with adults and teachers, self-efficacy, economic stress, peer influence, locus of control, priorities for change, and challenges. Each of these codes were then organized into themes based on the four dimensions of engagement (i.e., academic, behavioral, cognitive, and affective) underlying the *Check & Connect* intervention (Christenson et al., 2012). The researchers met weekly throughout the analysis process to discuss memos and codes until there was consensus between the two researchers (i.e., analyst triangulation and perspective management) to promote consistency in the analysis procedures and trustworthiness (Levitt, 2020; Pandey & Patnaik, 2014).

QUALITATIVE PHASE FINDINGS

Interview findings are thematically organized using the four-dimensional model of engagement (i.e., academic, behavioral, cognitive, and affective) that underlies *Check & Connect* (Christenson et al., 2012). Within each dimension, we describe how high school ELs with reading comprehension difficulties perceived their engagement with school and the contextual factors they felt were affecting their engagement. Our original goal was to identify similarities and differences between participants in the increased and decreased engagement subgroups; however, during our data analysis process, we discovered there were few differences between the two subgroups. Therefore, we discuss overall findings from the interviews first, and then report differences between subgroups when applicable.

Academic Engagement

Analysis of the responses about academic engagement revealed no differences in academic engagement between the increased and decreased engagement subgroups. Participants reported that their overall engagement with school was fairly high (with ratings of 7, 8, and 9 on a 10-point scale); however, the majority indicated that they were failing at least one class, were missing credits to graduate, and/or needed to attend summer school. With respect to their course grades, participants made statements such as, "They're good. I'm only failing Algebra II." Several students also stated that their classes were difficult and that they had a hard time keeping up academically. Participants frequently said that their content area classes (e.g., math, science) were the most challenging, and when asked to explain why they were having difficulty in these areas, they often alluded to the delivery of the instruction, "…some teachers, they don't know how to explain." Other students explained that they had difficulty understanding their teachers, noting, "[teachers] have different methods of teaching, and some of them I don't understand." Many participants indicated that they wanted teachers to teach them individually and show them, step-by-step, how to complete assignments. One student responded, "Give me tutorials [private tutoring]. Teach me individually so I can understand better … Show me, step by step, what I should do." Students also expressed frustration with the pacing of instruction. One student explained:

> Whenever [teachers change] what you need to do, like what you learn. They change it to, like, the next thing and it, like, confuses me … So easily I can understand it at one point, and then they change it to something else and then it's like I forget about it.

Behavioral Engagement

In both subgroups (i.e., increased and decreased engagement), participants reported that their behavior in school was "not bad" or "okay," but then stated that they had many absences, were late to class, and/or skipped classes (i.e., indicators that they were not behaviorally engaged). Some students referenced that they needed to attend summer school to improve their grades or to make up missed class sessions. During analysis of the responses about behavioral engagement, one difference emerged between participants in the increased and decreased engagement subgroups. Participants in the decreased engagement subgroup were more likely to state that they had disciplinary referrals or had been seen by school administrators about their behavior. They explained that they got in trouble for sleeping in class, not following the dress code, and being disruptive in the classroom. Conversely, participants in the increased engagement subgroup indicated some of their peers' behavior was getting in the way of their learning and engagement. One student explained, "We have students that have bad behavior or [a] bad attitude to the teachers. It distracts me because the teacher gets distracted … it will affect me because I will not be given classwork for the day." Responses from participants in the increased engagement subgroup suggested that these participants wanted students who were disengaged and disrupting their classes to be sent out of the classroom.

Affective Engagement

There were no differences in affective engagement for participants in the increased and decreased engagement subgroups. Participants in both subgroups expressed

that they were not very interested in or motivated to attend school. They made statements such as, "I just want to get over it [school]," or "I'm not wanting to be in school, but I do the work. I don't like being here … I just get bored." Some participants speculated that they would be more engaged or motivated in school if they went to a different school with different peers. One participant explained:

> I feel like if I probably would've gone to a better school with people who actually wanted to learn, I probably would have had better grades. Like, the kids that actually wanted to learn—they would've helped me. And I would've been like, "Oh, can you help me understand this?" and they'd be like, "Oh, yeah." But, like, if I'm sitting at a desk in my class [here] and I turn around and try to ask somebody, they're going to be completely lost and they don't understand what's going on.

Participants also reported positive interactions and relationships with the teachers and other adults in their lives, clarifying that their family members (e.g., parents, grandparents, siblings) provided encouragement to stay in school and graduate. One student shared, "They support me all the way. They give me tips and just talk to me—pep talks to why I should stay in school. They're there for me if I need anything, and I know I count on them." Several students mentioned that they would be the first in their family to graduate. One participant explained that his family supports him because they didn't have the same opportunity as him. He said, "If I don't want to come to school, they say, 'You have to accomplish your goal.' Because they didn't have an opportunity to go to school … they want me to go to school."

With respect to relationships with teachers, participants stated that positive interactions with teachers increased their engagement with school and that negative interactions with teachers decreased their engagement. They wanted their teachers to be more interested in their lives outside of school and expressed that they wanted their teachers to communicate with them more frequently and make a better effort to understand them. Participants stressed that having a teacher or adult who cared about them and listened to them was an important factor in their engagement in school. One said, "I feel like you're gonna always need at least one person, like, to keep you going or give you encouragement because you're not always going to find that at home." Some participants mentioned negative relationships with teachers, and explained that they felt that some teachers did not care, were not helpful, did not provide enough attention, and/or did not respect students. One student explained, "Some teachers, they just don't listen or they don't care. They even say it themselves. They say, 'Oh, I'm still going to get paid.' Like, that's literally what they say … I mean, it makes you not even care anymore."

Cognitive Engagement

During the analysis of participants' responses to questions about their cognitive engagement with school (i.e., their future goals in and out of school) there were some differences between participants in the increased and decreased engagement subgroups. Participants who reported increased school engagement explained that they wanted to pursue career goals that required vocational training or a college degree (e.g., nursing, business). In contrast, participants in the decreased engagement subgroup did not always make statements about specific goals for the future. Instead, they made more general statements such as, "I want to get a job and work" or that they wanted, "to finish school and … to get a good job that will bring me good money." Participants with decreased engagement articulated general goals to finish school, but most did not make comments about specific educational or career opportunities. A few participants students did state that they wanted to get a job and others listed trade-specific careers (e.g., carpentry, mechanics, tile work). Several mentioned that they wanted to go to college, but they did not list a specific field of study or career they wanted to pursue. Other participants in the decreased engagement subgroup claimed that they had not really thought much about their future goals.

In both subgroups, when participants identified specific careers or postsecondary goals, the mentors asked the participants to describe any classes they were taking that related to these goals; however, many students stated that they were not enrolled in courses at the school to help achieve their future goals. For example, one student stated that he wanted to be an auto-mechanic, yet he was not enrolled in the school's auto-mechanic courses. Another stated that she was interested in cosmetology, yet she was told she couldn't enroll in cosmetology classes because she had to start them in ninth-grade and it was too late to enroll in these classes as an eleventh-grade student. The mentors asked all participants how their coursework affected their engagement, and they speculated that they would be more engaged if their courses were more applicable to their lives and future goals. One student expressed wanting to "look into the career that I want to be, and if it is my career that I would like to achieve, I will get more engaged in school." Another participant said, "One reason … I'm not into school [is that] I don't have an elective. I don't do sports. I'm not really happy to be here."

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Although the specificity of future goals differed between the participants in the increased and decreased engagement subgroups, another commonality between the two groups was that participants in both groups had difficulty stating concrete steps to obtain their future goals. Participants were often unable to express how they would apply for postsecondary training and careers. Moreover, many participants reported that they had not taken college entry exams (e.g., the SAT) and that they were not aware of the entry requirements for postsecondary training opportunities. Half of the interviewed participants indicated they had not spoken to an adult, teacher, or high school counselor (other than their *Check & Connect* mentor) about their postsecondary goals.

DISCUSSION

In the Quantitative Phase of this mixed-methods study, we examined the effects of two years of the *Check & Connect* intervention on school engagement outcomes of high school ELs with reading comprehension difficulties. There were no significant differences between participants in the treatment group and those in the comparison group on the self-report engagement questionnaire, attendance, disciplinary referrals, and core course failures. In the Qualitative Phase, we explored how ELs with reading comprehension difficulties interpreted their engagement within school and the contextual factors influencing their engagement. The findings from this phase indicated that ELs with reading comprehension difficulties were disengaged with school, but provided insight into the contextual factors that influenced their engagement (e.g., relationships with adults and teachers, pacing and delivery of instruction, courses related to future career goals). We discuss findings from both phases of the study as they relate to the four dimensions of engagement underlying *Check & Connect* (Christenson et al., 2012), highlighting connections between the current study, prior studies of *Check & Connect,* and research on the engagement of high school ELs with reading comprehension difficulties.

Academic and Behavioral Engagement

Previous research on the efficacy of *Check & Connect* has primarily focused on measuring academic and behavioral engagement (e.g., Guryan et al., 2017; Heppen et al., 2018; Powers et al., 2017; Sinclair et al., 1998). Indicators of academic and behavioral engagement, such as grades or attendance, are easily available for researchers to collect and are also monitored in *Check & Connect*. In the current study, there were no significant differences among the treatment and comparison groups on any of the measures of academic and behavioral engagement, which included the behavioral disengagement and academic and cognitive engagement subscales of the self-report engagement questionnaire (the *Dropout Risk Inventory* [*DRI*], Vaughn et al., 2020), absence rate, disciplinary referrals, or course failures. Although approximately half of the participants in the comparison condition received the intensive reading intervention, our analysis indicated no significant differences on engagement outcomes for comparison group participants who received the reading intervention versus those participants who did not; thus, confirming that the reading intervention did not affect participants' academic and behavior engagement. Our null findings were similar to recent studies of *Check & Connect* (e.g., Heppen et al., 2018; Powers et al., 2017) that were conducted with similar student populations, in which over 50% of students in the sample were identified as ELs, were from racially and ethnically diverse backgrounds, and received free- or reduced-price lunch. Both Heppen et al. (2018) and Powers et al. (2017) did not find significant differences between participants who received *Check & Connect* and those in a comparison group on self-report engagement questionnaires, credits, and course failures. Powers et al. (2017) did find that students in the treatment group had significantly higher attendance than students in the comparison condition; however, we were not able to replicate this finding in the current study.

Our findings and those from Heppen et al. (2018) and Powers et al. (2017) are in contrast to the two seminal studies of *Check & Connect* (Sinclair et al., 1998, 2005). Sinclair et al. (1998) found that *Check & Connect* had a significant, positive impact on attendance, assignment completion, and credits earned, and Sinclair et al. (2005) found a significant effect on attendance. It is important to note that the Sinclair et al. (1998) and Sinclair et al. (2005) studies were conducted with students with emotional/behavioral disorders and learning disabilities (LD). Although our sample included 45 participants (~13%) with disabilities (the majority of whom were identified with LD), our participants may have been at even greater risk for academic and behavioral disengagement due to their low academic achievement, SES, race, and ethnicity (Fall & Roberts, 2012; Ream & Rumberger, 2008; Reschly & Christenson, 2006).

The qualitative findings provide insight about why *Check & Connect* did not positively affect academic and behavioral measures of engagement in the current study. For example, participants told the mentors that they would sometimes skip school or certain class periods when they felt that there were options in the future to make up their work and earn their credits. Therefore, they were not as concerned about absences and their impact on their academic achievement. Additionally, although participants

were often failing one or more core classes (e.g., science, math, language arts), they reported being academically engaged in the qualitative interviews. When mentors asked participants about their failing grades, they often responded that they could make up classwork toward the end of the reporting period or could attend summer school. Students often thought of these various options to "bail out" their low or failing grades as evidence supporting their perceived high levels of academic and behavioral engagement.

Several studies have found that students with low academic achievement (e.g., students with LD or ADHD) may overestimate their academic performance or competence (i.e., positive illusory bias), and this overestimation serves as a self-protective factor (Diener & Milich, 1997; Heath & Glen, 2005; Owens et al., 2007). Many participants in the current study were lacking foundational literacy skills that are imperative for acquiring more complex knowledge obtained through domain specific texts, lectures, and activities in high school. Reading outcomes at pre- and post-for the entire sample indicated the participants had very low scores (i.e., standard scores in the high 70s to mid 80s) on standardized measures of passage- and sentence-level reading comprehension (Vaughn et al., 2019). These reading comprehension difficulties and their learning experiences were further compromised by deficits in academic language that may have limited their participation in classes. It is possible that participants in the current study overestimated their academic achievement in order to protect their self-esteem (Diener & Milich, 1997).

During the qualitative interviews, a significant portion of participants revealed that the pacing of instruction was too quick, and they indicated that once they had fallen behind, it was difficult to catch up with new content being taught. This caused them to "give up" on some classes. Additionally, participants reported experiencing difficulty in content area classes and they stated that they wanted to be taught step-by-step and/or individually by the teacher. Although ELs need to have access to grade-level content area classes that engage them in rigorous disciplinary practices, it is important to acknowledge that access has to be paired with effective teaching practices for ELs (National Academies of Sciences, Engineering, and Medicine, 2017). Appropriate instructional practices and supports for ELs (e.g., teaching academic vocabulary words intensively, providing small group interventions to improve literacy and English language development; Baker et al., 2014) may be crucial for their academic and behavioral engagement because if students cannot engage with academic content without adequate linguistic and instructional support, then their motivation to complete schoolwork and to attend classes may suffer. Research on content-area interventions with adolescent ELs has demonstrated that ELs in general education content classrooms can make significant gains in the area of content learning and literacy proficiency when instruction is aligned to their needs and is structured in ways that allow access to content learning (Vaughn et al., 2017, 2009). These studies integrated a direct instructional approach for teaching academic vocabulary and content knowledge, which some students specifically requested in the interviews.

Cognitive and Affective Engagement

Affective and cognitive engagement were examined in both phases of the study. There were no differences between students in the treatment or comparison groups on the self-report engagement questionnaire subscales of student-teacher relationships (i.e., affective) or psychological (i.e., affective) engagement. Our results corroborate Sinclair et al. (1998) finding that *Check & Connect* did not significantly impact students' cognitive engagement (i.e., a self-report questionnaire about students' perceptions of the relevance of school) and Heppen et al.'s (2018) non-significant findings on a self-report engagement questionnaire's subscales of affective and cognitive engagement. It is important to note though, that in each of these studies and the current study, different self-report questionnaires were used to measure students' engagement. One problem with this is that engagement and the dimensions of engagement are not always conceptualized and operationally defined similarly across measures, thus making comparisons of these self-report questionnaires difficult (Fredricks et al., 2011).

The qualitative findings helped us examine the null effect on the self-report questionnaire's subscale of affective engagement. For example, many participants indicated that they did not feel connected to school, and they ultimately divulged how unmotivated they were. They did not generally find instruction relevant to their lives or career interests or even interesting—all reasons they gave for not wanting to be in school. This finding has important implications for teachers of ELs in that they should ensure that they connect content-area instruction to students' prior skills and knowledge (i.e., funds of knowledge; Gonzalez et al., 2005) to facilitate students' affective engagement.

Despite this lack of motivation, participants revealed that their positive relationships with adults and siblings in their lives contributed to their continued attendance school, further supporting the idea that as ELs get older, their families support them by voicing their aspirations for postsecondary education (NASEM, 2017). Some participants expressed feeling a sense of duty to continue in school because their parents and older siblings

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did not finish school and continue with higher education. Other students felt obligated to set the example of completing school for their younger siblings. Participants' home contexts positively influenced their feeling of obligation to attend school, even when they weren't necessarily enjoying it. In the *Check & Connect* model, affective engagement influences overt indicators of academic and behavioral engagement (Christenson et al., 2012). In the current study, we found that the high expectations placed upon students by their families was an important contextual factor that facilitated their academic and behavioral engagement with school (Reschly & Christenson, 2012).

Another component of affective engagement is students' perceptions of support provided by their teachers. Participants generally spoke favorably about their teachers, stating that they helped with coursework whenever students asked; however, participants often expressed the desire to be understood or listened to by their teachers. They wanted their teachers to care about them, ask about their lives outside of school, and notice their individual interests. These findings support the notion that adolescents' (particularly Hispanic and/or Latinx ELs') relationships with their teachers are crucial for influencing their school engagement (Garcia-Reid et al., 2005; Green et al., 2008, Valenzuela, 1999).

The qualitative findings also further explain participants' cognitive engagement with school. Participants indicated various postsecondary aspirations, yet they lacked knowledge about how to take steps toward their desirable futures. Some articulated not being certain of the credits they needed to graduate, and further clarified that they had never met with a school counselor to discuss their graduation and postgraduation plans. Participants' lack of cognitive disengagement may have been a result of tracking, in which students were scheduled into classes that did not prepare them for colleges or careers. In the current study, participants' schools offered a variety of electives suited to some of the students' career interests, many participants were not eligible to enroll in these courses because they were required to take intervention classes and/or English language development classes in addition to their core content-area classes. Research on academic tracking of ELs has documented lasting negative effects of grouping ELs by ability (Callahan, 2005; Gamoran, 2017), and in the current study, tracking prevented some students from enrolling in classes that were matched to their future goals. School administrators and counselors should consider how tracking negatively affects students' cognitive engagement and ensure that students, especially ELs, are enrolled in courses that meet their academic and postsecondary needs.

Limitations and Implications for Future Research

We cannot ignore the multiple systemic and school level barriers that stood in the way of participants' progress through school, which in turn affected their commitment to their classes and their feelings of disconnectedness and disengagement from school. Although the majority of the participants had some access to the general curriculum and classes, many continued to demonstrate significant academic difficulties and failed to receive adequate support for their instructional and linguistic needs. Students were disillusioned with school as they were inadvertently pushed out by a number of barriers stacked against them. The logic model in *Check & Connect* hypothesizes that when mentors use personalized interventions to help students build relationships, solve problems, and develop persistence, students will demonstrate increased school engagement, which in turn will lead to the more distal outcome of increased rates of school completion (Christenson et al., 2012). A crucial element of the *Check & Connect* model is the mentor, who works closely with students throughout the intervention's delivery. In the current study, the mentors implemented the intervention with high fidelity, and qualitatively, their students reported that they viewed the relationships as important and beneficial; however, quantitatively, *Check & Connect* did not significantly influence students' engagement as measured in the study (i.e., a self-report questionnaire, attendance, disciplinary referrals, core course failures).

Several implementation challenges and limitations to the current study may have contributed to the null effects. First, in *Check & Connect*, mentors focus on alterable variables that influence student engagement (e.g., attendance, grades), instead of focusing on unalterable risk-factors for disengagement (Christenson et al., 2012); however, the majority of the participants in the current study were highly at-risk for disengaging from and dropping out of school based on unalterable risk-factors such as low socioeconomic status (SES), geographic location (e.g., urban, Southwestern cities), ethnicity, disability status, and proficiency in English (Reschly & Christenson, 2012). All participants were identified as current or former ELs and lived in a large, urban city in the Southwest, 89% were Hispanic, 75% received free- or reduced-price lunch (an indicator of low SES), and 13% received special education services. Any one of these variables alone increases a students' risk for disengagement and dropout; however, the combination of these factors made this particular population at extremely high risk for dropout. In the current study, participants began the *Check & Connect* intervention in ninth-grade. Given the high-levels of unalterable risk factors for dropout that ELs with reading comprehension difficulties faced, along with the aforementioned systemic barriers, we speculate that high school might be too

late to intervene with this population. If students had received this intervention prior to ninth-grade, they may have been better prepared to enter high school (Alexander et al., 1997; Balfanz et al., 2007). Future studies of *Check & Connect* might benefit from intervening with this population beginning in the middle grades (i.e., grades 4–8).

Additionally, this study was conducted in three under-resourced schools in which participants were frequently absent and reported pressing difficulties at home related to economic challenges. Participants were highly mobile, which presented an obstacle for the mentors who tried to support students as they withdrew from campus and later re-enrolled at the same campus or a different one. Mentors spent a large proportion of their time dealing with issues related to academic and behavioral engagement (e.g., absences, grades). This meant that the mentors each had a large percentage of students on their caseload who demonstrated the highest level of risk and thus needed intensive and targeted interventions. These targeted interventions were centered on helping the students with immediate problems, such as tutoring a student for an upcoming test or helping a student contact a teacher to ask for make-up work that the student missed while absent. This left the mentors unable to adequately implement the "Connect" component of the intervention, where they would have been able to help students set goals for their future and help them develop plans for obtaining those goals. In other words, the mentors' support did not seem to affect the way students felt about their belonging or connectedness to school (i.e., their affective engagement) or their perceived relevance of school with future career or postsecondary goals (i.e., cognitive engagement).

Lastly, the *Check & Connect* manual recommends that mentors working with students with the highest levels of risk have caseloads of approximately 40 students each; yet, in the current study our mentors had caseloads of approximately 50 students each. We hypothesize that the mentors had difficulty providing the level of intensive interventions students needed, due to the large percentage of study participants who needed this level of support. It is likely that mentors were spread too thin and thus, unable to affect alterable factors related to students' engagement. Future studies of *Check & Connect* with ELs with reading comprehension difficulties may benefit from assigning mentors to smaller caseloads, given the high needs of this population. This stood out as an area where schools could better support their ELs to promote school engagement and postsecondary goals. Additionally, school-based professionals (e.g., school psychologists, administrators, counselors) who want to improve school engagement and reduce dropout in low-resource schools with high-risk populations, such as ELs with reading comprehension difficulties, should consider: (1) how *Check & Connect* might need to be adapted (e.g., smaller caseload size) to improve outcomes, and (2) if *Check & Connect*, as currently designed, is an appropriate intervention for students from similar backgrounds and settings.

CONCLUSIONS

Although there were no significant effects of the *Check & Connect* intervention on the engagement outcomes (i.e., self-report engagement questionnaire, attendance, disciplinary referrals, and core course failures) of high school ELs with reading comprehension difficulties, the current study contributes to the growing body of research examining for whom and under what conditions the *Check & Connect* intervention is efficacious. Furthermore, the use of a high-quality experimental design (i.e., an RCT) paired with structured qualitative interviews, also provides a unique contribution to the literature because we were able to further explore and comprehend the engagement of high school ELs with reading comprehension difficulties and the contextual factors that these students felt were affecting their engagement (an area significantly absent from prior research on *Check & Connect*). Students' perspectives of their engagement and these contextual factors would not have been evident from the Quantitative Phase alone. The layered findings of ELs' perceptions about what was affecting their engagement indicates that additional and more comprehensive research is needed to better understand the systemic mechanisms that ELs with reading comprehension difficulties encounter in order to provide timely and appropriate supports that will facilitate school engagement, as well as productive and positive life trajectories.

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