

# The Wellness Resiliency and Partnership (WRaP) Project

*Promoting School Engagement, Academic Success, and Social-Emotional Well-being for Students with FASD*

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## Overview

Education is fundamental to experiencing success in society. Youth who do not complete high school are at-risk for negative life outcomes, such as unemployment, incarceration, and long-term dependency on social services (Lehr, Sinclair, & Christenson, 2004). Although high school completion rates have been improving in Alberta, dropout rates continue to be higher than the Canadian average (Alberta School Boards Association, 2010); approximately 20% of Albertan students fail to complete high school five years after entering grade 10 (Alberta Education, 2009). Further analysis has revealed the following 5-year completion rates for at-risk subgroups: 72.8% for English as a Second Language (ESL) students; 67.3% for students with learning disorders; 45.0% for FNMI (First Nations, Métis, Inuit) students; and 37.3% for students with emotional disorders. Identifying students who may be at-risk for dropout and implementing intervention programs may help alleviate disengagement, withdrawal, and subsequent drop out (Lehr et al., 2004).

Researchers investigating drop out among students have found that school disengagement is a strong predictor of students' later exit status from school. Specifically, academic disengagement (e.g., poor attendance and lower academic grades), behavioural disengagement (e.g., extracurricular inactivity and inappropriate behaviour), interpersonal/affective disengagement (e.g., isolation from teachers and peers), and cognitive disengagement (e.g., boredom and a lack of desire to learn) have been empirically identified as strong predictors of dropout (Archambault, Janosz, Fallu, & Pagani, 2009; Janosz, LeBlanc, Boulerice, & Tremblay, 1997; Reschly & Christenson, 2006).

Given what is known about predictors of student dropout and the trends of high school completion rates among at-risk students, intervention programs targeting identified risk groups warrant close examination to determine whether they might be effective at mitigating this risk. One such at-risk population is students identified as or suspected of having Fetal Alcohol Spectrum Disorders (FASD). Although no information is available specific to school completion rates among students identified as having FASD in Alberta, the challenges associated with FASD indicate that this population may be at-risk for dropout. For example, individuals identified as having FASD often experience impairments in social, emotional, behavioural, cognitive, and

adaptive functioning (Davis, Desrocher, & Moore, 2011). Students with FASD may therefore have negative school experiences that ultimately lead to suspensions, expulsions and even dropout (Gorman, 1995).

Existing research suggests that having a strong advocacy and support system contributes to successful school experiences among students with FASD (Duquette, Stodel, Fullarton, & Hagglund, 2006; Duquette & Stodel, 2005; Johnson & Lapadat, 2000). More specifically, positive school experiences have been associated with having someone who:

- advocates and supports students
- monitors academic progress
- helps create appropriate program plans
- provides psychoeducation regarding FASD to educators
- helps design school and work experiences that reflect individual strengths, interests, and abilities
- establishes transition plans into the work force after graduation.

Other researchers have shown that the development of a close, high quality, and supportive relationship between an at-risk student and an adult leads to improved school engagement (Anderson, Christenson, Sinclair & Lehr, 2004; Lehr et al., 2004). This has been defined as increased school attendance, work completion, class participation, and eagerness to learn.

The Public Health Agency of Canada (2003) has estimated that 9 of every 1000 babies born in Canada are identified as having FASD. As such, it is believed that FASD is the leading cause of developmental disability among Canadian children. In Alberta, it is estimated that 450 children are born with FASD each year, and that approximately 36,000 Albertans are currently living with FASD (Government of Alberta, 2013). Given what is known about predictors of dropout, the struggles of students with FASD, and the necessity of having students adequately supported in schools, the Edmonton Regional Educational Consulting Services (ERECS - now Inclusive Learning) created the Wellness, Resiliency, and Partnership (WRaP) project with financial support from Alberta Education in an effort to promote school completion among students living with FASD in Alberta. The WRaP Project currently serves 262 students with or suspected of having FASD in 33 schools within 13 districts across the province of Alberta.

The WRaP project recognizes that youth living with or suspected of having FASD require supports that are flexible, accessible, enduring, and responsive (Canada FASD Research Network, 2013). The WRaP Project does this by partnering with school districts to provide a success coach who is shared between two schools to support junior and senior high school students diagnosed or suspected of living with FASD. The success coach serves as a mentor for the student and consults with teachers regarding classroom adaptations, program placements and FASD-specific knowledge to foster capacity building. In addition, the success coach helps to connect students with afterschool curricular activities and, most importantly, fosters supportive and enduring relationships between youth and their caregivers, family members, and community partners. This supportive role/relationship is theorized to increase opportunities for enhanced cognitive development, social-emotional functioning, and adaptive functioning, while also decreasing student dropout rates. In collaboration with Alberta Education, the University of Alberta and the Wellness Resiliency and Partnership (WRaP) have endeavoured to identify leading practices when working with students with FASD in order to continue to inform policy and practice in this area.

## Purpose

The purpose of this report is to provide formative feedback to inform WRaP Project stakeholders and sponsors' overall aim to support junior and senior high school students diagnosed with or thought to be living with FASD. To do this, existing data collected by WRaP Project was integrated with interviews with WRaP success coaches conducted by researchers at the University of Alberta to identify leading practices. The present report summarizes findings and offers ways forward based on three areas: (a) school engagement; (b) academic success; and (c) social, emotional, and physical well-being of students participating in the WRaP Project.

## Methodology

Examining outcomes of the WRaP Project related to school engagement, academic success, and student well-being involved a mixed method analysis of data collected from three sources: school records, a standardized behaviour rating scale focusing on social-emotional and adaptive functioning, and interviews. These sources provided information from four perspectives: WRaP student participants, WRaP success coaches, teachers of students involved in WRaP, and parents

of students involved in WRaP (see Table 1). Both quantitative and qualitative data were included in the analyses to produce a more comprehensive understanding of the outcomes associated with WRaP.

Quantitative methods (i.e., numbers and statistics) were used to efficiently communicate numerical data to key groups, such as project funders who are interested in results-based budgeting (Government of Alberta, 2012). However, quantitative data alone provided a limited scope when attempting to examine the outcomes associated with the WRaP Project. As a result, qualitative methods were used to further capture the experiences of those involved with and invested in the WRaP Project. This generated integrated findings offering a more in-depth look at key outcomes and allowed the researchers to capture unintended ripple effects. It is noteworthy to keep the following in mind about the data:

- Quantitative data were collected for three years (2010-2011 school year through the 2012-2013 school year) from a number of schools and districts throughout the province of Alberta. However, the majority of the data available for consecutive years was limited to 2 years due to mitigating factors, such as student movement (for further explanation see *Findings* section).
- Academic data was analyzed longitudinally (i.e., by academic year) while all other analyses examined variables based on time spent in the WRaP Project. By organizing the data from the year of entry into the project, rather than by the calendar year that the data was collected, the outcomes associated with WRaP could be examined over time with a more representative sample size.
- Greater direct access to the WRaP success coaches, compared to other perspectives (i.e., parents and teachers), permitted collection of additional information, which helped capture unanticipated project impacts.

## Data Sources

**School Records.** Student data on academic performance and attendance were provided to the researchers. The academic performance data included the type of educational programming (e.g., Regular, Modified, Life Skills, K&E, and Adapted), as well as grades (e.g., Successful or Unsuccessful) for every course in which the student was enrolled for a given academic year.

Attendance data included frequency counts of student absences (e.g., missed classes and missed days) and suspensions (e.g., in-school and out of school).

**Behavior Emotion Rating Scale (BERS).** Student data on social-emotional functioning were provided to the researchers. The Behavior Emotion Rating Scale (BERS), a strengths-focused, standardized, and norm-referenced measure, provides information on the behavioral and emotional functioning of youth. The purpose of this measure is to help with planning educational or mental health interventions, as well as to monitor outcomes related to these types of interventions (Epstein, 2004). The BERS is appropriate for use with youth ages 5 to 18 and has acceptable levels of reliability across all levels of the scale, with test-retest reliability ranging from .82 to .99 for subscales and .87-.99 for the Strength Index composite. Moreover, validity evidence related to the BERS suggests that it demonstrates adequate criterion-predictive and construct validity; that is, it is able to assess what it claims to assess.

This measure was selected due to its strengths-based nature. Specifically, the developers of WRaP determined that it was important to focus on participants' strengths, rather than weaknesses, the latter often being the focus of other behaviour rating scales assessing social-emotional functioning. The BERS was completed by WRaP success coaches, WRaP student participants, teachers of students in WRaP, and parents of students in WRaP over the course of students' first two years in the WRaP Project.

**Interviews with WRaP Success Coaches.** Interviews were conducted with 6 WRaP success coaches to provide a richer, more in-depth understanding of the WRaP Project. In addition, interviews help to capture unanticipated impacts and ripple effects, which inform ongoing project development. Semi-structured interviews were conducted with a sample of success coaches. A qualitative methodology emphasizes the lived experiences of individuals, attending to perceptions, meanings, and interpretations of the phenomena being explored (Creswell, 1998). Semi-structured interviews allow for greater spontaneity and adaptation during the interview process. Participants have the opportunity to respond elaborately and in their own words, while the interviewer has the opportunity to tailor subsequent questions and probe for more information (Mack, Woodson, MacQueen, Guest, & Namey, 2005).

Two research assistants were present during all six interviews, which were conducted over speakerphone. One research assistant was designated as interviewer, while the other was designated as note-taker. The interviewer first went over the process of informed consent before conducting each interview. The note-taker documented the content of each interview and probed for further inquiry, when appropriate. After all interviews were completed, content summaries created by the note-taker were sent to participants to ensure validity and accuracy. Participants were offered the opportunity to change or edit interview content. None of the participants made corrections to the summaries. For the purposes of this report, semi-structured interviews (see Appendix A) were guided by the following research questions: (1) “How has the WRaP Project influenced students' lives, in terms of academic performance, school engagement, social-emotional functioning, and physical well-being?” and (2) “How do success coaches perceive the WRaP Project and their roles within the project?”

Table 1: Primary Data Source, Description and Type of Data Collected

<b>Data Source</b>	<b>Description</b>	<b>Quantitative Data</b>	<b>Qualitative Data</b>
School Records	Provided information about attendance and suspension for students involved in the WRaP Project	X	
WRaP success coaches	Individuals who work directly with students with FASD involved in the WRaP Project and facilitate these students' involvement in the school community	X	X
Student participants in WRaP	Students with FASD or suspected of having FASD who are involved in the WRaP Project	X	
Teachers of students involved in WRaP	Teachers of students with FASD or suspected of having FASD who are involved in the WRaP Project	X	
Parents of students involved in WRaP	Parents or legal guardians of students with FASD or suspected of having FASD who are involved in the WRaP Project	X	

## **Data Analysis**

Data analysis procedures were designed to integrate multiple data sources with the aim to comprehensively assess the identified key outcomes. A mixed methods analysis was used to

integrate quantitative and qualitative findings, while drawing inferences from the results and contextualizing the findings.

### **Quantitative Procedures**

Quantitative data were analyzed using a three-part strategy. Again, it is important to note that this report examines students' functioning over their first two years in the WRaP Project rather than examining data strictly longitudinally across three calendar years. First, demographic information of interest was examined. Next, descriptive statistics were used to analyze much of the quantitative data, and include means, ranges, and frequency counts. This type of analysis also allows for effective visual representation of data (see Results section). Finally, inferential statistics were used to examine relationships between data. These statistics included correlations, which allowed us to compare our measure (e.g., the BERS) between different raters (self, parents, success coach and teacher). As noted previously, the WRaP Project provided the two sources of quantitative data (e.g. school records and BERS) to the researchers. The data were delivered in separate files and therefore were merged and organized prior to analysis.

### **Qualitative Procedures**

Semi-structured interview transcripts were analyzed using the approach of inductive thematic analysis (Boyatzis, 1998). Thematic analysis is a form of pattern recognition within the data where emerging themes represents important descriptions of the phenomena or lived experiences of participants (Braun & Clarke, 2006; Fereday & Muir-Cochrane, 2006). Inductive thematic analysis is primarily data-driven (i.e., bottom-up), using detailed readings and re-readings of raw data to derive, code, conceptualize, and organize thematically the information that is provided by the interviewee, through the researcher's interpretations of the data. As such, the researcher assumes an active role in identifying patterns/themes, selecting those of interest, and reporting them to the readers (Braun & Clarke, 2006; Patton, 1990).

The following phases of thematic analysis, adopted from Braun and Clarke (2006), guided the present analysis of qualitative data: (1) data familiarization (reading through verbatim transcripts and coding information close to the text); (2) generation of codes (coding interesting features in a systematic manner across transcripts); (3) collation of codes into potential themes (identifying umbrella themes and defining subthemes with examples); (4) review of themes (checking if the

themes fit with associated codes across transcripts); and (5) selection of compelling examples (selecting powerful examples that accurately reflect associated themes).

### **Integrated Procedures**

Finally, the quantitative and qualitative findings from this evaluation were integrated and interpreted together. This was accomplished by having the quantitative data inform the qualitative data. In other words, the numeric data helped us understand some of the unstructured information that was provided by allowing participants to answer open-ended questions related to the same areas of interest (e.g., WRaP outcomes). The approach used to combine the results of the different analyses performed was the *concurrent triangulation mixed methods approach* (Creswell & Plano-Clark, 2011). After completing the quantitative analyses, in order to more fully understand the trends, they were next compared to the themes generated from interviews in a “side-by-side” style comparison (Creswell & Plano-Clark, 2011, p. 223).

Domains in which the results from the two strands could be compared were identified. Qualitative themes (e.g. academic, interpersonal, and emotional functioning, as well as physical well-being) were then used to explain, confirm, or challenge the conclusions generated by the quantitative analysis in these domains. Differences between the two strands were dealt with by comparing the relative strength of the effects or themes found and generating integrated findings. This was an important step in the process of assessing the outcomes of the WRaP Project, as stronger conclusions can be drawn when multiple methods are analyzed jointly, leading to a more comprehensive understanding of the impact of being involved with WRaP.

## **Findings**

The findings in this section will be presented in three major parts:

1. Quantitative Findings, Part I—Descriptive information related to data trends across three areas:
  - a. Demographics, which provides *characteristics* of students participating in WRaP
  - b. School attendance, suspensions and involvement in extra-curricular activities, which describes the trends related to *school engagement*

- c. Student performance, which describes the *academic performance* of students in WRaP
- 2. Quantitative Findings, Part II: Descriptive and inferential information related to the social-emotional Functioning and well-being of students from:
  - a. General Trends in Social-Emotional Functioning, which describes the differences in perspectives on *social-emotional functioning and well-being*
  - b. Similarities and Differences in Perceptions of Social-Emotional Functioning, which examines the relationships among:
    - i. Success Coach Strength ratings and the students' self-ratings
    - ii. Success Coach Strength ratings and the teacher ratings
    - iii. Success Coach ratings and the parent ratings.
- 3. Qualitative Findings: Themes from the qualitative interviews with WRaP Success Coaches, examining responses to two key questions:
  - a. How has the WRaP Project influenced students' lives in terms of school engagement, academic performance, social-emotional functioning, and physical well-being?

It is important to note the following caveat regarding the quantitative information presented herein. Due to the nature of the data provided to the researchers, we were unable to analyze the data longitudinally (i.e. over the three years of data that were provided) due to practical challenges in collecting data consistently across all participants and data sources over time. The challenges with the data collected will be addressed more extensively in the *Moving Forward* section of this report. Despite these challenges, we were still able to use the data to achieve the purpose of this report. To do so, we manipulated the data such that we worked with data for students over their time in WRaP. Students who started WRaP in the second calendar year of data collection had their data moved to Year 1. The same process was then also used for data collected in the third calendar year of data collection. By doing this, we were able to create a more robust data set and generate more meaningful findings because the data (when organized this way) better represent the effects of WRaP over time, instead of simply focusing on what data is available for a given calendar year. The resulting data set represented data for two consecutive years of participation in the WRaP Project. The only exception to this method of analysis is the data on school grades and attendance, which are presented by academic year.

## Quantitative Findings

### Demographics

There were 163 participants in WRaP from 2010 to 2013, spanning the 2010-2011, 2011-2012 and 2012-2013 school years, for whom some form of data was available to the researchers. Within the data available for the first year (n=153), grade 10 represented the largest group (24%) for students' initial year in WRaP, followed closely by grade 8 (19%), grade 9 and grade 7 (see Figure 1). This pattern extends to across ongoing WRaP student data that is available for consecutive years, in that participants are clustered around grades 9, 10 and 11 (n=59 for year 2). This tells us that students seem to be entering WRaP in conjunction with their start in high school (grade 9 or 10) and then subsequently continuing in the project (see Figure2); it is important to highlight this fact as this is often a transition time when students may not return to school.

Taken together, Figures 1 and 2 illustrate the variability that is occurring within the quantitative WRaP data sources. Specifically, the data available for consecutive years (i.e. 2 years) represents just over a third of the total sample size available in year 1. This variability may be a reflection of students leaving the school, district, or province, in which WRaP was being offered or that data were not collected consistently across variables for all students for consecutive years. The latter may be due to some difficulty in obtaining data consistently from parents, teachers, and WRaP participants (i.e. students). However, it is important to recognize that this is not a reflection of the efficacy of the WRaP Project itself, given that remaining in WRaP for even one year represents success for many of these students.

Figure 1. Grades of Participants Entering the WRaP Project

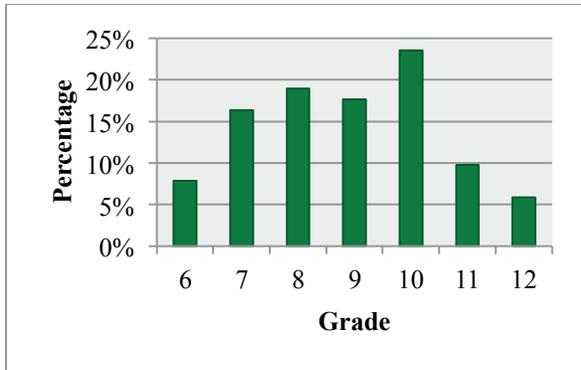
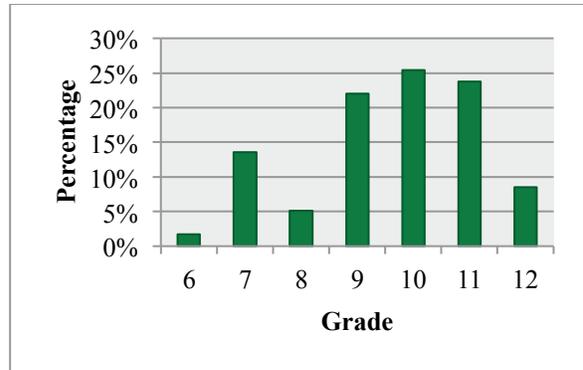
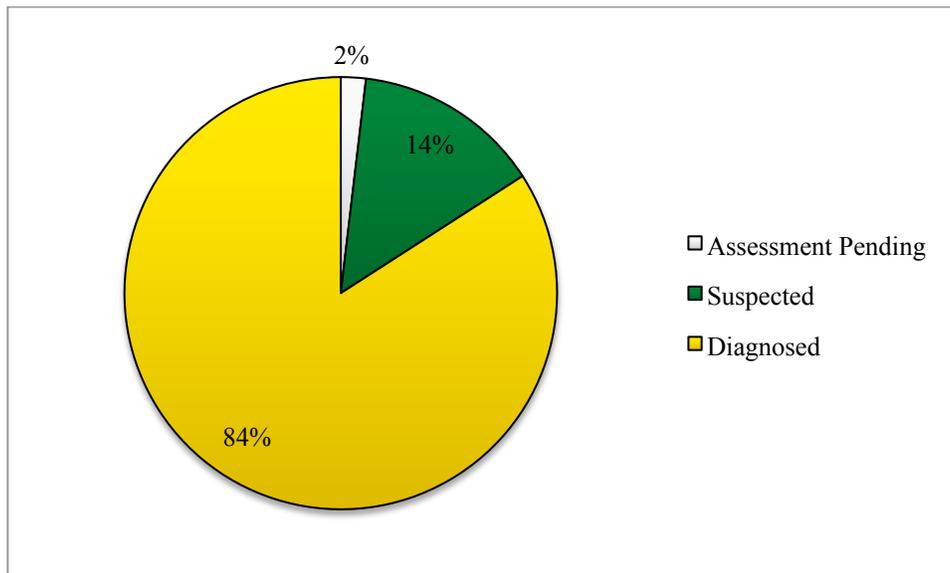


Figure 2. Grades of Participants Continuing in the WRaP Project



The majority of the students student involved with WRAP (n=90) with demographic data available were reported as having a formal diagnosis of Fetal Alcohol Spectrum Disorder (FASD). Of the group who do not have a formal diagnosis, just over 16% are waiting for an assessment or are suspected of having FASD (see Figure 3..

Figure 3. Percentage of Participants with a Diagnosis of FASD



## Engagement: Attendance, Suspensions, & Extra-curricular Involvement

The graphs shown in Figure 4 represent the number of students in each category of either absences or suspensions as a percentage of the total sample size for each year. We have presented the data in this way in order to address concerns about our sample sizes (first year approximately 153, second year approximately 47). Descriptively, it appears that missed classes, especially the larger amount of missed classes, went down as students spent more time in WRaP (see Figures 4a and 4b).

The mean number of missed classes in students' first year in WRaP was 35.65 classes, with 16.21 average missed days in their first year in WRaP. In students' second year in WRaP, there was an average of 32.02 missed classes over the year, with an average of 16.55 missed days over that same year. Generally, it appears that students in their second year in the WRaP Project missed fewer classes, though not fewer overall days, than did students in their first year in WRaP. Nonetheless, the majority of the students missed fewer than 40 classes and fewer than 15 days of school across both years.

Figure 4a. Number of missed classes while involved in WRaP Project based on percentage of total sample

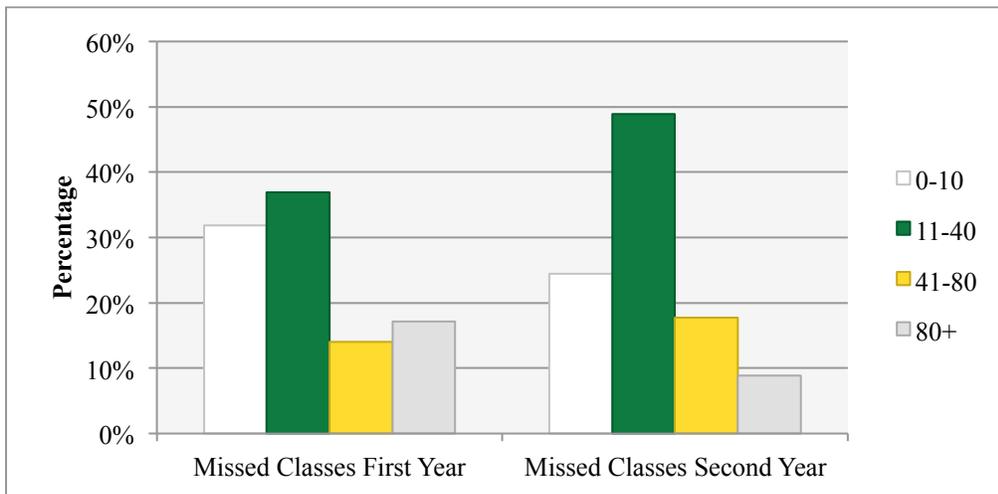


Figure 4b. Number of missed days while involved in WRaP Project based on percentage of total sample

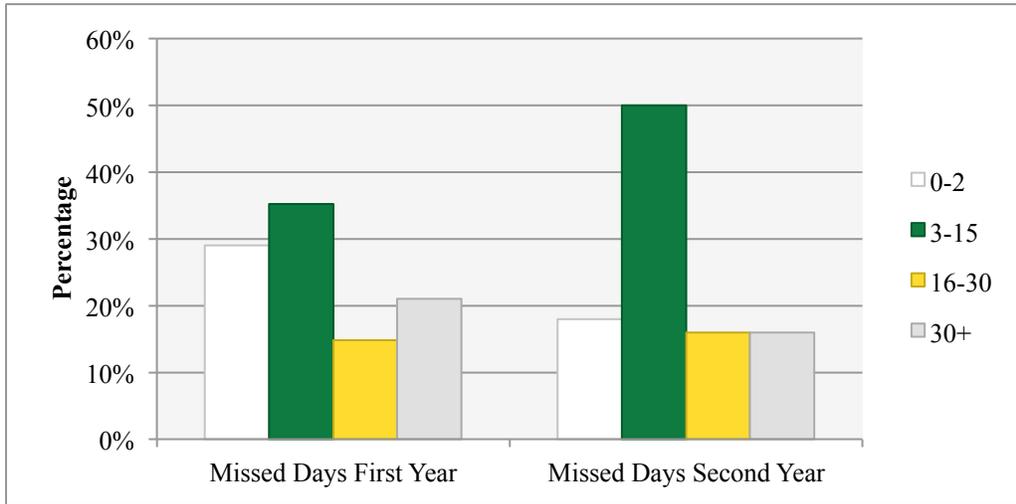


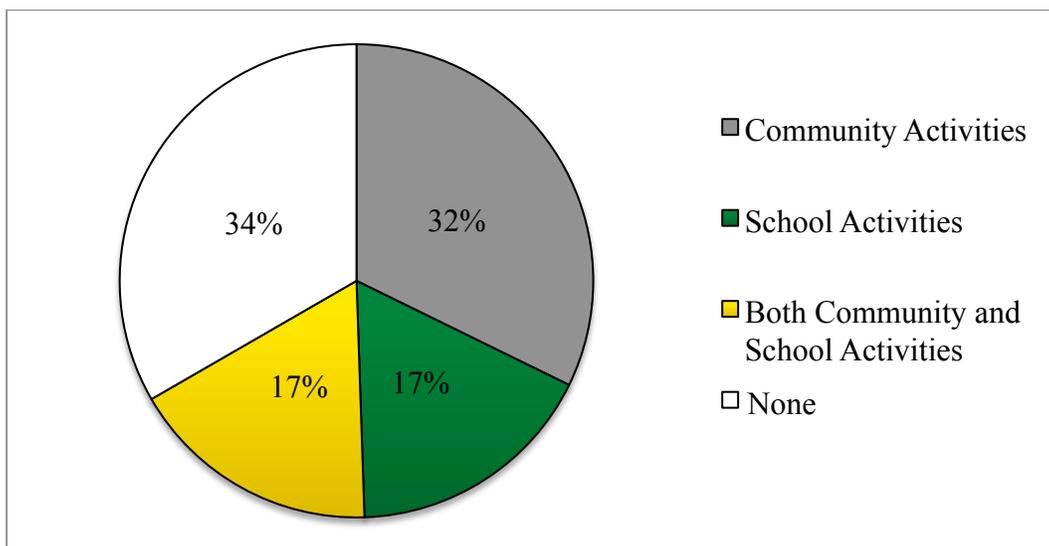
Table 2 represents the school suspension information of students over either the first or second year of their involvement in the WRaP Project. Generally, there are fewer out of school suspensions than in school suspensions. Proportionally, it also appears that there are fewer both in school (mean=.40) and out of school suspensions (mean=.32) in students' second year in WRaP than there were in students' first year in WRaP (in school mean=.43, out of school mean=.633). Additionally, the number of out of school suspensions declines quite significantly; 65% of students did not have an out of school suspension in year 1 while 79% of students did not have an out of school suspension in year 2. This indicates that there may be a reduction in severe disruptive behaviour, which tends to lead to an out of school suspension, as students' participation in WRaP is longer. However, this is qualified by the fact that this may also be explained through project attrition of those students engaged in those behaviours that require out of school suspensions. Nonetheless, the most significant finding in these data is the relatively high number of students who are not being suspended at all or only once while participating in WRaP.

Table 2: School Suspension Information while involved in WRaP Project

Number of Suspensions	0	1	2-3	4-5	6+
In School Year 1 (n=106)	74%	13%	6%	6%	2%
In School Year 2 (n=29)	75%	21%	2%	0%	3%
Out of School Year 1 (n=127)	65%	17%	14%	2%	2%
Out of School Year 2 (n=36)	79%	14%	3%	3%	0%

Figure 5 below shows that the majority of students participating in WRaP are also participating in school or community extra-curricular activities. This is not only an indication of their engagement within their school and community, but likely also contributes to greater social-emotional functioning and general well-being. In addition, a number of participants are participating in extra-curricular activities in *both* school and community settings. Hopefully, the availability of activities in the school and community continues, as there appears to be a great deal of interest for those participating in WRaP.

Figure 5. Involvement in extra-curricular activities by type of activity



## Academic Performance

When examining trends in student performance (Figure 6), we see that a large proportion of the students participating in the WRaP Project have received satisfactory grades in a number of their courses. In general, performance across classes and program type is consistent, with a few exceptions. First, participants in the WRaP Project enrolled in a regular education program tend to have lower rates of satisfactory grades than students in the WRaP Project enrolled in other types of educational programming. Second, the lowest rates of satisfactory grades were seen in the Modified English classes and the Regular Science classes. We are unable to speculate on the reason for this trend, but it may warrant further investigation. Nonetheless, it should be emphasized that student performance is quite strong, across classes and program type.

Figure 6. Percent of Group with Satisfactory Grade by Educational Program and Course

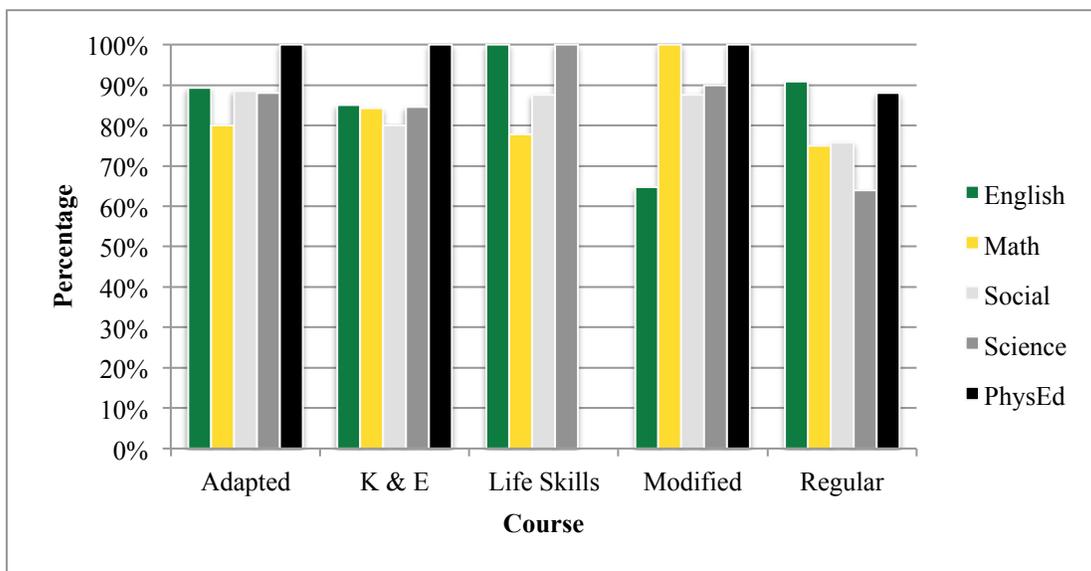


Table 3: Number of Students Enrolled by Educational Program and Course

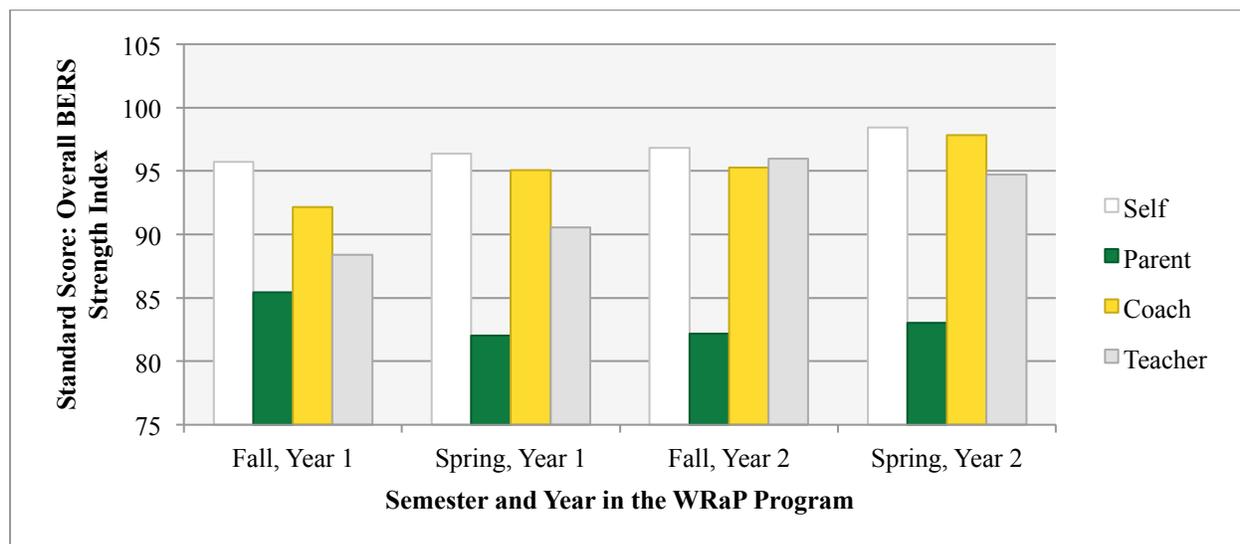
Educational Program	Course				
	English	Math	Social	Science	Phys Ed
Adapted	28	25	26	25	5
K&E	20	19	10	13	1
Life Skills	9	9	8	7	0
Modified	17	11	8	10	1
Regular	33	36	37	36	75
<b>Total</b>	<b>108</b>	<b>108</b>	<b>108</b>	<b>108</b>	<b>108</b>

## General Trends in Social-Emotional Functioning

The following diagrams and information represent information about the impact of the WRaP Project related to the Strength Index and allow us to describe the general trends in the data. They also allow us to provide some context and information about students' experiences at different points over their time in WRaP. Generally, ratings on the overall Strength Index tend to increase over students' time in the WRaP Project (see Figure 7). This is important because it represents a summary measure of interpersonal strength, family involvement, intrapersonal strength, school functioning, and affective strength. It is important to note that we would expect to see typical students this age to score around 100, or within a range of 90 to 110; we are seeing ratings for WRaP students either within the low average to average range when compared to other students their age, which is an encouraging finding.

Overall, students, WRaP coaches, and teachers rated participants in the WRaP Project as having social and emotional functioning that was relatively consistent with other students their age. However, parents of WRaP participants tended to describe their children's social and behavioural functioning as being lower than most adolescents their age. The discrepancy between these ratings may be due to behavioural differences between home and school settings. It should be noted that, regardless of the rater (and therefore setting), over time, there does not appear to be a significant change in the ratings.

Figure 7. All Raters across Time in WRaP Project on Overall Strength Index on BERS



The finding that ratings tend to stay consistent over time can be interpreted as a lack of decline. This makes sense when we examine the literature around the development of these skills in students with FASD. Specifically, what we tend to see in these students over the adolescent period is a decline in function and an increase in adverse outcomes (Kully-Martens et al., 2012). Consequently, stability, or lack of decline, in these areas is a positive outcome and aids in the conceptualization of WRaP as a protective factor (see *Integration of Findings and Moving Forward* for more detail).

## Similarities and Differences in Perceptions of Social-Emotional Functioning

### Correlations

Correlations are a way of examining the magnitude or strength of a relationship between two variables that we are interested in. We primarily examined three relationships that we thought might illustrate students’ academic successes and social-emotional and behavioural functioning: between the Success Coach ratings and the students’ self-ratings, between the Success Coach ratings and the teacher ratings and between the Success Coach ratings and the parent ratings. We examined each of these at three points in time: after students’ first year in WRaP, at the start of students’ second year in WRaP and at the end of students’ second year in WRaP. The School Functioning subscale from the BERS was the focus of this analysis because it most accurately reflects the students’ functioning at school. Table 3 presents these correlations.

Table 4: Correlations between Raters at Three Timepoints in WRaP on School Functioning of BERS

	After students’ first year in WRaP	Start of students’ second year in WRaP	After students’ second year in WRaP
Success Coach and Self	.49** (n=107)	.36* (n=49)	.36* (n=41)
Success Coach and Teacher	.65** (n=105)	.67** (n=43)	.56** (n=41)
Success Coach and Parent	.50** (n=73)	.50** (n=36)	.34 (n=30)

Note. \*\*correlation is significant at the .01 level; \*correlation is significant at the .05 level.

When we look across these correlations, we can see that most raters are at least somewhat in concordance with each other; there is a relationship between their ratings, which indicates that they are in agreement. Certain relationships are stronger, with Success Coaches and Teachers agreeing more strongly (correlations ranging from  $r=.56$ ,  $p>.01$  to  $r=.67$ ,  $p>.01$ ). It is interesting to note that Success Coaches and Parents describe similar perceptions at the beginning, but by the end of the second year in the project these perceptions begin to diverge, with Success Coaches seeing students functioning relatively well in school and Parents seeing their children differently; results are no longer as concordant as they once were. That said, generally, the relationships among various raters' ratings of student school functioning at three different timepoints in students' participation in WRaP indicate that most raters are seeing students' school functioning in similar ways.

Inferential statistics allow us to examine the relationships among different variables or concepts. There are many different ways that we can examine data in this way. However, there are assumptions about the data that need to be met before we can do these kinds of analyses. The data for the WRaP Project met some assumptions and did not meet others. Additionally, the resulting sample size, once outliers and missing data were removed, was too small to perform a number of analyses. As a result, we are unable to do more sophisticated forms of analysis and presented inferential statistics that we were able to calculate meaningfully.

## Qualitative Findings

**Research Question #1:** With regard to the impact of the WRaP Project on students' lives, four broad themes emerged: students' academic functioning (i.e. school engagement and academic success), students' interpersonal functioning (i.e. social functioning), students' emotional functioning, and students' physical well-being. Themes are summarized in Table 5.

Table 5: Broad themes and associated subthemes reflecting the impact of the WRaP Project on students' lives

<b>Students' Academic Functioning</b>	<b>Students' Interpersonal Functioning</b>	<b>Students' Emotional Functioning</b>	<b>Students' Physical Well-Being</b>
Attendance	Social skills	Support seeking	Activity
Success	Peer interaction	Connection to coach	Enhanced concentration
Engagement		Stability	Emotional coping & stress alleviation
		Belongingness Regulation	Hygiene maintenance
		Confidence	

### **Students' Academic Functioning**

The first theme highlights how the majority of success coaches viewed the WRaP Project's impact on students' academic functioning. Success coaches reported that students were staying in school longer throughout the day and attending classes more consistently; they were succeeding in coursework, completing courses, and even graduating; and they were making an effort in their classes and school-related activities. One coach wondered where her students would be if the WRaP Project did not exist, and her reflections were less than hopeful, as seen in the following quote:

*I think about what would all these kids do, without somebody to hold their hand and walk them through some of these processes? Where would they be? And honestly I really believe they wouldn't be in school. They would not be in school. They would have fallen away from the school system, to what I don't know.*

Another coach provided an example of a boy whose struggles with attendance were essentially resolved with the help of appropriate supports that were available through the project:

*Basically there was one student in one school that was having really bad attendance, but then as we grew supports for him and stuff like that, his attendance really improved to the point where last year, so that'd be this third year in the project, we basically had no attendance issues with him.*

Another coach noted the significant changes and ripple effects that she observed as a function of the WRaP Project:

*The very fact that these kids are coming to school, that they're staying in school, that they're completing courses, that they're – that they're starting to see that there is a future for them, that they've got strength. That they've got amazing talents and gifts.*

### **Students' Social Functioning**

This second theme describes how the majority of success coaches perceived student participants as developing social skills and interacting with their peers. Success coaches reported that students were developing appropriate and adaptive interpersonal skills through aspects of the WRaP Project. This included skills such as peer mentorship programs, social skills training, role playing with their success coach, and having their success coach as a social role model. Coaches also reported that students were interacting more with their peers, as reflected in their efforts to socialize with others during class time and extra-curricular activities. Coaches also indicated that students were participating in more activities within the school and community, and they were showing a willingness to try different activities. For example, students were participating in activities such as therapeutic riding lessons, hip hop music lessons, drumming club, beading club, scouts, and church groups.

The following quote highlights the social impact of the WRaP Project on one young male:

*So working on social skills, working on basic friendship skills, how to have a conversation, all these kind of things, very repetitive teaching of that... allowed him to feel more confident going out and trying to talk to... more people in the school, and try to make friends, which before he would just shy away from completely.*

## Students' Emotional Functioning

This third theme describes how the majority of success coaches perceived students' emotional well-being, as a function of the WRaP Project. Success coaches reported that students were showing initiative in seeking emotional support from the coaches when needed; it seemed as though students were aware that they had someone they could approach who was caring, safe, and who believed in them; they were presenting as more calm and relaxed, rather than aggressive and explosive; they seemed to feel accepted by teachers and peers within the school; they were practicing strategies that helped with identifying and regulating emotions; and they were demonstrating an increase in self-esteem and a sense of self-efficacy. The following extract tells the story of a female student who, with the proper supports and resources from the WRaP Project, was able to experience confidence and success:

*You know, we had a [young woman]... who has always secretly been a little closet dancer. Of course [she] didn't have the confidence, didn't have the money, didn't have the tools to even get to a dance class... we kind of hooked her up with some mentors in the school that were very accomplished dancers in our community... She gave up three lunch breaks a week to take dance lessons... We managed to get a hold of our repertoire dance group in our community, and they lent some costumes... At the end of the year.... we had a big event for the school... This [young woman] performed in front of... 300 students. So this is a [young woman] that would never ever, ever, ever, have had access or confidence, or the belief in herself... to see this look on her face, when she finally accomplished this goal... She started something and she completed something. And she felt the sensation of success.*

Another success coach provided a powerful example a young girl who struggled with mental health issues and acceptance of her FASD diagnosis. Through asking for help and with the supports of the WRaP Project, she was in the process of transitioning into life after high school graduation:

*I have a [young woman] that I've worked with now for year four, and who when we first started working together, she was depressed and suicidal, very, very poor attendance... Absolutely couldn't tell you one thing that she liked about herself or that she felt was*

*good. And did not want to hear the word FASD, was very angry and very hurt. And so we've done a lot of work, and to this day now, this is the story I get so excited about. We had a brand new teacher come in ... and we did a lot of preparation ...with her and her little brother, who is also severely affected... And I had prepared her [the teacher] as well and had done a lot of work around getting her a little bit better versed in FASD, and specifically about the needs of certain kids in her class that I was working. And this [young woman] handed her a note at the beginning of class and said my name is – wrote her name down, and my brother's name is this, and I just want you to know that we both have FASD, and we're going to need some extra help... For her to have managed to go from... being angry, being suicidal, being depressed, being a very poor attender, having no goals, to being able to write a note like that, to now we're actually doing college applications for her to go into a transitional vocation program, when she graduates. And she will graduate this year.*

### **Students' Physical Well-Being**

The fourth theme describes how the majority of success coaches recalled the impact of the WRaP Project on students' physical well-being. Success coaches reported that students were participating in physical activities such as Olympic swimming, track, cross country running, basketball, football, volleyball, and gym class; they were using physical activity to help focus their thoughts and manage their emotions; and they were practicing health and hygiene habits. Physical activity seemed to be an important coping mechanism for aggression, as noted in the following quotes:

*He has a tendency to get aggressive... When he is getting aggressive, he'll go run around the block... So that's a way he could get rid of his physical, or get rid of his stress, to work it out physically. Through physical, through all of that stuff... is one way for them to get out their aggression in a positive way, teaches them a coping mechanism that isn't maladaptive.*

Another coach provided an example of a boy who transformed his hygiene habits with the support and involvement of his success coach:

*One of my students was having some really hard time with his hygiene. He wasn't coming to school showered, all that kind of thing. So really working with him on mining those*

*skills, what do you need to do, what do you need to use every morning, working out a schedule with him. Working with his family to help support that schedule and make sure it's getting done, then you see personal growth from that. He's coming to school with his hair done. Or he's coming to school showered.*

## **Integrated Findings & Discussion**

The WRaP Project is an innovative initiative that attempted something new: it met students and school professionals where they were to help everyone learn how to more effectively support students with FASD to better connect with their school environment. Through collaboration and by providing a wraparound model of service delivery, capacity has been built in students, teachers and schools involved in WRaP. The following sections explore the impact of the WRaP Project on the lives of students diagnosed with, or highly suspected of having, FASD. Specifically, we integrate both quantitative and qualitative findings to investigate school engagement, social functioning, emotional well-being, and physical well-being among those participating in the WRaP Project.

### **Enhanced School Engagement and Academic Success**

Taken together, the quantitative findings indicated a general trend of students in their second year of the project missing fewer classes, and receiving fewer in-school and out-of-school suspensions than those in their first year. These findings were consistent with the qualitative findings, as success coaches reported that their students were staying in school longer throughout the day and attending classes more consistently. The quantitative findings also generally suggested satisfactory academic performance among students, across classes and program types. A large proportion of students received satisfactory grades in a number of their courses, with the lowest rate of satisfactory grades present in Modified English and Regular Science courses. Further, it was found that students in regular education programming had lower rates of satisfactory grades. These results are confirmed by reports provided by success coaches, who noted that students were succeeding in coursework, making an effort in their classes, completing their courses, and even graduating from high school. Overall, these are seen as very positive results, not only because of the population of interest but also because of the challenges

associated with the academic transition that occurs during this period (i.e. transitioning from middle to high school).

These findings demonstrate a degree of effectiveness of the WRaP Project, which can largely be attributed to the crucial role played by the WRaP coaches. These findings are significant given that previous research has revealed that without appropriate supports, students with FASD are at-risk for disrupted school experiences, which may be characterized by suspensions, expulsions, and/or dropping out (Gorman 1995; Streissguth et al., 2004). Furthermore, although modest, existing research in the area of FASD within an educational context highlights the struggles of students that are ameliorated with the implementation of a strong support system (Duquette et al., 2006; Duquette & Stodel, 2005). The WRaP success coach provides a wraparound service and his or her responsibilities seem to include areas that have been identified in the literature as important for students' academic success (e.g., Duquette et al., 2006; Duquette & Stodel, 2005). With regard to school supports, success coaches' roles include: providing education to staff, students, and peers; advocating for modified program planning; developing relationships with families and helping them to best support their children in school; providing academic support to students; collaborating with other professionals both within and outside of the school; and facilitating transitions into the workforce after graduation. One may speculate that the supports provided by WRaP success coaches contributed to students' adaptive functioning within the school and their persistence with attendance.

### **Social, Emotional, and Physical Well-being of Students**

Overall, quantitative findings from the composite Strength Index of the BERS measure suggested that students tended to present with a number of positive attributes, which were observed by teachers, parents, and success coaches. Ratings were generally within the Average range, reflecting positive functioning in various domains, including interpersonal, intrapersonal, familial, and academic domains. These results are analogous with success coaches' qualitative observations of students. Coaches reported that students were developing interpersonal skills through various aspects of the WRaP Project and they were interacting more with both peers and adults in the school. Regarding emotional and behavioural functioning, success coaches reported that students seemed to be more confident, emotionally regulated, behaviourally stable, and proactive in seeking help and support. Finally, success coaches noted that students were

practicing personal care habits, and they also reported increases in students' participation in a variety of physical activities. They further observed that students were intentionally engaging in physical activity not only for enjoyment, but also for the purposes of concentration and emotional regulation.

These findings demonstrate another area of success for the WRaP Project, which can be attributed to its development as a wraparound support for its participants. In addition, the WRaP coaches' roles focusing on providing emotional and social support, developing relationships with students, and connecting students to school- and community-based resources also contributes to student's social, emotional, and physical well-being. The comprehensive supports provided to students through the WRaP Project seem to touch on the common struggles among FASD students which, when not intervened upon, may contribute to or maintain disruptive school experiences. For example, the aforementioned findings highlighting the impact of the WRaP Project on students' social, emotion and physical well being are important because research shows that social, emotional, and behavioural problems are typical among students with FASD, placing them at-risk of having disrupted school experiences (Brown et al., 1991; Duquette et al., 2006; Duquette & Stodel, 2005; Rasmussen, Talwar, Loomes, & Andrew, 2008; Streissguth et al., 2004). As mentioned previously, research has documented the impact of having an advocacy/support system on academic engagement/success and subsequently, positive school experiences. Similarly, the presence of an advocacy/support system has also been shown to impact perceived social success/inclusion among FASD students (Duquette et al., 2006; Duquette & Stodel 2005). Essentially, such support seems to have ripple effects, in that many areas of life functioning are impacted, in turn influencing successful school experiences. This appears to have been achieved, at least to some extent, through over-arching project goals and the specific roles of the success coaches.

## Moving Forward

The purpose of this report was to provide formative feedback to inform WRaP Project stakeholders and sponsors' overall aim to support junior and senior high school students diagnosed with or thought to be living with FASD. The findings from the current data available from the WRaP Project suggest that it is achieving its intended purpose. Nonetheless, to best

position the project for continuing to develop and reach its full potential, three areas have been identified that would improve the ability for the project to assess its impact: evidence of impact, family outreach, and revisiting the definition of a WRaP coach.

### **Evidence of Impact**

The ability to determine the effectiveness of the WRaP Project relies heavily on the data that is collected throughout its implementation. To date, a number of data sources have been used, which have allowed for a comprehensive snapshot of the project's effect across a number of areas of interest (e.g. school engagement, academic performance, and social-emotional well-being). However, through the process of analyzing the available data, it was noted that some improvements could be made to the data that are collected to address some of the limitations of the current data sources. The most challenging measure, based on the difficulty in obtaining consistent longitudinal data through this method, is the BERS. There are many factors that contribute to challenges in collecting data through standardized rating scales, such as: students losing the forms either when bringing them home or bringing them back to school; different parents completing the forms due to changes in the home environment or foster care; teachers changing from year to year or different teachers filling out the form based on availability; and a limited level of English language knowledge by students or parents who complete the form. These factors may contribute to inconsistent ratings over time or inconsistencies in data collection (i.e. missing data). It should be emphasized that these challenges are not unique to WRaP and are common to all data collection using standardized behaviour rating scales. Moreover, the BERS has provided rich data on the social-emotional functioning of the students, the perceptions of the students' strengths from multiple viewpoints, and the overall functioning of WRaP participants relative to their same-age peers. Nonetheless, through this analysis, it appears that there may be a need for data to be collected that better shows growth of students with complex needs, which could supplement or replace existing forms of data collection in the area of social-emotional functioning.

Daily Behaviour Rating (DBR) is a viable alternative to the BERS, that would allow WRaP to gather detailed information on the growth of students in areas central to its purpose. This form of assessment would address the aforementioned limitations of standardized behaviour rating scales by being more sensitive to growth. In addition, they can be tailored to specific goals/outcomes

associated with WRaP. DBR has been described as; “an effective and efficient option in low-priority situations when multiple data are needed on the same student(s) and/or behaviour(s), when resources are limited, and when educators are willing to use the DBR” (Chafouleas, Riley-Tillman, & Sugai, 2007, p.78). Despite its promise, the use of DBR should be discussed in more detail, in consultation with professionals who are able to help support their development for WRaP’s purposes. If WRaP coordinators and other stakeholders are interested in pursuing this type of assessment, Chafouleas, Riley-Tillman, and Sugai (2007) suggest the following questions be answered prior to their implementation:

- How should the DBR form be designed?
- What is the target behaviour?
- Who is the focus of the rating?
- What scale for rating should be used?
- When, where, and how often will data be collected?
- Who will conduct the rating?

Regardless of the desire to use a DBR, the findings described in this report suggest that there is a need to reconsider the assessment tools currently being used to evaluate the effectiveness of the WRaP Project. At the center of the discussion should be a focus on ensuring that the measures that are retained or selected to supplement map directly onto WRaP outcomes and that they are able to produce consistent, reliable data over time to support data-based decision-making.

### **Family Outreach**

The generalization of the positive outcomes seen at school for students participating in the WRaP Project has the potential to be extended further by increasing parental involvement throughout the process. This area is suggested as an area for potential growth because the focus of WRaP has been predominantly on school-based supports. However, strong school-family partnerships are likely to lead to greater positive outcomes for youth (Minke & Anderson, 2005). The relatively lower perceptions of student strengths from parents suggest that positive behaviours may not be generalizing to the home environment or that parents may be struggling to implement strategies that would best support the development of new skills. However, further information should be gathered if WRaP coordinators choose to pursue this as an area of growth for the

WRaP program, as the underlying cause for the relatively lower perceptions of positive behaviours by parents is not known from the available data.

Nonetheless, it may be beneficial for the WRaP Project to provide greater support for parents through increase school-family partnership as WRaP coaches expressed a need for greater buy-in from others and increased knowledge dissemination in the community. Although the WRaP Project focuses primarily on students, broadening its scope to better include supports for parents may increase its effectiveness as a wraparound service. In addition, it would allow students, parents and schools to benefit from the well-documented positive outcomes that are associated with school-family partnerships. For example, “higher quality and more grade-appropriate homework”, “increased understanding of the complexities of the child and the child’s situation”, and “higher ratings of teachers by parents” (Esler, Godber, & Christenson, 2008, p. 918). In summary, given the positive outcomes associated with strong home-school partnerships and that the WRaP Project is already supporting this type of partnership to some extent, the WRaP Project may want to consider increasing the resources dedicated to fostering these partnerships.

### **Revisiting the Definition of a WRaP Coach**

The ability for the success coaches to continue to contribute to positive outcomes for their students rests in revisiting the definition of their role. This is important because it would allow them to better adapt to their context and be responsive to other changes that may be coming for WRaP as a result of the findings described herein. This could involve the maintenance of core responsibilities that are non-negotiable to ensure WRaP coaches are all supporting participants’ cognitive development, social-emotional functioning and adaptive functioning, yet it would allow a portion of their role to be individualized based on students’ needs.

To date, WRaP success coaches have contributed to a number of positive outcomes in school engagement, academic performance, and student well-being. However, as the WRaP Project continues to evolve, it may be beneficial to revisit the role of WRaP coaches and determine if their duties could be expanded to further contribute to data collection or family outreach. WRaP coaches are already responsible for collecting data that is currently available to the project. However, if additions or other alterations are made to the type of data that is collected within WRaP, coordinators will need to determine if WRaP coaches will also be responsible for additional data collection. If they are not identified as the optimal data collectors, then they may

still support the process in some way. With regard to family outreach, it may be helpful for WRaP coaches to connect more frequently with parents and provide them with data-based updates on their adolescent's academic progress and social-emotional functioning.

It should be noted, however, that WRaP coaches' roles should not deviate greatly from their current purpose, which is to support *students* with FASD within a wraparound model, through mentoring students, fostering overall well-being and collaborating with other educational professionals. This noteworthy consideration is essential to ensuring that WRaP continues to demonstrate its strong links to positive outcomes for students who tend to struggle a great deal without its supports. In summary, as WRaP continues to grow and reach more students province-wide, WRaP coordinators and stakeholders may want to use this report as a conversation starter to continue to evolve the role of WRaP coaches. This will help to ensure that they are responsive to some of the possible changes that may be on the horizon for the WRaP Project, while still maintaining their core focus of fostering a variety of positive outcomes in a population that is in need of their support.

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## Appendix A: Interview Protocol for Success Coaches

### FACILITATOR'S GUIDE

#### FACILITATOR'S INTRODUCTORY SCRIPT—READ, PLEASE OR “AD LIB” THE IDEAS

##### Opening

[Facilitator introduces self.]

Please sign a consent form.

Our research is aimed to inform our understandings of how best to support schools who work with students with FASD diagnosis.

Some of our research involves listening to people who have experience with the direct delivery of an intervention (WRaP) to support students with FASD diagnosis in the school environment.

**Questions:** Let's begin by with a review of the amount of time you have been with the WRaP Project, and the role that you play within WRaP.

1. What do you see as being success of the WRaP Project?
2. What challenges have you experienced within your role as a success coach?
3. Have you noticed continued changes within the schools you have worked?

(e.g., ripple effects, tangible outcomes, changes in the community, changes in educators, changes in yourself)

4. Have you noticed changes in the students with whom you have worked?

- Prompt: academically, socially, behaviourally, student engagement, increased strengths?

5. If anything was possible, what more would you do?