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A qualitative study of the fidelity of implementation of an evidence-based healthy relationships program

Deborah G. Chiodo, *The University of Western Ontario*

Supervisor: Dr. Peter Jaffe, *The University of Western Ontario*

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Abstract

This case study examined the factors that are important to successful implementation of a violence prevention program, The Fourth R Program, in one school district in a large, urban city in Alberta, Canada. Teachers, school administrators, and a school district program coordinator participated in a structured interview. Students in Fourth R classes participated in a focus group. The interview focused on potential facilitators and barriers to implementation and perspectives on fidelity and adaptation of the Fourth R program in the classroom. The focus group focused on students' experience, responsiveness and self-reported knowledge of program content. Teachers completed a survey at the end of teacher training to assess efficacy and confidence in delivering the program and an implementation survey to assess program fidelity. Based on survey and interview data, teachers were classified as high or low implementers. The interviews were transcribed and coded to identify the similarities and differences among the responses as well as themes that cut across participants. The results indicated that characteristics related to the program, the teacher, and the broader school environment influenced implementation fidelity. The Fourth R's standardized manual and content made for a high level of receptivity by all teachers which facilitated implementation. High implementers uniquely noted the programs' focus on teaching students about healthy relationships as a facilitator of implementation. School administrator support emerged as an important facilitator to implementation fidelity, but the quality of support differed for high and low implementers. Barriers to fidelity of implementation included difficulty in meeting the timeframes for program lessons, external influences and school disruptions, and implementation experience. Implementing role plays was a challenge for all teachers, but low implementers expressed more discomfort in the methodology than high implementers.

School administrators and school district program coordinator echoed many of the same themes as did teachers. Students in classrooms that received more of the Fourth R program expressed more positive classroom experience and responsiveness to the curriculum but not necessarily more perceived knowledge of health outcomes. Implications for strengthening the connection between research and practice in the delivery of prevention programs in schools are discussed.

Keywords: implementation, prevention program, fidelity, school-based research

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Chapter 1: Introduction

Statement of the Problem

There is substantial evidence indicating that, when properly developed and implemented, school-based prevention programs can produce positive effects on youth's behavioural, social and emotional functioning (Durlak & DuPre, 2008; Kutcher & Wei, 2013; Mihalic & Altman-Bettridge, 2004; Wilson, Lipsey, & Derzon, 2003; Wolfe et al., 2009). The cumulative evidence for the efficacy and effectiveness of prevention programs aimed at mental health, violence, drug use, and delinquency among youth has led to more wide-spread implementation of these programs within school settings (Foshee et al., 1998; Han & Weiss, 2005; Kutcher & Wei, 2013; Langley, Nadeem, Kataoka, Stein, & Jaycox, 2010; Payne & Eckert, 2010; Wolfe et al., 2009). While many studies ultimately conclude that problem behaviour, substance use, mental health, and drug use can be reduced by school-based interventions, considerable research has also documented the difficulties of achieving high quality implementation of effective programs (Durlak & DuPre, 2008; Gottfredson & Gottfredson, 2002; Han & Weiss, 2005; Wilson et al., 2003). One consequence of the movement towards disseminating or scaling-up evidence-based programs in schools is the increasing attention directed towards understanding the complexities of program implementation under 'real-world' conditions (Bloomquist et al., 2013; Weist, Lindsey, Moore, & Slade, 2006). In general, implementation refers to the way a program is used and executed when it is delivered in a particular setting. This case study describes the implementation of the *Fourth R: Skills for Healthy Relationships*, a relationship-based program for youth that has been shown to increase healthy relationships and decrease risk behaviours (Wolfe et al., 2009). This study is situated in six schools within a large school district in Western Canada.

There is a growing emphasis and accountability within schools to implement programs that are evidence-based, with the understanding that adopting these programs will result in positive outcomes. Fundamental to the success of implementation efforts of evidence-based programs in schools is that the program be implemented as designed. Effective, successful programs do not implement themselves; they are carried out by teachers with the support of administrators and other staff in schools. This concept of 'implementation as designed' is known as fidelity of implementation or implementation fidelity, and will be referred to by both of these terms. Fidelity relates to the degree in which the procedures and components of a given program are followed by those delivering it (Dane & Schneider, 1998; Mihalic et al., 2004). It is a key component in prevention programs and acts as a potential moderator of the relationship between the program and its intended outcomes (see Durlak & DuPre, 2008; Gottfredson & Gottfredson, 2002 for extensive reviews). Moreover, understanding fidelity of implementation may also prevent potentially false conclusions from being drawn about an intervention's effectiveness and it can even help in the achievement of improved outcomes (Carroll et al., 2007).

The literature on implementing school-based prevention programs has focused on the importance of the intervention within the school and the level of administrative leadership support that exists for implementing and sustaining the program over time, including financial resources or capacity building (Han & Weiss, 2005). While these factors are undoubtedly important, other research has focused on characteristics that are relevant to delivering effective evidence-based programs in schools, namely teacher, classroom, and system-level factors that increase implementation fidelity and the sustainability of programs over time (Chiodo, Exner-Cortens, Crooks & Hughes, 2015; Crooks, Chiodo, Zwarych, Hughes, & Wolfe, 2013; Exner-Cortens, Esina, Wells, Crooks & Hughes, 2016; Durlak & DuPre, 2008; Leadbeater, Gladstone,

Thompson, Sukhawathanakul, & Desjardins, 2012; Payne, Gottfredson & Gottfredson, 2006). The processes that occur within a program, classroom, school, or system that lead teachers to implement and continue to implement an innovative program are critical (Durlak & DuPre, 2008; Payne & Eckert, 2010). As central change agents within the classroom, teachers can promote students' positive development and skills through their ability to provide youth with frequent opportunity to practice and learn new skills (Wolfe, Crooks, Chiodo, Hughes, & Ellis, 2012). Several scholars have argued that a better understanding of the barriers and bridges in achieving high quality implementation of school-based programs is needed (Greenberg, 2004; Roberts-Gray, Gingiss, & Boerm, 2007) in addition to reporting on the status of implementation of school-based prevention programs (Crooks et al., 2013; Elliot & Mihalic, 2004; Gingess, Roberts-Gray, & Boerm, 2006).

Although schools can improve student's access to prevention programming, not all teachers are able to successfully implement evidence-based programs and practices. The current study explores the potential barriers and facilitators to successful implementation of a school-based universal program called the Fourth R. In 2015, a unique opportunity arose to examine the implementation fidelity of the Fourth R in the province of Alberta, with the implementation of the Alberta Healthy Youth Relationship Strategy (AHYR) (Wells, Campbell, & Dozois, 2014). This strategy, described in greater detail in Chapter 2, includes as one component, the implementation and scale-up of the Fourth R program in schools across the province over a five year period. With over 1.5 million dollars projected to be spent in five years (2012-2017) on the AHYR strategy, which includes the implementation and scale-up of the Fourth R, there was significant interest from school districts, the province of Alberta, and Fourth R collaborators to understand more about why the Fourth R succeeds, fails, or only works for some youth, or only

in some classrooms. Understanding implementation fidelity may be one step in understanding the variability of success when implementing the Fourth R (Chiodo et al., 2015; Crooks et al., 2013) and other evidence-based prevention programs in schools (Domitrovich et al., 2008; Durlak & DuPre, 2008; Elliott & Mihalic, 2004; Gottfredson & Bauer, 2007; Gottfredson & Gottfredson, 2002). In their critical review of the literature on implementation fidelity, Carroll et al. (2007) note that, until an evaluation of implementation fidelity can be made, it cannot be determined whether a lack of program impact is due to poor implementation or inadequacies inherent in the program itself. Moreover, until such an evaluation is made, any positive outcome produced by the program might be improved still further if it were found that the program had not been implemented in its entirety (Carrol et al., 2007).

A challenge in understanding the barriers and bridges of fidelity of implementation is capturing the multiple contributors to the program (i.e., program characteristics, teacher characteristics, school characteristics, system-level differences, youth differences, implementation fidelity) and understanding how these components influence each other to contribute to the overall success of the intervention. The voice of multiple stakeholders involved with the success of prevention programs in schools may shed light on the experience of implementation and may help us to further engage in practices to support high fidelity of implementation.

Based on the problem overview provided above and further detailed in the literature review, there exists a strong need for research that explores fidelity of implementation for prevention research. Moreover, understanding and exploring the relationship within the fidelity of implementation, teacher and other school personnel perceptions, and student outcomes will

augment the field of study by increasing our understanding of barriers and facilitators specific to the school setting that may inhibit or promote the uptake of evidence-based programs.

Purpose of Study

The focus of this study is to explore and understand barriers and facilitators to fidelity of implementation of the Fourth R program. This study reports on the findings from interviews conducted with teachers with a range of implementation experience of an established violence prevention program integrated into health curriculum (Crooks, Wolfe, Hughes, Jaffe, & Chiodo, 2008, Wolfe et al., 2009). The goal of teacher interviews was to identify facilitators and barriers to fidelity of implementation and to examine differences in implementation experiences between teachers with high fidelity of implementation (i.e., high implementers) and those with low fidelity of implementation (i.e., low implementers). Further, school administrators and a school district program coordinator were interviewed to gather perceptions of the Fourth R by other key stakeholders in schools who play a critical role in program implementation. This study also reports findings from focus groups with students in Fourth R classrooms to explore the relations of implementation fidelity to student outcomes related to participant responsiveness and self-reported program knowledge.

Importance of the study

This study is important because it explores the barriers and facilitators of an evidence-based health curriculum and the inclusion of multiple perspectives in a qualitative study design. As will be highlighted in the literature review, effective prevention programs have the potential to produce positive effects on youth's behaviours, and can play an essential role in academic and social achievement. Understanding the role of implementation fidelity, the successes and barriers

of implementing a program as intended, and how implementation fidelity affects student responsiveness and knowledge in classrooms is significant. Understanding the role of implementation fidelity, teacher and other school stakeholders' perceptions may inform future study designs and contribute to more effective interventions.

The proposed study is *significant* because it is a study of the barriers and facilitators of implementation fidelity and because it includes the voices of teachers, school administrators, school district personnel and students. It is also significant because it uses rich qualitative data from interviews and focus groups to explore perceptions and beliefs about curriculum implementation.

The implications of this research include: 1) strengthening intervention design and improving fidelity of implementation of health curriculum programs by including consideration of multiple factors and conditions, 2) providing further evidence on the importance of implementation fidelity, 3) by increasing implementation fidelity, potential impacts of programs may be maximized, 4) providing support to health teachers for curriculum implementation that meets the teachers' needs and encourages increased fidelity, 5) providing further evidence to program developers of prevention programs on the factors that influence implementation fidelity.

The goal of the proposed study is to shed new light on the important factors that help to facilitate the implementation of the Fourth R in schools, and identify practices to support high fidelity of implementation for the Fourth R and other prevention programs. When implementation fidelity is included in program design, benefits can be created between fidelity of implementation, increased program credibility, consistent positive student outcomes, and increased staff motivation (Durlak & DuPre, 2008).

Definitions and Terms

The implementation literature presents a challenge due to a lack of consensus regarding a standardized vocabulary of relevant terms. Thus, major terms used in this study are defined below.

Program, Intervention, and Innovation: are used interchangeably throughout this study in reference to newly introduced promotion and prevention approaches.

Provider: non-research staff of organizations who implement the new program or intervention (e.g., teachers in schools).

Implementation: what a program consists of when it is delivered in a particular setting. There are eight different aspects to implementation as described by Dane and Schneider (1998), four of which are relevant to the current study: fidelity, dosage, quality, and participant responsiveness.

Fidelity of Implementation: the degree to which teachers and other program providers implement programs as intended by the program developers. Also referred to as implementation fidelity, it has several components. For this study, fidelity of implementation is related to adherence to a health curriculum. Other alternative terms for fidelity in the literature include integrity, compliance, and faithful replication.

Quality of Implementation: refers to how well the program components have been conducted. Quality of implementation asks, Are the program components delivered correctly?

Participant Responsiveness: refers to the degree to which the program stimulates the interests or holds the attention of participants. Participant responsiveness also includes the degree to which students are engaged during lessons, responsive, and enjoy participating in the program.

Implementation Science: is the study of methods that influence the integration of evidence-based interventions into practice settings.

Research Questions and Hypotheses

This qualitative study seeks to explore four research questions using interviews and focus groups in one school district in a large, urban city in Alberta. The research questions and related hypotheses of the study are:

Research Question 1 (which has three parts): To what extent do teachers understand program fidelity and deliver the Fourth R as planned? In what ways, if any, did teachers adapt or modify the program? What were the reasons for modifications?

Hypothesis 1: Teachers will have an understanding of program fidelity but will face challenges implementing the program as planned. Teachers will add and remove lessons, modify the program because of timetable constraints, comfort level, experience delivering the program, and meeting student needs.

Research Question 2: What facilitates fidelity of implementation of Fourth R programs as identified by teachers, school administrators, and the school district program coordinator?

Hypothesis 2: Teachers, school administrators, and the school district program coordinator will report positive perceptions of the Fourth R and provide multiple factors as in previous research that influenced implementation such as program, organizational, and system-level facilitators that supported fidelity

Research Question 3: What are the barriers that impede fidelity of implementation of Fourth R programs from the perspective of teachers, school administrators, and the school district program coordinator?

Hypothesis 3: Teachers, school administrators, and the school district program coordinator will report negative perceptions of the Fourth R and provide multiple factors as in previous research that influenced implementation such as program, organizational, and system-level barriers that may decrease the likelihood that the Fourth R was implemented with fidelity.

Research Question 4: How does fidelity of implementation impact the responsiveness, knowledge, and overall classroom experience of students in Fourth R classrooms?

Hypothesis 4: Student responsiveness, self-report knowledge, and overall classroom experience will be more positive in classrooms with high Fourth R implementation fidelity than for students in classrooms with low Fourth R implementation fidelity.

Chapter 2: Review of Selected Literature

This literature review explores the areas of evidence-based prevention programs, and reviews the literature on fidelity of implementation in offering a foundation for the current study. The literature review uses a funnel approach by first addressing the larger area of school-based prevention programs. Next, a review of the fidelity of implementation includes defining and arguing for the importance of this construct in intervention design and evaluation. A specific focus on program, teacher, and school characteristics, will be highlighted as it relates to the current study. Throughout the literature review, evidence of the need for additional research in this area and arguments for and contributions of the current study are offered. This review ends with the proposed current study and context.

School Based Prevention Programs. The field of school-based prevention has made significant progress in the past 25 years in identifying factors that prevent high-risk behaviours among youth such as violence, drug use, and unsafe sexual behaviours, and in developing interventions for achieving prevention. Use of evidence-based programs has become a hallmark of high-quality professional practice in school and mental health (Crooks et al., 2013; Forman, Olin, Hoagwood, Crowe, & Saka, 2009; Foshee et al., 1998; Kutcher & Wei, 2013;; Wolfe et al., 2009). Evidence-based programs are those that have demonstrated effectiveness in rigorous scientific evaluations and demonstrate beneficial and predictable outcomes if implemented with adherence to the program developer's model. With increased dissemination of effective, evidence-based programs in schools, the field of prevention faces new issues and challenges. Simply put, implementation of evidence-based programs is a significant challenge for schools. Educators often find that research-based programs are difficult to implement and scale-up in real-world settings due to a variety of factors. Prior to the last decade, there has been little

incentive for school-based researchers to consider issues related to wider implementation, diffusion, and sustainability of effective programs (Durlak & DuPre, 2008, Greenberg 2004). For many years, it was assumed that if a program was effective and made available to schools, it would automatically be implemented. We know now that implementation is a complex process consisting of many stages and affected by personnel, program, organization, and systems factors. Failure to consider these factors not only results in diminished program outcomes, but impedes students' access to the growing number of evidence-based programs that exist in schools (Crooks et al., 2013; Durlak & DuPre, 2008, Han & Weiss, 2005; Kutcher & Wei, 2013; Payne & Eckert, 2010).

Implementation Science

Researchers are challenged to bridge the gap between efficacy trials and "real world" classrooms. Understanding the processes and conditions by which evidence-based practices are successfully scaled up can help move programs towards even greater benefits for youth. Implementation science is the study of how a practice that is evidence-based or evidence-informed is translated to different, more diverse contexts in the real world (Fixen, Blasé, Naoom, & Wallace, 2009). Even Yogi Berra, a famous baseball catcher, manager, and coach knew something about implementation science when he was quoted to say, "In theory there is no difference between theory and practice, but in practice there is."

A review of one of the most often used implementation evaluation methods, fidelity of implementation, will now be offered. Fidelity of implementation serves as the focus of this study and highlights one component that has the potential to impact successful implementation and subsequent scaling-up of research-based programs and practices.

Implementation Fidelity

A central challenge that schools face when implementing an evidence-based program centres on the issue of high-quality implementation or fidelity. Fidelity is defined as the degree to which an intervention is implemented completely and successfully in a new setting (Fixsen, Naoom, Blasé, Friedman, & Wallace, 2005). Rogers (2003) in his seminal book on the *Diffusions of Innovations*, notes that previously, researchers assumed that programs were carried out exactly as designed because implementers were viewed to be passive acceptors of an innovation rather than as active modifiers of a new idea. Although researchers and program developers seem to be paying more attention to the importance of fidelity of implementation given the breadth of articles and literature in this area in the last ten years, fidelity of implementation has actually been an area of research for more than four decades. In the early 1970's, researchers began to discover that implementers were in fact modifying innovations to meet their own needs and adapt them to meet the needs of the contexts in which they were being delivered (Rogers, 2003).

Even the most effective prevention programs are limited by the extent to which they are delivered with implementation fidelity. Previous research has shown that fidelity of implementation affects how well an intervention succeeds (see Durlak & DuPre, 2008 for a review). The challenge is that strict fidelity of implementation is difficult to achieve in the complex and multifaceted contexts of schools (Chiodo et al., 2015; Crooks et al., 2013; Durlak & DuPre, 2008; Kutcher & Wei, 2013; McCuaig & Hay, 2014). Instead, what emerges in real-world settings is incomplete implementation, adaptations, modifications of program components, and unfortunately the abandonment of evidence-based programs. Understanding fidelity of implementation of prevention programs will allow us to have a better sense of why an

intervention did not work or did not achieve expected outcomes, and what helped to facilitate the implementation of the program.

Models, Frameworks, and Theories of Fidelity of Implementation

The last decade of implementation science has seen a number of conceptual models, frameworks, and theories that have been developed to guide successful evidence-based practice implementation. Fidelity of implementation seeks to examine several important key components of programs such as: Are all parts of the program being delivered? Is the program being delivered with high quality? Is the program implemented in the correct sequence and for the prescribed time? Are program components being delivered with the proper materials? Is program drift occurring? Are participants engaged? Because of its unique nature, measures of fidelity of implementation have been cited as weak (Ennett et al., 2011). There is likely no single measure that will adequately capture all the elements of fidelity of implementation, and there is no widely applicable standardized methodology for measuring it. However, several good models and theories have been developed and could be adopted by programs to meet their individual needs. Nilsen (2015) provides a comprehensive taxonomy that distinguishes between different categories of theories, models, and frameworks in implementation science, to facilitate appropriate selection and application of relevant approaches in implementation research and practice.

The current study applied the Diffusion of Innovation (DOI) theory (Rogers, 1995, 2003), the conceptual model developed by Mellard (2009), and the Ecological Framework (Durlak & DuPre, 2008) to help frame the understanding of why providers (e.g., teachers, schools, school districts) are more likely to adopt, implement, and sustain a new program if a number of essential provider, program, and broader setting elements are in place. The DOI Theory, the model

developed by Mellard (2009), and the framework described by Durlak and DuPre (2008) have been used widely to help guide the complexity involved in program implementation and the wide-spread diffusion of preventive programs and practices in educational settings. The DOI theory is considered the single most influential theory in the broader field of knowledge utilization of which implementation science is part of, and is thus described in more detail below.

The Tipping Point: How Little Things Can Make a Big Difference

Malcom Gladwell, best-selling Canadian author, journalist, and speaker, has written extensively on the unexpected implications of research in the social sciences. In his book, *The Tipping Point: How Little Things Can Make a Big Difference* (Gladwell, 2000), he writes ideas about how innovations spread, or how a contagious idea, product, or program moves through a system. He argues that a number of patterns and factors are important in virtually every influential trend, ranging from the spread of diseases to the popularity of children's TV. Gladwell (2000) identifies three key factors that usually determine whether a particular trend will be adopted and diffused. First, the new idea or innovation needs some early adopters or champions. Second, the innovation needs to have a quality or attribute that people like. Third, the broader social environment is highly influential. Gladwell (2000) applied the Diffusion of Innovation Theory (DOI, Rogers, 1995, 2003) to explain how innovations can spread like wildfire, implemented successfully, and adopted on a large scale.

Diffusion of Innovation Theory

The Diffusion of Innovation Theory (DOI, Rogers, 1995, 2003) has been used over several decades to understand the steps and processes required to achieve wide-spread dissemination and diffusion of a variety of innovations in public health, medicine, addictions,

and education. Roger's DOI Theory focuses on the processes of adoption, implementation, adaptation, and institutionalization of a given program, idea, or strategy. The framework has been used for program planning, it has been empirically tested, and it has undergone critique from various perspectives since its inception in the 1960s.

The Diffusion of Innovations Model and Fidelity of Implementation

Rogers (1995, 2003) DOI Theory describes diffusion as a special type of communication concerned with the spread of messages of new ideas, and the process of diffusion can represent a certain degree of uncertainty to an individual or organization. An innovation, which can be an idea, practice, or a program, is typically perceived as *new* by the adopting individual or group of individuals. Why do certain innovations (in this case school-based programs) spread more quickly and widely than others? Why are some innovations effectively implemented by some providers and not others? Why are some innovations initially adopted with much enthusiasm but subsequently abandoned for the next best thing? According to Rogers (1995, 2003), the characteristics of an innovation, as perceived by the members of a social system (e.g., teachers within schools), determine its rate of adoption and subsequently the quality of implementation. Five characteristics of the innovation have been identified as being critical in determining an innovation's rate of adoption and the quality of implementation of the innovation: relative advantage, compatibility, complexity, trialability and observability (Rogers, 1995; Rogers 2003). In recent years, researchers have asked questions about what essential ingredients can increase or impede implementation quality, scalability, and sustainability (e.g., Durlak & DuPre, 2008). According to Rogers (1995), understanding the influence of innovation characteristics can explain why certain programs are adopted, implemented with high quality (i.e., fidelity) and scaled-up successfully within a system.

Characteristics of the Innovation that Affect Diffusion

Rogers describes *relative advantage* as the degree to which an innovation is perceived as better than the idea it supersedes. Rogers (1995, 2003) argues that it does not matter whether an innovation has a great deal of objective advantage. What does matter instead is whether an individual *perceives* the innovation as advantageous. Relative advantage, which addresses both the costs and benefits of adoption, has been proven to be one of the best predictors of innovation adoption (Rogers, 1995; Rogers, 2003).

Compatibility is the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters. This implies that the more the innovation is in line with the current value system and way of life of possible adopters, the more acceptable and accommodating are the adopters. Rogers (1995, 2003) argues that in order for an innovation to be successfully implemented, it must find confirmation in its integration into the values and practices of the adopting entity, be it an individual teacher, a school, or an entire school district. Several studies have supported Roger's notion of compatibility. Pankratz, Hallfors, & Cho (2002) found that as long as a program was compatible with the values, needs, mission, and experience of the institution, implementation quality was enhanced. Leadbeater and colleagues found that program champions of WITS, an evidence-based bullying prevention program, were more likely to adopt the program and implement it consistently if it fit with their personal beliefs about children's needs, to their teaching strategies, and to the schools' values, culture and philosophy (Leadbeater et al., 2012).

An extension of compatibility is the concept of reinvention (Greenhalgh, 2004) or adaptation. Some research suggests that if potential adopters can adapt, change, and modify an innovation to suit their own needs and context, it will be adopted more easily (Durlak & DuPre,

2008). For example, Hatch (2000) found that the fastest adoption and improvements came in schools that developed a balanced approach to program implementation whereby practices that have been successful in the past, and new practices adopted to meet the needs of schools, were considered. While the need to make adaptations to fit the program to local conditions or to implement programs as designed is an ongoing tension in implementation science, education and health scholars continue to question the emphasis on strict adherence to fidelity and instead argue that intentional adaptations may not be as counterproductive as assumed (e.g., Durlak & DuPre, 2008; Kutcher & Wei, 2013; McCuaig & Hay, 2014).

As its name implies, *complexity* is the degree to which an innovation is perceived as difficult to understand and use. Some innovations are easy to understand and use while others are more difficult to comprehend. In general, the more complex an innovation, the lower the chance of it being adopted and implemented with high quality. Based on their experiences of the Collaborative for Academic, Social, and Emotional Learning (CASEL) and reviews of literature addressing implementation failures, Elias and colleagues note that simple programs in schools are sometimes easier to explain, sell, and manage, especially given the pressure to show quickly that one's program works (Elias, Zins, Graczyk and Weissberg, 2003). Elias et al. (2003) also caution researchers that simplicity should not create pressure to show quickly that one's program is good, without the front-end time needed to build the capacity for change.

Triability is the degree to which an innovation can be experimented on with a limited basis. When an innovation can be tried, it increases its chances of adoption, and the practice helps with implementation quality. The exception is where the undesirable consequences of an innovation appear to outweigh the desirable characteristics (Rogers, 1995).

The last characteristic of an innovation that contributes to the process of diffusion is *observability*, defined as the degree to which the results of an innovation are visible to others. For example, when teachers see their peers using a new program and hear positive reports about program outcomes, or see positive changes in their students as a result of the program, they are more likely to consider trying it out and keeping with it longer. There is some evidence to suggest that ideas that are easily observed and communicated are more likely to be adopted. Frank, Zhao, and Borman (2003) in their study of implementation quality within schools found that implementation was sustained or discarded largely due to collegial pressure or encouragement, and that implementation was facilitated indirectly by setting up contexts for informal staff communication about using the innovation. Rogers (2002) argues that most individuals evaluate an innovation not on the basis of scientific research by experts, but through the subjective evaluations of near-peers who have already adopted the innovation.

Fidelity of Implementation within a Response to Intervention (RIT) Framework

Mellard (2009) summarizes five key elements of fidelity and provides a conceptual model that takes a broad view of fidelity, examining program characteristics on fidelity of implementation, the teacher's role, and other additional factors that may influence key elements of fidelity, such as professional development, organization, and teacher characteristics. The five key elements in Mellard's (2009) model are; adherence, exposure/duration, quality of delivery, program differentiation, and student responsiveness and engagement. Adherence refers to 'staying true' to the intervention and avoiding drift, as well as implementing all the components of the intervention in the correct order. Exposure/duration refers to delivering the intervention for the prescribed length of time and frequency. Quality of delivery looks at the characteristics of the implementer such as enthusiasm, good teacher practices, and the quality in which each

component is delivered. Program differentiation is concerned with program contamination, which in this context refers to being careful not to add materials from other programs or interventions that could alter the current program content. Finally, Mellard (2009) explains in his model that programs can have high adherence, the right exposure, an enthusiastic teacher doing a great job delivering, clear program differentiation, but if students are not engaged, it is all for nothing.

Ecological Framework

Durlak and DuPre (2008) offer a multi-level ecological perspective for understanding successful implementation based on their review of the implementation quality of over 500 prevention program studies. This ecological perspective of implementation is a view shared by other authors (e.g., Wandersman, 2003, Wandersman, Duffy, Flaspohler, Noonan, Lubell, & Stillman, 2008). This systems approach to understanding successful implementation points to multiple levels of influence and acknowledges that there are relationships within and across the levels that guide implementation efforts. Durlak and DuPre (2008) found that organizational capacity, training, and technical assistance lie at the centre of effective implementation. Some type of organizational structure is necessary and responsible for guiding implementation. Durlak and DuPre (2008) note that while organizational capacity is important, organizations need support in conducting new interventions successfully, and this support comes primarily through training and technical assistance, sometimes provided by outside parties. Most important, the ecological perspective assumes that an organizations' success at implementation is also dependent on innovation characteristics, provider characteristics, and community factors. Thus, the extended ecological context for implementation of Durlak and DuPre's (2008) model hypothesizes that implementation is influenced by multiple system-level variables that include

the innovation, the provider, organizational capacity, training and technical assistance. Successful implementation, therefore, depends on a constellation of multiple ecological factors that help to facilitate implementation.

Implementation Fidelity in the Field of School-Based Prevention

There is strong empirical support that implementation affects the outcomes of prevention programs and there are multiple factors that affect the implementation process (see Durlak & DuPre, 2008; Gottfredson & Gottfredson, 2002; Han and Weiss, 2005 for extensive reviews). For decades, researchers have been asking what leads educational innovations or programs to be successfully implemented and scaled-up. Arguably, more attention needs to be paid to factors that lead to high-quality implementation that will maximize the successful implementation and scaling-up of prevention programs in schools (Domitrovich et al., 2008; Payne & Eckert, 2010). Two examples of the largest reviews of implementation quality of school-based prevention programs will now be offered to illustrate the importance of establishing high-quality implementation in order to achieve program outcomes.

Implementation quality of school-based prevention programs. One of the largest national studies examining the implementation quality of school-based prevention programs was conducted by Gottfredson and Gottfredson (2002). Using a national probability sample of 3,691 school-based prevention activities in the United States, Gottfredson and Gottfredson (2002) were able to describe the quality of implementation of typical school-based prevention practices, compare the quality of implementation of prevention practice with what is typical in prevention research, and test hypotheses about predictors of the quality of implementation. Results of this large-scale study found that implementation quality of school-based prevention programs is generally poor. Depending on the type of activity, only one-fourth to one-half of the programs

compared favorably with research-based programs in terms of the number of sessions delivered. In addition, only 47-78% of the programs lasted for longer than one month. Gottfredson and Gottfredson (2002) also found that activities in elementary school were of better quality than those in high school, as were those in urban schools when compared with rural schools. By examining the correlates of prevention quality, Gottfredson and Gottfredson (2002) suggest that the level of implementation of prevention practices can be improved through better integration of prevention activities into normal school operations; more extensive local planning and involvement in decisions about what to implement; greater organizational support in the form of high-quality training, supervision, and principal support; and greater standardization of program materials and methods.

Several years later, Durlak & DuPre (2008) reviewed 542 quantitative implementation studies in the field of prevention and promotion targeting children and adolescents across a diverse set of programs, providers, and settings. In their seminal research, they sought to determine whether implementation affects outcomes and secondly, what factors affect implementation. The first major conclusion from their study was that expecting perfect or near-perfect implementation was unrealistic. No study in their review documented 100% implementation. In fact, few studies, attained levels greater than 80%. Positive program results were obtained with implementation levels around 60%. The second important finding that Durlak and DuPre (2008) highlight is that the magnitude of mean effect sizes are at least two to three times higher when programs are carefully implemented and do not suffer from any serious implementation problems. Durlak & DuPre (2008) conclude that there is credible and extensive evidence that implementation matters. Achieving good implementation not only increases the

chances of program success in statistical terms, but also can lead to much stronger benefits for participants (Durlak & DuPre, 2008).

What these two reviews illustrate is that implementation is an incredibly complex issue. If implementation was easy, more programs would be able to achieve high quality implementation, better and more prolonged sustainable program outcomes. The good news is, there is substantial research that has identified factors that influence implementation positively. Specifically, characteristics of programs, providers, and school and system-level structures have all been identified as critical determinants of successful implementation.

Fidelity versus Adaptation Debate

Before reviewing factors related to implementation fidelity of school-based prevention programs, it is important to first highlight a contextual obstacle related to implementation fidelity in schools that is relevant to the current study. This is the debate between fidelity of implementation and program adaptation.

As programs are disseminated, the desire to maintain strict adherence and fidelity (primarily driven by program developers) is often countered by a desire to adapt, alter, or reinvent programs (primarily driven by program implementers). These conflicting interests have created tension in the field of education between the importance of implementing programs as they were designed and delivered in their effectiveness trails and the need to adapt programs so that they fit the local context in which they are implemented (Kerig, Sink, Ceullar, Vanderzee, & Elfstrom, 2010; Kutcher & Wei, 2013; McCuaig & Hay, 2014). Proponents who believe in the strict adherence to program implementation such that programs should be delivered in the exact way they were developed and tested argue that much of the available research demonstrates that

fidelity is related to effectiveness and any bargaining away of fidelity will most likely decrease program effectiveness (e.g., Elliot & Mihalic, 2004).

The emphasis on strict fidelity however, has been challenged by scholars who argue that, for a program to be sustainable in the multifaceted classroom, teachers must be able to adapt the program so that it is appropriate for changing classroom circumstances and diverse students within classrooms (Durlak & DuPre, 2008; Kutcher & Wei, 2013; McCuaig & Hay, 2014). Kutcher and colleagues (2013) have found ways to implement their school-based mental health pathway to care program in a flexible, locally adaptable way so that the model is built on available resources and modified to meet local realities, including school and community readiness for adoption and implementation, and the availability of resources. McCuaig and Hay (2014) offer a convincing argument around the need for an educationally drive notion of fidelity. In their review, they note that the educational setting has different issues and contexts than does the public health setting, where the notion of strict fidelity originated and is central to achieving the objectives of health interventions. McCuag and Hay (2014) argue instead that schools are complex spaces and employing a public health notion of fidelity within the education system creates significant challenges and limitations. Classroom complexities, teacher characteristics, family characteristics, school characteristics, and children's characteristics all influence adherence to a program and need to be considered when assessing fidelity.

Based on a nationally representative sample of almost 2000 lead substance use prevention teachers in the United States, Ringwalt et al. (2003) looked at factors associated with teachers' fidelity of substance use prevention curriculum. Findings from this study found that about one-fifth of teachers of substance use prevention curricula did not use a curriculum guide at all, whereas only 15% reported they followed one very closely. The authors conclude that some

degree of curriculum adaptation is inevitable and observed the following: "We can thus say now with confidence that some measure of adaptation is inevitable and that for curriculum developers to oppose it categorically, even for the best of conceptual or empirical reasons, would appear to be futile (p. 387). In an effort to resolve the tension between strict fidelity and adaptation, some researchers (e.g., Dusenbury, Brannigan, Falco, & Hansen, 2003; Maggin & Johnson, 2015) have argued that program developers should identify what the critical elements, activities, or core components are to evidence-based programs and what activities are non-essential and can be easily adapted or omitted without compromising program outcomes.

While program adaptation may be a likely and inevitable consequence of school-based program implementation, there is little evidence under what conditions, if any, adaptations or modifications might enhance program experience and outcomes or result in a loss of program effectiveness and interest (Berkel, Maurcio, Schoenfelder, & Sandler, 2011). It is also not clear if teachers understand a program well enough to be able to modify it without sacrificing the core principles underlying the program.

Factors that Influence Implementation Fidelity

Numerous factors affect implementation fidelity, including the characteristics of providers, the organization(s) responsible for implementation, program participants, the community in which implementation occurs, and program support systems (i.e., training and technical assistance). Using the a priori frameworks described earlier related to Roger's Diffusion of Innovation Theory (1995, 2003), Durlak and DuPre's (2008) Ecological Framework, and the conceptual framework provided by Mellard (2009), a brief discussion of characteristics of the program, characteristics of the provider (i.e., teacher), and characteristics of the system (i.e., school) that have been found to influence implementation fidelity will be provided.

Program Characteristics Related to Implementation Fidelity

Program characteristics have been found to be related to implementation quality. It is argued that one of the more important program characteristics leading to fidelity of implementation is clear, explicit guidelines and materials for the program. For example, Gottfredson and Gottfredson (2002) in their review of the implementation quality of more than 360 school-based prevention activities found that already prepared program materials such as handouts, overheads, videos, and assessments can make implementation easier and deviation from intended content less likely. Similarly, Payne et al. (2006) used a large, representative sample of over 540 American schools to examine the predictors of the intensity of implementation of school-based prevention programs. Using structural equation models, they found that schools that used a standardized program manual were more likely to implement more lessons and sessions. Moreover, schools that used a standardized program achieved greater student participation in these programs that lasted longer than those without a standardized manual (Payne et al., 2006). While a standardized program with a comprehensive manual can effectively guide implementation, there still remains significant variability in the application and reporting of manualized components (Maggin and Johnson, 2015).

Recent Fourth R research supports the notion of program standardization contributing to better implementation and scale-up of the program. Chiodo et al. (2015) in their qualitative study of 21 Fourth R key informants from across Canada found that the comprehensive nature of the Fourth R (i.e., all program materials available to teachers in a standardized manual) was a key attribute contributing to successful implementation and dissemination of the program in schools and schools districts.

Teachers' implementation efforts may also be influenced by their perceptions and beliefs about how a new program fits with their existing priorities. Leadbeater and colleagues (2012) found that program champions of WITS, an evidence-based bullying prevention program, were more likely to adopt the program if it fit with their personal beliefs about children's needs, to their teaching strategies, and to the schools' values, culture and philosophy. Pankratz et al. (2002) found that as long as a prevention program was compatible with the values, needs, mission, and experience of the institution, implementation quality was enhanced. Han and Weiss (2005) found that the compatibility of the program with teacher's beliefs about the anticipated effectiveness of the program appear to influence teachers' ratings of a program's acceptability – and ultimately the effort they invest in program implementation. In terms of the ingredients of a sustainable school-based program, Han and Weiss (2005) argue that teachers must view the program as acceptable, and the program's structure and content need to motivate and inspire teachers to want to implement the program. In turn, this may increase the likelihood of teachers who implement the program with fidelity and commitment. Finally, Chiodo et al. (2015) identified the integration of the Fourth R within existing school frameworks and priorities as a key factor in the implementation success and scale-up of the program across Canada. Teachers that were able to align the Fourth R with other safe school and health education priorities did not view the program as competing for time with other academic priorities (Chiodo et al., 2015).

Teacher Characteristics Related to Implementation Fidelity

At the heart of school-based innovations are the individuals who are expected to deliver such programs. It is, therefore, not surprising that program implementation is highly dependent upon certain characteristics of teachers that may influence implementation. Durlak and DuPre's (2008) review of implementation influences and impacts identified four teacher characteristics

consistently related to implementation. These included: a) perceived need for the intervention, b) belief that the intervention would succeed, c) confidence in their ability to carry out the intervention (self-efficacy), and d) possession of the required skills to implement the intervention.

The research around teacher self-efficacy is very compelling for achieving high quality program implementation. There is substantial evidence to suggest that teachers with a greater sense of their ability to carry out the intervention (i.e., self-efficacy) seem to actually invest greater effort in program implementation, which in turn leads to more successful experiences with new educational strategies and practices (Durlak & DuPre, 2008; Gingiss et al., 2006;Han & Weiss, 2005). In a classroom context, teacher self-efficacy represents a self-judgement of a teacher's belief of their capability and their level of confidence to affect student performance functioning (Bandura, 1997). That is, higher quality implementation is more likely to occur when a teacher feels that he or she could make a difference in the learning of their students. A teachers' sense of self-efficacy has also been found to be related to their enthusiasm about a program and their motivation to implement and experiment with new methods to better meet their student' needs (Gingiss et al., 2006). School administrator support has been shown to positively influence teacher self-efficacy (Elias et al., 2003).

The background of the teacher, such as their experience in implementing the program has been found to play a role in implementation quality (e.g., Gingiss et al., 2006). For example, Rohrback and colleagues (2006) found in their research on translating prevention interventions in communities that when someone who has more experience with the program carries out an innovation, high quality implementation is more likely (Rohrback, Grana, Sussman, and Valente, 2006). There is some evidence to suggest that implementation quality is also said to increase

when teachers are more comfortable with the content and delivery method (Rohrback, D'Onofrio, Baker, & Mongomery, 1996)

School Characteristics Related to Implementation Fidelity

Characteristics of the school environment can also affect the implementation fidelity of programs. Schools lacking organizational capacity have difficulty implementing programs of all types (Durlak & DuPre, 2008; Ennett et al., 2011; Gottfredson & Gottfredson, 2002; Payne & Eckert 2010; Payne et al., 2006). In particular, when a schools' organizational capacity lacks a supportive administrator, problems with implementation arise. In their role as leaders of the school, school administrators serve as 'gatekeepers' for new curricula or programs that are introduced and implemented in their schools (Gottfredson & Gottfredson, 2002). Not surprisingly, their attitudes, behaviour, and support can significantly affect teachers' implementation of new programs (Chiodo et al., 2015; Crooks et al., 2013; Gottfredson & Gottfredson, 2002; Payne & Eckert, 2010). Effective administrators provide the oversight and accountability that are necessary to maintain focus and ensure follow through by implementers in schools (Domitrovich et al., 2008). Formally committing administrators to the intervention either by including them in the planning, training, or implementation has been shown to increase quality implementation (Bradshaw, & Lewis-Palmer, 2008, Chiodo et al., 2015).

How does administrative support by the school administrator affect teachers' implementation of the Fourth R program? School leadership can be instrumental in making a program a priority within the school, as reflected in the time, resources, and training allocated for the program, as well as the expectation for accountability. The importance of school and system-level leadership has been a significant focus of the Fourth R's implementation and sustainability plans for the past decade (Crooks, Hughes, Zwarych, & Burns, 2015). Leadership matters for any

program effort, but it has been especially critical to program dissemination and sustainability in Fourth R schools and districts (Chiodo et al., 2015; Crooks et al., 2013). In their study of 200 teachers in 26 districts in six provinces surveyed about barriers to Fourth R implementation and sustainability, Crooks et al. (2013) found that perceived support and accountability of the school administrator predicted implementation fidelity of the program. In other research, Chiodo et al. (2015) found that a key component to successful Fourth R scale-up in schools and districts across Canada was the support of a school administrator who prioritized health education and evidence-based practice, aligning the Fourth R with school policies, culture, and values.

The growing understanding of what may be needed to enhance the implementation of evidence-based programs in schools suggests that multiple characteristics of programs, teachers, and schools need to be considered. It is essential that we understand more about the factors that influence teacher implementation fidelity. The proposed study aims to identify factors related to implementation fidelity of the Fourth R.

The Fourth R Program

The *Fourth R* program (www.youthrelationships.org) is an exemplar, evidence-based healthy relationship program that targets peer and dating violence and related risk behaviors (Wolfe et al., 2009). The Fourth R is currently one of two Canadian evidence-based programs demonstrated to be effective in preventing adolescent dating violence and is implemented in over 5000 schools nationally and internationally, mostly in health education (Crooks et al., 2013).

The contention of the Fourth R Program is that relationship skills can be taught in much the same way as the other "three R's" (Reading, 'Riting, and 'Rithmetic) and that establishing these skills as a fundamental part of the junior or high school curriculum is equally essential. The core grade 9 version of the Fourth R program is comprised of three units to address violence,

substance use, and healthy sexuality/sexual behavior. Together, these three units address the triad of adolescent risk behaviors that are connected to each other in terms of co-occurrence, but are also rooted in peer and dating relationships experienced by youth. In addition, the grades seven and eight Fourth R program materials engage youth in learning about Healthy Eating. Each unit of the program contains strategies for values clarification, decision making, provision of accurate information and an extensive skill development component. Youth in Fourth R programs receive ample practice role-playing ways to resolve conflict and navigate risky pressure-like situations, both as participants and in the role of the bystander. In addition to the grades seven to nine health program, there are numerous extensions for other curriculum areas and special populations (see Crooks et al., 2008 for descriptions).

It is recommended that teachers participate in professional development prior to implementing Fourth R resources and strategies either in person or online (Crooks et al., 2015). Teacher training includes awareness about the critical social determinants of violence and related risk behaviours. Teachers are also provided with the opportunity to actively participate in many of the interactive strategies they will use in the classroom to engage students. In particular, teachers receive extensive practice in facilitating role plays in the classroom as this teaching methodology requires comfort, confidence, and skill to facilitate effectively (Wolfe et al., 2012).

The Fourth R program is easily accessible and low cost. The Grade 9 Fourth R program was evaluated in a large scale cluster randomized control trial involving youth in 20 schools. More than 1700 adolescents were followed up two and half years after receiving the program and these youth were found to make healthier and safer choices compared to peers who received health class as usual (Wolfe et al., 2009). Specially, youth who received the Fourth R program in place of their usual health curriculum reported lower rates of dating violence and higher rates of

condom use, with boys showing a more pronounced effect (Wolfe et al., 2009). Using a subsample of the 1700 students, a second study showed that students who received the Fourth R program were more likely to demonstrate conflict resolution skills such as negotiation and less likely to yield to negative pressure relative to students who received the standard classroom health curriculum (Wolfe et al., 2012). The Fourth R program has also been found to create a protective effect for maltreated youth with respect to lowering their likelihood of engaging in violent delinquency (Crooks, Scott, Ellis, & Wolfe, 2011). Beyond the effectiveness of the program, teachers find it easy to implement and perceive that it provides many benefits for both their students and themselves (Crooks et al., 2008; Crooks et al., 2013). Although the evidence supporting the Fourth R is strong, having an effective program is not enough; understanding the importance of implementation fidelity generally, understanding when and why implementation fidelity takes place, and why it does not, is a critical component in developing a large-scale health promotion strategy and is the focus of the current study.

Current Study and Context

In 2012, the *CAMH Centre for Prevention Science* in London, Ontario, the Fourth R program (now situated at Western University) and *SHIFT: The Project to End Domestic Violence* in Calgary, Alberta collaborated on the implementation and evaluation of the Alberta Healthy Youth Relationships Strategy (AHYR), a multi-systemic model focused on building youth relationships across the province (Wells et al., 2014). This approach targets multiple levels of intervention, with components for teachers/classrooms and schools, parents and families, communities, and those working within systems and policy contexts. This multi-pronged healthy relationship strategy involves offering evidence-based healthy relationships program to youth throughout Alberta.

The classroom/school level intervention components include the training of teachers, the availability of curriculum materials, and the implementation of the Grade 7, 8, 9 Fourth R program in schools in Alberta over a five-year period. The current study focused on one level of this multi-systemic approach in one school district at the classroom level. This includes the implementation of the Grades 7, 8, and 9 Fourth R programs in six elementary and junior high schools in a large, urban, Catholic school board in Alberta. The AHYR strategy's approach to the implementation of the Fourth R in Alberta evolves, as lessons learned from the previous year are addressed in subsequent years.

As of December 2016, almost 180 Alberta schools have participated in the Fourth R program, with more than 430 teachers across the province trained in Fourth R programming. The estimated numbers of students receiving the program by the end of Year 4 of the project (March, 2016), was almost 35,000. From a scale-up perspective, in purely quantitative terms, the increasing number of teachers, schools, districts, and students in Alberta involved in a Fourth R program can be considered a successful prevention reform effort. Beyond numbers, qualitative feedback collected by *SHIFT* and Western from teachers, students, and school board coordinators related to satisfaction with the program is very positive. Teachers and students find the program engaging, fun, and interactive. Teachers notice changes in students' skills in healthy relationships, communication, and conflict resolutions. Student gains in knowledge related to healthy relationships and risk behaviours have also been found.

Taking a program to scale however, is a complex endeavour. The traditional focus on the spread or numbers of classrooms delivering a Fourth R program only tells us one part of the scale-up story. What the AHYR has demonstrated coupled with more than a decade of Fourth R implementation efforts is that the spread of the Fourth R to multiple teachers, schools, and

districts involving predominately the expansion of schools reached tells us little about the degree to which the program is implemented, the barriers or bridges to implementation, the likelihood of sustainability of the program, or the nature of change experienced by teachers, schools or students as a result of program implementation.

In the first four years of the strategy, progress reports have highlighted several challenges related to implementation. First, the strategy encountered suboptimal rates of implementation fidelity in the first few years of implementation (Hughes, Wells, & Campbell, 2013; Hughes, Wells, Crooks, Campbell, & Broll, 2014) In fact, less than 10% of teachers in the first two years of the project were using 80% or more of the program, and almost all teachers reported making modifications to the program during implementation (Hughes et al., 2013). Modifications to the program included shortening lessons by dropping activities or dropping lessons altogether, adding supplementary resources or guest speakers to have more relevant and effective discussions, or adding new activities and topics (Hughes et al., 2013; Hughes et al., 2014)

More recent data collected by *SHIFT* to monitor the progress of this strategy included an end-of-year survey and phone interviews with 11 Fourth R teachers regarding implementation barriers and supports, evidence-based practices, and program/implementation successes (Exner-Cortens et al., 2016). Similar to other Fourth R research (Crooks et al., 2013; Chiodo et al., 2015), Exner-Cortens et al. (2016) found that the top three barriers to program implementation for Fourth R teachers in their study were; meeting program timeframes, implementing role plays, and external influences such as assemblies, early days out, and other activities that conflicted with the program schedule and ultimately delayed program implementation. *SHIFT* and The Alberta Healthy Youth Strategy is working on several recommendations to address the barriers to implementation for teachers in Alberta, namely a supported implementation system to provide

additional training and technical support, especially for schools new to evidence-based programming.

Despite the barriers that teachers experience when delivering the Fourth R, Exner-Cortens et al. (2016) also noted the many positive successes of program implementation. Key successes generally included youth access to accurate health information, the engaging and interacting nature of the program, the inclusive nature of the program for all students, and the confidence and empowerment that students gain as a result of the program (Exner-Cortens et al., 2016).

While the data collected to date to monitor the progress of the strategy has been extremely helpful to understand how much of the program is delivered in classrooms, what modifications are made to the program, and some preliminary understanding of the barriers and successes of implementation, the complexity of Fourth R implementation demands additional research and study.

Purpose of Study

As mentioned previously, the focus of the current study is to explore and understand barriers and facilitators to the fidelity of implementation of the Fourth R program. This study reports on the findings from interviews conducted with teachers in Alberta. The goal of teacher interviews was to identify facilitators and barriers to fidelity of implementation and to examine differences in implementation experiences between teachers with high fidelity of implementation (i.e., high implementers) and those with low fidelity of implementation (i.e., low implementers). Further, school administrators and a school district program coordinator were interviewed to gather perceptions of the Fourth R by other key stakeholders in schools who play a critical role in program implementation. This study also reports findings from focus groups with students in

Fourth R classrooms to explore the relations of implementation fidelity to student outcomes related to responsiveness and self-reported knowledge.

Conclusions

As we increasingly rely on schools and teachers to deliver evidence-based programs to students, it is important that research examines the processes by which teachers implement a program and to understand what barriers exist in achieving high-quality implementation. Well-designed programs have been shown to be capable of promoting positive impacts at both universal and targeted levels, including an impact on school achievement (Durlak & DuPre, 2008; Elias et al., 2003). If modification or tailoring of prevention programs is a highly probable in schools, and may actually be critical for successful dissemination of evidence-based programs (Kutcher & Wei, 2013; Wandersman, 2003), research needs to develop strategies to guide this process, to understand the conditions under which high-quality program implementation is likely, and to determine what key components of programs should be retained while considering the local context of program delivery. The promise of evidence-based programs and the positive outcomes they can achieve for students and schools will not be realized unless efficacious programs are delivered in a competent manner.

Although system-level factors in the form of policies, mandates, priorities, and resources certainly influence the conditions that support or interfere with program adoption, implementation, and sustainability, ultimately in schools, it rests upon the teacher to actually deliver the program to the classroom with fidelity while also considering the unique needs of their students and school. This case study of the implementation quality of the Fourth R will help us understand the factors around the successful implementation in schools. Moreover, fidelity of implementation reveals important information about the feasibility of the Fourth R

that could potentially inform the training of teachers, the redesigning of the program, and the future scale-up of the program.

Chapter 3: Methodology

This chapter details the overall study, reasoning for the study design and analysis plan. It describes the context of the study and an overview of the participants, measures and procedures. Following that are descriptions of the methodology and data analyses.

Background: Overview of the Alberta Healthy Youth Relationships Strategy Project

As mentioned previously, the current study was part of the Alberta Healthy Youth Relationships Strategy (AHYR) Project (Wells et al., 2014) funded by the Government of Alberta and an anonymous donor. The project began in 2012 and continues until June 2017. In partnership with Western University and *SHIFT: The Project to End Domestic Violence* (Faculty of Social Work, University of Calgary), the AHYR project's goals were to implement and evaluate a multi-systemic model focused on healthy relationships. This approach targets multiple levels of intervention with components for teachers/classrooms and schools, parents and families, communities, and those working within systems and policy contexts. The current study activities took place during the third year of the project (2014-2015 school year) and focused exclusively on the classroom/school level intervention components in one school district which included teaching training, and implementation of the Grade 7, 8, and 9 Fourth R program in participating schools. Schools were invited to enroll in the AHYR project each year with the goal that all schools in the district would be implementing a version of Fourth R by the end of 2017. For enrolling in the AHYR project, districts would receive free teacher training and receive free of charge, the Fourth R program for their Grade 7,8, and 9 health educators. There was also a formal agreement with the school district that some research and reporting requirements would

be expected of the district to satisfy the requirements for funding and for the research teams at Western and SHIFT to better understand the implementation of the program across the province.

Teachers in the district were invited by staff at the school board (and often their school administrator) in an email to attend teacher training, receive Fourth R materials, and implement the program in Health class. Prior to AHYR, schools used the provinces' curriculum for health education. It is important to note that school districts are not allowed to mandate a particular program for teachers to implement in their classrooms. Teachers in Alberta were strongly encouraged to attend teacher training and implement the Fourth R in their health class, but ultimately, teachers were not mandated by their district to receive training and implement the Fourth R.

Qualitative Research Methodology

Denzin and Lincoln (2000) defined qualitative research as multi-method in focus, involving an interpretive, naturalistic approach to its subject manner. As Denzin and Lincoln (2000) describe in their *Handbook on Qualitative Research*, qualitative research is a situated activity that locates the observer (i.e., qualitative researcher) in the world of its participant. This means that qualitative researchers study events and/or persons in their natural settings, attempting to make sense of, or to interpret phenomena in terms of the meaning people bring to them. A qualitative approach was chosen for this study, as it is particularly useful when evaluating processes in general, and program implementation, in particular (Patton, 2015). The purpose of this qualitative research was to explore the relations among teacher fidelity and school personnel perceptions of program implementation experience, and student outcomes. A case study approach was used for this research to position the focus on the perceptions,

understanding, and experiences of participants as it relates to implementation of the Fourth R program.

Research Design

As described in the introduction, the study utilized a descriptive case methodology. According to Yin (2003) a case study design should be considered when: (a) the focus of the study is to answer "how" and "why" questions; (b) the researcher cannot manipulate the behaviour of those involved in the study; (c) what is desired is to cover contextual conditions because you believe they are relevant to the phenomenon under study; or (d) the boundaries are not clear between the phenomenon and context. For this research, a descriptive case study was used to describe an intervention or phenomenon and the real-life context in which it occurred (Yin, 2003). The selection of this design was based on the research questions, study design, and characteristics of the data. The use of the descriptive case study methodology was to observe various cases for comparisons. The schools for this research and the different level of school personnel interviewed, including students, provided insight to the perceptions and experience each of the participants had on program implementation in their respective classrooms.

Binding the Case

Binding the case is another important facet of case study research (Yin, 2003). Baxter and Jack (2008) note that one of the common pitfalls of the case study approach is the tendency for researchers to attempt to answer a question that is too broad or a topic that has too many objectives for one study. To avoid this problem, Yin (2003) recommends placing boundaries on a case to prevent a lenience of broad data. Following the recommendations of Baxter and Jack (2008) to ensure that the study remains reasonable in scope, the case was bounded by a specific

school district, school personnel, time, and context. The case was bound by one large, rural Catholic school board in the province of Alberta. Teachers in classrooms currently implementing the program during the study year were also identified as a boundary for more immediacy around experiences and perceptions of implementation.

Participants

Participants were 11 elementary and middle school classroom teachers, four school administrators, one school district program coordinator, and 37 students in elementary or middle school classrooms from a large urban city school district in Alberta. Coincidental data collection for teachers, school administrators, and the school district program coordinator occurred upon completion of the program at the end of the school year (June 2015). Student data collection occurred about three and half months after completion of the program (October 2015). Because the program ended in June, data collection with students was not possible due to the schools' district rule of no external research data collection with students during the month of June. The school district program coordinator among many other responsibilities is also in charge of the coordination of the implementation of the Fourth R program in her district. This involves organizing Fourth R teacher trainings, recruiting teachers to attend training, and to support schools and teachers as necessary during implementation of the program.

Recruitment of teachers, school administrators, and school district program coordinator. Fifty teachers were invited to participate in the study from 20 schools. Following approval from Western University Research Ethics Board (REB) and the REB of the school district (see Appendix A), an initial email from the school district program coordinator describing the general purposes of the study was sent to all Grade 7, 8, and 9 Fourth R teachers (and their school administrator) who were implementing the program during the study year.

Teachers and administrators interested in participating in the study were asked to send an email reply directly to the program coordinator. Upon receiving agreement to participate in the study, the program coordinator sent a consent form to participants (see Appendix B) to read and sign before they were contacted. If the participant agreed, the signed consent form was sent to the program coordinator. All copies of consents are maintained by the researcher. Upon receiving a copy of the consents, the program coordinator shared contact information of participants with me. At that time, a more comprehensive email was sent about the study to the participant and a time was scheduled to conduct a phone interview. Eleven out of 50 teachers agreed to participate in interviews and each received a $50.00 gift card for participation. Participating teachers were from six different schools. Four of the six school administrators agreed to participate in an interview and received a $50.00 gift card for participating. Invitations to the school district program coordinator to participate was extended and agreed upon. A $50.00 gift card for participating in the study was also given to the coordinator.

Recruitment of students. Recruitment of students was handled differently than recruitment of the teachers and school administrators. Students were invited to participate three and half months after they had completed the Fourth R program. At this point, students were in a new school year, a different classroom and with a new teacher. The school district program coordinator was able to obtain class lists from the previous school year of participating teachers and this was distributed to youth assent and parent consent to students in each school (Appendix C). Students were asked to bring the forms home and return to their classroom teacher in two weeks. Copies of all parent consents and youth assents from the program coordinator were forwarded to the researcher. The program coordinator arranged the day and time for all student focus groups. Focus groups were held during the school day, in an empty classroom, for

approximately 40 minutes. Thirty-seven out of a possible 231 students provided both youth assent and parent consent to participate in the focus group. Although the number of students who agreed to participate in the focus groups was small, arranging student focus groups was an administrative challenge for the program coordinator. First, she was only able to attend the school one time to recruit students and share details about the study; and a second time to collect consent forms. The program coordinator did not have the opportunity to remind students to bring in their consent forms as might be typical in other research studies. She was also not able to recruit students who had graduated from elementary school and were now in high school.

Teacher demographics. Demographic characteristics were collected for the teaching sample only. Demographic information was obtained from the Fourth R Teacher Implementation Experiences Survey (IES, Appendix D) that is administered to all teachers annually as part of the AHYR strategy and was secondary use of data for this study. Teachers came from a convenience sample, and eight teachers were female (73%) and three were male (27%). On average, teachers had 17 years of experience in education, ranging from two to 30 years of teaching. Ethnicity and age of sample were not obtained.

Fidelity of Implementation Groups. Teacher responses to three questions from the *Fourth R Implementation Experiences Scale* (IES; Appendix D; Crooks et al., 2008; Crooks et al., 2013) were used to classify teachers as high or low implementers: 1) please estimate how much of the Fourth R program (lessons, role plays, and activities) you have implemented this year? (Less than 20%, 21-40%, 41-60%, 61-80%, or 81% or more); 2) please indicate how much of the role plays your class has completed this year (all, some or none); 3) please indicate which units of the Fourth R program you have delivered this year (none, Unit 1, Unit 2, Unit 3, Unit 4). The responses to these questions were further verified and discussed more thoroughly in teacher

interviews with the following questions: 1) what units of the Fourth R did you complete? 2) describe your experience implementing role plays in the classroom.

Based on previous Fourth R research, high implementation classrooms are typically defined as classrooms where teachers deliver at least 80% of the program, including the role play activities (e.g., Crooks et al., 2008; Crooks et al., 2013). For this study, high implementers were teachers who implemented all or some of the role plays, 81% or more of the program, or had completed three or more units of the Fourth R. Low implementers were teachers who did not implement any role plays in their classroom, completed less than 80% of the program, or completed two or fewer units of the Fourth R. Based on this categorization, five teachers were high implementers (1 male, 4 female) and six teachers were low implementers (2 male, 4 female).

Measures

Fourth R Implementation Experiences Scale. (IES, Crooks et al., 2008; Crooks et al., 2013) is a self-report measure that is completed by teachers at the end of program implementation, or at the end of the school year, that assesses teachers' overall satisfaction with the Fourth R, completion of Fourth R's activities, lessons, and role plays (i.e., dosage), modifications made to the Fourth R during delivery, and challenges that teachers experienced while delivering the program. Teachers completed the IES (Appendix D) online after providing consent to participate in the study. The IES was completed near the end of the school year and before teacher interviews. For this study, the IES was used to classify teachers as high or low implementers.

Fourth R Teacher Self-Efficacy. Teachers completed a survey upon completion of Fourth R training to assess their preparedness and confidence in teaching the Fourth R as well as the

compatibility and fit of the Fourth R with their teaching style (Appendix E). The data from the Fourth R Teacher Training Feedback Survey was used as secondary data because it had been collected prior to the start of the study. Teachers provided consent to use this data retrospectively. Fourth R teacher training feedback surveys were available for eight out of eleven teachers.

Teacher Interview Guide. For case study research, the use of an interview protocol is a primary means to increase the reliability of case study research. It also serves to guide the researcher in carrying out the data collection (Yin, 2014). A semi-structured guided interview protocol was developed for teachers (Appendix F). The interview questions that were designed for this study allowed teachers to reflect on: their own implementation and experiences; understanding of fidelity of program implementation; modifications made to the program; support received by their school administrator during program implementation; and their perception of the Fourth R's alignment with other school activities, programs or goals. There was a particular emphasis on asking teachers to respond to questions about the program and their own implementation successes or challenges. The interview questions for this study were adapted from a qualitative study that interviewed 21 Fourth R stakeholders from six provinces on their experience of the scale-up of the Fourth R in their school or district (Chiodo et al., 2015)

School Administrator Interview Guide. A semi-structured guided interview protocol was developed for school administrators (Appendix G). Questions focused on school administrators' views and perceptions about healthy relationship programming in schools and the alignment of the Fourth R with their schools' philosophy, goals, and policies. School administrators were also asked to identify and describe what they believed facilitated or impeded the implementation of

the Fourth R in their schools. In addition, school administrators were asked to discuss the type of support they have provided throughout the year for their Fourth R teacher.

District School Program Coordinator Interview Guide. A semi-structured guided interview protocol was developed for the district school program coordinator (Appendix H). The questions were designed to tap into the program coordinator's views and perceptions about implementation, the history of the adoption and scale-up of the Fourth R program in the district, the alignment of the program with the district's philosophy and approach to healthy relationship programming, and the district's support to Fourth R teachers.

Student Focus Group Guide. Using the *Focus Group Kit* as a guide (Morgan & Krueger, 1997), a semi-structured guided focus group was conducted with students (Appendix I). The focus groups elicited feedback from students about their experience in health class, and questions designed to assess what students had learned in the program. To discuss their experience in health class, students were asked what they thought was the most significant aspect of what they had learned during the past year, their views on the importance of teaching students about developing healthy relationships, and their experience with using role plays in the classroom. To assess student understanding of key learning outcomes of Fourth R curriculum, students were asked to describe how to resolve conflict and bullying-type situations, how to respond identify stressors and how to support friends or family who may be experiencing stress. Students were also asked to discuss what they had learned with respect to healthy eating, drugs and substance use, and communication and decision-making skills.

Data Collection Procedures

Data collection: teacher surveys and interview. There were three sources of data collected from teachers: teacher training feedback, the Fourth R Implementation Experiences Survey, and interviews.

Teacher training feedback survey. Teacher training feedback surveys were completed after Fourth R training and were used as a secondary source of data for this study. This survey data was obtained from the school district program coordinator to use for the current study.

Fourth R Implementation Survey. The Fourth R Implementation Experiences Survey (IES) was completed online prior to teacher interviews. After teachers provided consent to participate in the study, and an online survey link was sent to them via email. Teachers were asked to complete the survey prior to the scheduled interview.

Interview. Respondents participated in semi-structured interviews for 30-45 minutes. They were asked a series of questions designed to elicit responses about their implementation perceptions and experiences. Interviews were conducted in English, by phone, and were audio-recorded following the interview protocol provided in Appendix F. This interview protocol has been piloted in other work (Chiodo et al., 2015). The researcher was both familiar with the project and the Fourth R, and hence conducted all the interviews. The interview audio recordings were transcribed verbatim by blind research assistants prior to coding, categorization, and data analysis.

Data collection: school administrator and school district program coordinator.

Interview. School administrators and the school district program coordinator were contacted by email to participate in the study. After obtaining consent, interviews were scheduled at a convenient time. Interviews were conducted in English, by phone, lasting

approximately 30 minutes and were audio-recorded following the interview protocol provided in Appendix G and Appendix H. All interviews for the study were conducted by the researcher and interview audio recordings were transcribed verbatim by blind research assistants prior to coding, categorization, and data analysis.

Data collection: youth qualitative measure.

Student Focus Groups. The school district program coordinator distributed youth assents and parent consents to students in Fourth R classrooms where teachers had agreed to participate. Students who provided both youth assent and parent consent were scheduled by the school district program coordinator to participate in a focus group at school during the regular school day. Focus groups were conducted in English lasting approximately 30 minutes and were audio-recorded following the focus group protocol provided in Appendix I. All interviews for the study were conducted by the researcher for the study and focus group audio recordings were transcribed verbatim by blind research assistants prior to coding, categorization, and data analysis.

Data Analyses

Four research questions are presented, each with a different focus. The research questions and related hypothesized results of the study are:

Research Question 1 (which had three parts): To what extent do teachers understand what program fidelity is and deliver the Fourth R as planned? In what ways, if any, did teachers adapt or modify the program? What were the reasons for modifications?

Research Question 2: What facilitates the fidelity of implementation of Fourth R programs as identified by teachers, school administrators, and the school district program coordinator?

Research Question 3: What are the barriers that impede fidelity of implementation of Fourth R programs from the perspective of teachers, school administrators, and the school district program coordinator?

Research Question 4: How does implementation fidelity impact the responsiveness, knowledge, and overall classroom experience of students in Fourth R classrooms?

Qualitative Data Analysis

For all research questions, qualitative data analysis was performed as described below. I performed all qualitative data analyses, however there were multiple consultations with other qualitative researchers to ensure that the procedures, findings, and interpretations were representative of the data and appropriate.

Qualitative data were coded using a multi-phase process. In the first phase, a provisional codebook was created for teacher interviews (Appendix J), school administrator and district program coordinator interviews (Appendix K), and student focus groups (Appendix L). The provisional codebooks identified preliminary codes based on the interviews and focus groups that were conducted, the memos and notes journaled throughout the data collection, and my prior experience and knowledge of the experiences of teachers implementing the Fourth R. Once the provisional codebooks were completed, the first cycle coding for the project used a blend of descriptive coding, sub-coding and simultaneous coding in order to categorize the data (Saldaña, 2013). Data not relevant to the analysis and extracting the data that was relevant is the simplest form of data reduction. All data were coded in the exploratory analysis but only the data relevant

to answering the research questions were used. Following first cycle coding, initial (or open) coding methods (Saldaña, 2013) were used to break down and further explore the nuances of the data, and then pattern coding (Saldaña, 2013) was used to theme the open coded data.

The qualitative computer program, Dedoose V5.3.22 was used to create themes and subthemes and for data analysis. Each set of transcripts was uploaded to Dedoose for analysis. Dedoose has the advantage of facilitating research in that qualitative data can be coded, but also grouped by moderators. For this study, transcripts were categorized by teacher implementation status (high implementers versus low implementers) to compare and contrast themes across the two groups. Memos were used throughout the coding process in order to document the procedures used and my perceptions of the data. This process allowed for the continual evaluation and modification of the interpretation of data. I used a thematic technique called pawing (Saldaña, 2013) which entails proof reading the transcripts and underlying or identifying key phrases with different colours. In this method, I was able obtain a deep working knowledge for the text by handling the data multiple times prior to coding and analysis.

Trustworthiness. Establishing trustworthiness of the data was important to evaluate the worth of the study. Lincoln and Guba (1985) connect trustworthiness to establishing credibility, dependability, and confirmability in research. Case studies include several strategies that promote data credibility or "truth value". To gain trustworthiness of the data, I used purposive sampling, I collected and managed the data systematically, established reliability of coding by recoding 30% (n=7) of all transcripts and achieved an accuracy of re-codes greater than 90%.

Chapter 4: RESULTS

In this chapter, the results are presented based on the data analyses described in the previous chapter. The results are divided into four sections and organized by research question. Each section is organized according to the themes that arose during the interview process with teachers, school administrators, the school district program coordinator, and the focus groups with students. For research question 1, I summarize data from teacher findings only. For research questions 2 and 3, I report on my findings in this order: teachers, school administrators, and the school district program coordinator. For research question 4, I summarize data from student focus groups held in six Fourth R classrooms. The findings reflect the participation of 11 teachers from six different schools, four school administrators, one school district program coordinator in the interview, and 37 students in focus groups.

Where appropriate, the number of participants in each implementation group (high implementers and low implementers) who identified a particular theme is reported. I have also provided quotations from the participants to contextualize themes. Quotations from participants are a powerful form of qualitative data. In this study, the quotations provide invaluable perspectives, in participants' own words, about fidelity of implementation of the Fourth R. I have chosen to include more quotations rather than fewer as a way of capturing the unique voices of participants in a meaningful way. I have an ethical commitment to represent what transpires during the interviews and focus groups in an objective manner. Two important reasons guided the selection for including quotations in this study. First, quotations were selected based on their representativeness of the theme. Second, quotations were selected based on inspiration in that sometimes participants articulated meaning in new or surprising ways or participants expressed their responses in an authentic, captivating manner. As the results will show, there are

overlapping and repetitive themes and findings. But there are also findings which are distinct and unique to each implementation group. There were instances where a factor (e.g., lengthy classroom discussion) was helpful for teachers to implement the program with fidelity but perceived as a barrier to others. These conflicting views and other findings are further explored in the following chapter.

Research Question 1: Program Fidelity

To evaluate teacher's understanding of fidelity of implementation of the Fourth R program and the extent to which modifications were made to the program, research question one had three parts:

1. To what extent do teachers understand program fidelity and deliver the Fourth R as planned?
2. In what ways, if any, did teachers adapt or modify the program?
3. What were the reasons for modifications?

To what extent do teachers understand program fidelity and deliver the Fourth R as planned?

Training and preparation. Eleven teachers from six schools delivered either the Grade 7, 8, or 9 Fourth R. All teachers attended a full-day Fourth R training session the year that they volunteered or were assigned to teach the health curriculum for their school. Upon completion of Fourth R training, teachers complete a training evaluation questionnaire that asks their feedback about whether they feel confident to deliver the Fourth R and implement the role plays of the curriculum, whether the Fourth R aligns with their teaching practices and values, and suggestions for improvement on the training session.

Data from the teacher training evaluation questionnaires was available for seven teachers overall (four out of six low implementer surveys and three out of five high implementers. The data indicated that all seven teachers who attended training and completed the survey were mostly or completely in agreement with the statement "I feel confident to implement the role plays in my classroom". Teacher interview data, however, indicated that two of the four low implementers did not implement any role plays in their classrooms despite feeling confident after training to use them to deliver Fourth R materials. Three high implementers who reported on the survey after training stated that they felt confident to implement role plays in interviews and indicated that they had implemented all, or 80% or more of the program's role plays. All seven teachers also reported mostly or completely in agreement that, "The Fourth R program fits with my teaching style" and "I feel prepared to deliver the Fourth R". Thus, at least for the seven teachers who completed the survey, their belief in their ability to implement the Fourth R successfully in their classroom was strong.

Opinions about fidelity of intervention. Teachers were asked the following question: "What does program fidelity mean to you?" Only two teachers accurately described what program fidelity was (Ann, high implementer and Peter, low implementer); the other nine teachers said they had not heard of the phrase before and did not fully understand its relevance for implementing the Fourth R—although all of them would have had the concept explained during teacher training. Once I clarified the definition of program fidelity and how it is applied to Fourth R implementation, teachers had opinions about fidelity of implementation and adhering to the curriculum exactly the way it was developed. In fact, all but one high implementer, Ann, indicated that they could not deliver the program as planned, and modified the lessons to meet the needs of their classroom. It is important to note that Ann, the high implementer who noted

that she did not deviate very much from the program and delivered the lessons as planned was also in her third year of teaching the Fourth R, the most experienced in delivering the Fourth R compared to other high (or low) implementers. There was only one other teacher, Nicholas, a low implementer who was also in his third year of implementation.

In general, almost all teachers expressed the view that adhering to the program in exactly the way it was developed was not a realistic expectation of classroom teachers. For example:

> As a teacher, I try to stay as true to the intention of the program but I will admit, I don't follow it word-for-word… I don't know if educators would be able to do that… that's a really challenging thing. (Sharon, low implementer)

Teachers have considerable independence to choose the curriculum activities that they use in their classroom and this was often at odds with the notion of adherence to uniform implementation. Becky, a low implementer said:

> I think it is difficult to ask a teacher to do something from start to finish without adapting it in some way. Teachers really like to have the freedom to adapt things. (Becky, low implementer)

Deanna, a high implementer believed her years of teaching experience reinforced her decision to modify or adapt lessons as she saw fit:

> I've been teaching long enough that within a couple of minutes you can tell which way something is going, so you just adapt, provide, and overcome...if it's not working you move on. (Deanna, high implementer)

In what ways if any, did the teachers adapt or modify the program?

There was no guidance in the written materials provided to teachers about modifying or adapting the lessons. They were told at teacher training sessions, however, that they should teach the lessons in the listed order and that amending the content or learning outcomes was not recommended. Fidelity of implementation was also explained during the teacher training

sessions and teachers were told why it was important to adhere to the program the way it was developed. Fourth R trainers briefly discussed with teachers how variations in delivery (e.g., removing, adding, and/or modifying lessons) could affect intervention outcomes.

I asked teachers about the ways they adapted or modified the program. Teachers generally made three broad modifications to the program: selectively choosing what lessons or activities they wanted to teach based on the time allocated for health and/or student needs and interests; leaving out lessons or activities because of time constraints or perceived differences with the Catholic Education requirements for the *Healthy Growth and Development* unit of the Fourth R; and adding additional activities or lessons to the program.

Below are examples that illustrate how teachers selectively chose lessons or activities rather than maintaining lesson order and delivering the content as it was developed. This was reported more often by high than low implementers. Low implementers noted that they used the Fourth R as a resource from which they chose lessons based on what they could deliver in a short (50-minute) teaching block. Teachers also noted that they sometimes chose lessons or activities from the Fourth R that aligned with other classroom activities or school-wide events, like guest speakers.

> If we have a guest speaker coming in and talking about something, then we went to the Fourth R binder and said, "what compliments that really well and what reinforces what the Fourth R is doing or what the speaker is trying to do," and try to get it in that way… we are just trying to get the best bang for our time. (Ann, high implementer)

> What I did is I went through all the units, tried to figure out what it is that I wanted to teach 'cause it was quite a few things to choose from. I looked at my classroom and tried to figure out what they would want me to teach them or what would they want to learn from this program, rather than go unit per unit per unit—I think it would have been too much for them. So I gauged at whatever level the kids seemed to be at or what I thought would be of interest for them to know. (Beth, high implementer)

> And I did have to pick and choose. I would say I could probably complete three to four lessons as the lessons are outlined in the Fourth R per unit. (Peter, low implementer)

Leaving out some of the activities of the Fourth R was a common modification made more often by low implementers compared to high implementers. Several teachers noted that they did not teach parts of the Fourth R because of insufficient time or because the lessons were too difficult to deliver; others described how the program's *Healthy Growth and Development* unit did not match the Catholic Education System requirements—even though the program was approved by the city's Catholic Bishop to be delivered in classrooms. Barb, a low implementer said that because her principal did not allow her to teach the Fourth R's *Healthy Growth and Development* section, for fear it did not meet the Catholic expectations, she did not end up teaching the unit at all. Below are two examples by Nicholas and Barb, low implementers describing modifications to the Fourth R based on leaving out lessons or activities.

> I stayed away from the more difficult lessons where there's more organizing or extensive lessons in terms of time. (Nicholas, low implementer)

> Because we are in a Catholic district we need to use the Catholic program when it comes to human sexuality. So sometimes I was not sure if I was allowed to show what's within the Fourth R even though from what I was aware of, those sections were taken out. But when I went off to send that part to printing my principal wouldn't let me use that. I don't know if it was the principal herself, or I wasn't able to use the human sexuality section, but she wouldn't let me. (Barb, low implementer)

The final modification teachers made to the Fourth R was adding additional activities, materials, or lessons to the program during delivery. Low implementers noted this modification more often than high implementers, and both groups differed in what they added to the program. In general, high implementers indicated that they added additional resources or lessons while delivering the Fourth R to supplement the *Healthy Growth and Development* unit so that it met the Catholic

curriculum expectations for sexual health. Low implementers also indicated they added additional lessons and activities for the *Healthy Growth and Development* unit, but they also added resources to address mental health, invited guest speakers to attend health class, and changed some of the unit assessments. Below are some examples of teachers describing how they added additional materials during the delivery of Fourth R.

> Because so much has to be taken out for Catholic schools, there is just a couple of the lessons left in that unit for us so I had to use what we have from our district and I aligned it with a couple of lesson that are in the Fourth R program. (Lucy, high implementer)
>
> I did step away from the program and did two full lessons maybe even three devoted to a mental health awareness campaign …that's where I didn't have anything from Fourth R to use. (Peter, low implementer)
>
> I offered no exams or quizzes during the school year. I wanted to keep away from that since they get enough of that in their other core subjects. (Peter, low implementer)

What were the reasons for modifications?

During interviews with teachers, those who reported modifying lessons said they did so because they felt that the lessons or resource materials did not fully meet their classroom or teaching needs. The reasons for adaptations fell into three main categories: a need to differentiate for differing ability level and needs of students; adjusting the length and content of lessons to address time constraints; and adjusting the lessons to ensure that they met the Catholic curriculum expectations for health education.

Differentiation to take account of student ability and needs. Modifications to the Fourth R were needed to adapt the program for students with lower levels of ability, special education needs, or for whom English was a second language. As Sharon explained:

> It is difficult to deliver something word-for-word from a program when you have different needs in your classroom and you have English language learners and special needs and people who need adaptive programming. (Sharon, low implementer)

Deanna, despite delivering the program with high fidelity described how the needs of her students always came before the program requirements and she alluded to her efforts and not the curriculum as more important for change:

> I take a program as the program, but at the same point it's not about the program, to me it is about my students. I work for my students; I don't work the program. (Deanna, high implementer).

Length and content of the lessons. The restrictions of fitting the lessons into a short teaching block meant that the Fourth R had to be altered to ensure that at least some of the content was delivered. Some teachers used the opportunity to comment further about the allocation of learning time within the school timetable.

> It is important to try and do that [adhere to program fidelity]. And we have tried to do that as much as we can but because of the time constraints, we can't. So we've tried to do the next best thing that we can…you do have to adapt at certain points for certain groups. (Ann, high implementer)

Catholic Education Curriculum for Health Education. Modifications due to the Catholic Education curriculum for health education most often consisted of using lessons from the provincial health curriculum for the *Healthy Growth and Development* unit that were compatible with Catholic teachings. As Alan, a high implementer explained when asked if he had made any modifications to the Fourth R curriculum:

> "It was just the sexuality part. I dealt with making sure that they understand that from our perspective [Catholic] that abstinence was the best way, and that you are not going to get an STI or pregnant. There's a lot of faith-based things in the community and I added those in when we were doing that section" (Alan, high implementer).

Summary

The findings reported in the previous section address Research Question 1 which had three parts: To what extent do teachers understand what program fidelity is and deliver the Fourth R as planned; In what ways, if any, did the teachers adapt or modify the program; and what were the reasons for modifications. It was hypothesized that teachers will have an understanding of program fidelity but will face challenges implementing the program as planned. It was also expected that teachers will add and remove lessons, and will modify the program because of timetable constraints, comfort level, experience delivering the program and meeting student needs. This hypothesis was partially supported and the data revealed that: 1) Most teachers, in both implementation groups, did not fully understand what program fidelity was when asked; when I explained to them what program fidelity meant and how it applied to the implementation of the Fourth R, the consensus from teachers was that it is an unrealistic expectation of program developers to ask teachers to deliver the program without some adaptations and modifications to the curriculum; 2) low implementers modified the program more often than high implementers by adding other resources, removing lessons or activities, and picking and choosing what lessons to teach; 3) reasons for modifications included the length and content of program lessons and the shortened duration of health class; differentiation of program lessons to take into account student ability and needs; and alignment with the Catholic Education Curriculum for Health Education.

It is important to highlight that most teachers who completed the teacher training feedback survey after training felt prepared to teach the Fourth R and implement the role plays, felt that the Fourth R was a good fit with their teaching style, and also felt confident to deliver the role plays in their classroom. Thus, at least for the group of teachers who completed the

survey (n=7), their belief in their ability to implement Fourth R successfully in their classroom prior to implementation was strong.

Research Question 2: What facilitates the fidelity of implementation of Fourth R programs as identified by teachers, school administrators, and the school district program coordinator?

Teacher Findings

During the interview, teachers were asked several questions related to potential influences on their implementation. These included: What are your general impressions of the program? What interested you in the Fourth R Program? In what ways does the Fourth R fit into your school or classroom activities, approaches, or goals? Did you implement the role plays with your students? Why or Why not? Describe what is working well with the program. Describe any challenges to implementation. Was there anything about the Fourth R that made it difficult to implement? Was there anything about the Fourth R that made it easy to implement? How fully do you feel you implemented the curriculum? How prepared did you feel to deliver the lessons? Are there ways you have modified the program? If yes, why did you modify the program? Is it important to your school administrator that you are teaching the Fourth R? How is your administrator supporting you to deliver the program?

Teacher responses to these questions were closely examined during data analysis to inform the creation of codes and themes (see methods section for more information). In addition, teacher responses to any of the other interview questions were also coded for statements regarding potential influences on implementation.

Qualitative analysis resulted in the identification of distinct themes that represent potential influences to implementation as reported by teachers. All teachers identified at least one

facilitator to fidelity of program implementation and collectively teachers mentioned facilitators 92 times during interviews, more often by high implementers compared to low implementers. I have classified facilitators into three broad areas consistent with Diffusion of Innovation Theory (Rogers, 1995, 2003) and Dulak and DuPre's (2008) Ecological Model that have been shown to influence implementation of a program: (a) characteristics of the Fourth R program, (b) characteristics of schools, and (c) characteristics of teachers.

Characteristics of the Fourth R Program

All teachers identified at least one facilitator related to the program during interviews. I classified the facilitators associated with characteristics of the Fourth R program into five themes (three of which were perceived as barriers to fidelity of program implementation by teachers seen in Research Question 3):

1. The organizational structure of the Fourth R program.
2. The content of the Fourth R program.
3. The Fourth R program created opportunities for in-depth classroom discussions.
4. The Fourth R program taught about relationships.
5. The Fourth R program was engaging and interactive.

The organizational structure of the Fourth R Program. (N=11; high implementer=5 low implementer=6). All teachers identified the organizational structure of the program as a facilitator to fidelity of implementation. Teachers in both groups commented on the comprehensive nature of the resource, the inclusion of supplementary program materials that made the lessons and activities easy to use and follow, and the organizational layout of program lessons. A few teachers believed that there was nothing more the Fourth R program could have

included that would have made their jobs easier in terms of prep time. One participant elaborated:

> Everything [has been done] on your end to make it easy for us. If I don't feel prepared it's because I didn't prepare myself. The lesson plans are there, the overheads are there. You've even given us laminated sheets for crying out loud. If someone is telling you they are not prepared, it's because they are not looking at it in advance. If I do my part, there is nothing else you guys can physically do to be ready other than teach it for me. (Ann, high implementer)

Deanna, a high implementer referred to the Fourth R as a *For Dummies* reference book that presented the health curriculum in a nonintimidating way for teachers who were new to the topic:

> This is not a statement against it: it's like a "Program for Dummies." It's good because sometimes people are uncertain of how to teach a program… but this is extremely well laid out. (Deanna, high implementer)

Deanna also noted that new teachers, or those that did not normally teach health, benefitted from how well the program was organized, and how easy it was to follow:

> If someone doesn't feel comfortable in the beginning, or a brand new teacher doesn't feel comfortable, [then] you've got more than enough to guide them through. It's very well explained and you've got lots of resources: the videos are perfect, the tests at the end… you've got more than enough to help anyone new to the program, or a new teacher, to guide them through it, so it's certainly well laid out. (Deanna, high implementer)

One low implementer remarked:

> It's one of those classes that is already organized, it's there. So when it comes to year planning, it's very organized. It makes setting stuff up a lot easier and less stressful because I know a lot of health teachers that don't normally teach health [who think], "I don't know what to do." Being able to provide that resource for them definitely helps them in the long run and having those assessments is huge. (Barb, low implementer)

According to this teacher, the organizational rigour of the program reduced the stress of lesson-planning.

The content of the Fourth R program. (N=10; high implementer=4; low implementer=6) All low implementers and four out of five high implementers identified the content of the Fourth R program as a facilitator to fidelity of implementation in large part because students and teachers like the materials and prefer it to their previous health curriculum. Despite the content of the Fourth R identified as a facilitator to fidelity of implementation, Research Question 3 (next section) shows that some teachers also identify program content as a barrier to fidelity of implementation. Several teachers noted the improvement in using the Fourth R over their previous health curriculum. As noted by Ann, a high implementer:

> Fourth R is much better than our previous health resources... it was night and day. I've asked the kids for feedback as well, and they much prefer the Fourth R stuff that we do to anything out of our old health curriculum. (Ann, high implementer)

Some teachers indicated that they appreciated the developer's understanding of what students in certain age groups should be learning and how they learned best, and how that approach was incorporated throughout the program. For example, Beth, a high implementer noted: "I think the units themselves [are] right on; you know it is exactly what the students should get to know, and should know about those things" (Beth, high implementer). One low implementer commented positively overall about the program: "The program is very good. The activities lend very well to the health classes that I put together. The resources are good" (Peter, low implementer).

The Fourth R program created in-depth classroom discussions. (N=9; high implementer=5; low implementer=4). Several teachers in both implementation groups viewed classroom discussions as facilitators to fidelity of implementation. Later in Research Question 3, in-depth classroom discussions during the delivery of the program were identified as a barrier to fidelity of implementation by some teachers.

All high implementers noted that classroom discussions arising from Fourth R lessons were opportunities for students (and the teacher) to share stories in a safe way, and the conversations helped to strengthen the classroom community. Moreover, Deanna, a high implementer believed the program allowed teachers the opportunity to provide variety within the lessons:

> Our school is very diversified and cultural backgrounds are very different: experiences are different, we are constantly getting new kids in, and they don't necessarily want to share or are afraid to share in case their ideas or opinions might be looked at differently. It [the program] allows the teacher, whether they have a little bit of experience or a lot, to continuously change it up, and to be able to see the kids share and be able to share without feeling like they're bearing their soul, or going to get into trouble, or be ostracized for it…. You definitely get to know the kids in a different way because you get to hear stories, they get to share who they are, and I get to share a little bit about who I am…those kinds of things help to build that class relationship and strengthen it. (Deanna, high implementer)

Sharon described how the close relationships among students in her class contribute to meaningful classroom discussions during the program which facilitated implementation:

> As a class we have a really good relationship … this health program is really… we're really comfortable talking and really comfortable asking questions, which is really good. (Sharon, low implementer)

On the other hand, Nicholas noted the maturity and the willingness of his students to engage in discussions:

> My group this year, the ninth graders, [they] were just more mature. They were more talkative: I judge [that] as interested. No matter what we talked about, there'd always be some interest in terms of having some discussion**.** (Nicholas, low implementer)

Finally, Alan, a high implementer identified classroom discussions as anecdotal evidence of student learning:

> From the beginning I didn't know them and they didn't know me. Then they get into the program and it is set up for all sorts of different kinds of interactions, whether they be in the smaller groups or the bigger groups, and I think that's what I liked most about it. Even though I wasn't testing the kids on an actual written exam, I was able to get lots of the anecdotal evidence: things that were said in the class from wandering around and listening to them. (Alan, high implementer)

Even when such conversations were not formally assessed, this teacher found the classroom discussions to be meaningful learning experiences.

The Fourth R program taught about relationships. (N=5; high implementers=4; low implementers=1) Five of the interviewed teachers, mostly high implementers spoke enthusiastically about the program's focus on learning about healthy and unhealthy relationships. Alan, a high implementer remarked:

> The whole binder did a really good job of addressing issues about yourself and about how you've got to have your own self-image before you go out into those relationships, and about how it is not acceptable to put up with any abuse. We've got to have certain understandings about respect and how we're going to treat each other, and this whole binder goes about ways to enable you to treat the people you deal with daily—not just loved ones, and not just your girlfriends, but other people—with respect. (Alan, high implementer)

Another high implementer, Beth, said she saw differences in the way students treated each other as a result of learning about healthy relationships:

> The first thing is about liking yourself and enjoying who you are and being able to help other students; if you've got a healthy relationship, obviously you are going to feel good about the way you treat the rest of the students in the school. That worked really well: they knew what a healthy relationship looked like—whether it was with a mate, or whether it was one of their classmates, or whether it was a relationship at home or with their parents—and I thought that worked out really well within our school. The way that they [the students] treated people seemed to be a lot more positive… I did see some positive results from it, for sure. (Beth, high implementer)

The teachers discussed the importance of students learning about respect in relationships, signs of unhealthy relationships, and understanding oneself better in relationships. The teachers responded positively to the program's focus on these issues.

The Fourth R program was engaging and interactive. (N=4; high implementer=3, low implementer =1) High implementers viewed the engaging and interactive nature of the program as a facilitator to fidelity of implementation more often than low implementers. Four out of five high implementers noted that students enjoyed the physical movement that occurred during the lessons and that the group activities were well-received by the students. One high implementer observed that the program was able to engage those students who were typically not engaged in any other classroom activity:

> Honestly, the light bulb for me was about how much we're able to get out of students if they're involved, or engaged in what they were doing, because some of the work was done by some of the kids, that, up until that time, weren't very involved in anything. (Alan, high implementer)

Only one low implementer saw the engaging and interactive nature of the program as contributing to the social development and relationship-building goals of the program:

> The fact that kids are getting up, moving around, interacting with other kids; that social interaction is right there, learning to share their thoughts and ideas with kids they may not normally talk to, this is how they learn to be social. (Barb, low implementer)

Characteristics of Schools

During discussions about what facilitates fidelity of program implementation, a third broad theme related to the characteristics of schools was coded. Within this category, three themes emerged:

1. School administrator support.
2. The Fourth R aligned with the schools' approach to health education.
3. The timetabling of health class in schools.

School administrator support (N=9; high implementers=4; low implementers=5). Teachers reflected on school administrator support during the interview and what was most helpful for them and made implementing easier. The implication was that administrator support made it more likely for them to implement the curriculum than if they had not had this support. Almost all teachers stated that implementation of the Fourth R would not have been possible without support from the school administrator. School administrator support was noted more often by low implementers compared to high implementers. The type of support received by school administrators, however, differed between the two implementation groups. For example, almost all low implementers described school administrator support in terms of encouraging and allowing them the opportunity to receive Fourth R training as a professional development opportunity. Beyond this support, low implementers were not certain that delivering the Fourth R was important to their administrator as evidence by very little follow-up after training.

One low implementer remarked:

> "I was sent to the in-service, but after that, it doesn't come up with the administration" (Peter, low implementer).

Another low implementer noted:

> "She [administrator] was the one that really encouraged us to go and get the training and she wanted us using the program so all of the health teachers in junior high are using the program but as far as follow-up there really hasn't been any. At least for me she hasn't spoken to me about it or asked about it or anything" (Sharon, low implementer).

In contrast, the high implementers who identified support as a facilitator to fidelity of program implementation did not discuss the opportunity to receive Fourth R training as indicators of administrator support. Instead, high implementers talked about the general support they receive from their administrator:

> "If you ever need this or that, or ask a question, they are right there behind you, there is no doubt about it" (Deanna, high implementer),

An awareness of the program by administrators ("She is aware that we are using it" Lucy, high implementer the importance of the health curriculum being taught ("Well I think it's important to her that we're getting the health curriculum done" Ann, high implementer), and the flexible school schedule to include health class for a longer class period once a month were other examples of support received. A few high implementers did note that despite administrator support for the Fourth R, there is a great deal of autonomy in delivering the program: "I wouldn't say they have ever come watch a lesson, not in my class" (Deanna, high implementers).

The Fourth R aligned with the schools' approach to health education. (N=6; high implementers=3; low implementers=3) Some teachers agreed that the alignment between the Fourth R program and individual schools' approaches to health education and learning about healthy relationships facilitated program implementation. Ann, a high implementer elaborated:

> We focus on relationships and we're a leadership academy on half of our school. Part of being a leader is being able to interact with people properly and we spend a lot of time on that: what kind of leader and how leaders affect people and how people respond to leaders. We do spend a lot of time on that relationship piece—maybe that is why I don't have so much trouble implementing the Fourth R: I find that goes hand in hand. (Ann, high implementer)

Andrea, a low implementer remarked:

> It's one of those things that I feel, with the Fourth R; it helps students understand a whole range of things. It's communication skills with others: learning what's right and what's not right when it comes to relationships, and how to act around one another. With everything that we're doing as a whole school, and what we try to implement in our students, it really fits in with everything. (Andrea, low implementer)

Both high and low implementers discussed how well the program corresponded with existing initiatives and programs in their schools and that Fourth R supported school-wide approaches to developing healthy relationships.

The timetabling of health class in schools. (N=2; high implementers) Two high implementers, Ann and Lucy, identified the timetabling of health class in their schools as a facilitator to fidelity of implementation, even though both teachers had very different timetables. Ann described how her school shifted from having health scheduled as a class once a week to a more flexible schedule: one morning a month, health was taught for three hours. This allowed for more opportunity to complete lessons that took more than one class block:

> A couple of years ago we moved from having health as a scheduled class to doing it more as a flex time. What we do now is one Thursday morning a month we have a health day: we go from about 9:15 in the morning after home room to 12:00 p.m., and homeroom teachers have them so all our homeroom teachers [are] trained in the Fourth R. (Ann, high implementer)

In contrast, Lucy asserted the one 50-minute block a week for health class was sufficient to get through all program lessons for the school year, with some extra time left remaining for more complicated or time-consuming lessons:

> We have one health block a week, and it worked out where if we were able to get through each lesson that we would be able to complete it in the year and then there was a little bit of extra time where, if I had to do a continuation on one of the following days and then move on to the next lesson, I had that available. The amount of blocks that I get aligned very well with the different lessons that are set up in the program. (Lucy, high implementers)

As noted later in this study, despite other high implementers identifying the timetabling of health classes in schools as a barrier to fidelity of implementation, Ann and Lucy believed the scheduling in their schools facilitated successful implementation of the program.

Characteristics of Teachers

A few teachers identified two teacher characteristics that facilitated fidelity of program implementation:

1. Teacher preparedness to deliver the program.
2. Understanding student needs.

Teacher preparedness to deliver the program. (N=1; high implementer) One high implementer, Lucy, noted a few times during interviews that being prepared to deliver the lessons ahead of time facilitated implementation of the program in her class:

> I did make sure that I was prepared and always looking forward, and I think that is what helps. I needed to know where I was going... Obviously, I had to do a little prep. I would usually do it a week prior to make sure I was set up and ready for the following week. I had to make sure I had copies for the students if needed, if I had to recreate anything just in terms of being able to show the students the information—I just had to make sure I had

> that time to do it. It wouldn't take me too long; I just always like to make sure I'm prepared and I knew what would be happening the following week. (Lucy, high implementer)

Being prepared made this teacher feel more comfortable and confident delivering the course material.

Understanding student needs. (N=2; low implementer) Two low implementers asserted that understanding what was most important for their students and tailoring activities to fit their students' needs were necessary to implement the program to the best of their ability, especially when they lacked enough time to complete the program. Adapting the program to meet student needs was a program modification made by many teachers when discussing program fidelity (Research Question 1). Sharon noted, "You always wish you could have endless amount of time to do these things. I guess I pick and choose what I feel is important and authentic for my students" (Sharon, low implementer). Another remarked, "From a teaching perspective, you do have to go through it with a fine-tooth comb, and then you have to tailor some things to what's going to work in your class" (Becky, low implementer).

School Administrator Findings

Four school administrators were interviewed to discuss the implementation of the Fourth R program in their school. The two remaining school administrators were out of the country and not available to participate in the study. Of the four school administrators who participated in the study, two were from schools with low implementation quality classrooms, one was from a school with a high implementation quality classroom, and one was from a school that had both a

high and low implementing quality Fourth R classroom. School administrators were asked several questions related to potential influences on the implementation of the Fourth R in their school. These included: How did your school get involved with the Fourth R? In what ways does the Fourth R Program fit into your school's priorities, goals, and policies? How have you timetabled Health class? What would you say is working well with the program? What do you think makes the program difficult to implement? What do you think facilitates the implementation of the program? Have you noticed any changes in your school/students since the implementation of this program? Have you supported your Fourth R teacher in delivering the program? If yes, describe this support.

School administrator responses to these questions were closely examined during data analysis to inform the creation of codes and themes (see methods section for more information). Qualitative data analysis resulted in the identification of three broad areas that represent potential influences to implementation as reported by school administrators: (a) characteristics of the Fourth R program, (b) characteristics of schools, and (c) characteristics of the system. All school administrators identified at least one facilitator to program implementation. It is important to note that as school administrators, they did not implement the Fourth R, nor attend training. School administrators noted in their interviews that their opinions were based on their discussions with their Fourth R teacher(s) or discussions with the school district program coordinator.

Characteristics of the Fourth R program

School administrators identified three characteristics of the Fourth R program that they believed facilitated fidelity of program implementation, none of which were mentioned by teachers:

1. The Fourth R aligned with provincial and school district curriculum and learning objectives and priorities.
2. The Fourth R was a comprehensive resource.
3. The Fourth R was likable and a valuable resource.

The Fourth R aligned with provincial and school district curriculum and learning objectives and priorities. (N=3) Three school administrators agreed that the alignment between the Fourth R program and provincial learning and curriculum objectives facilitated the implementation of the program for teachers. Moreover, one school administrator, Karen, noted that the program corresponded with their school district's priorities around healthy relationships:

> It aligns with our district goals and it also aligns with our school's goals, which usually align with district goals. It also aligns with the curriculum put out by the province, and that's why the district got on board and thought, "Hey, this is a great way that we could incorporate this program into our district, because it aligns so well mostly with our district goals." (Karen)

According to Karen, the program's prioritization of healthy relationship-building was the initial reason the program was adopted.

Another school administrator, Susan, also noted the program's alignment with the Catholic values and priorities of relationship-building and healthy communication as a facilitator to program implementation:

> One of our main areas is Catholic leadership; when we were looking at relationship building, effective communication—all of those areas—it's really a smooth transition for

> us. We expect that students will hold those values and beliefs with each other, within this building, and outside this building doing whatever they are; we still expect that it is going to have carry over. It really is a good general life skill to have, particularly with the amount of social networking and texting—they're really losing the skills that the Fourth R speaks to. And it's a very timely fit, I think, for this generation, having this component in their health program. (Susan)

The Fourth R was a comprehensive resource. (N=2). Two school administrators mentioned the comprehensive nature of the program as facilitating program implementation. They discussed the program's inclusion of all necessary materials that teachers require (such as grading assessments, laminates, and detailed lesson plans) as a benefit of the program. The two school administrators also commented on the ease with which teachers could implement the program. According to one school administrator:

> Everything is laid out quite nicely for the teachers in terms of lessons, resources, and assessments…it's all there for you, it's easily accessible, and you have a resource, which is nice, and teachers like that. (Karen)

The Fourth R was likeable and a valuable resource. (N=1) One school administrator noted that her teachers liked the program, they valued it, and that overall she and her teachers thought the program was excellent: "The teachers, they really like it… They think it has a real value" (Lisa).

Characteristics of Schools

School administrators identified two characteristics of schools that they believed facilitated fidelity of program implementation:

1. Collaboration among staff.
2. The timetabling of health class in schools.

Collaboration among staff. (N=1) Karen noted that the program provided an opportunity for staff within her school to collaborate with each other:

> The program provides an opportunity for collaboration amongst our staff, which is quite nice. All of the Grade 7 teachers collaborate, all of the Grade 8, and then all of the Grade 9, so for someone to copout wouldn't work; it wouldn't fly. (Karen)

Karen believed that because the health teachers worked together to learn about the program, it would not be acceptable for one teacher to choose to not deliver the program.

The timetabling of health class in schools. (N=1) Susan, expressed that the way health is timetabled in her school facilitated implementation and addressed any time-related barriers:

> It's [the Fourth R] actually embedded in the schedule. In one of my previous schools they embedded health within their phys-ed program, and it was not working: they weren't getting the amount of time that was necessary to cover all the topics. Our health is separate from our phys-ed and they get a health grade. (Susan)

Characteristics of System

School administrators identified the following characteristics of the system that they believed facilitated fidelity of program implementation:

1) The support of the school district program coordinator.
2) Fourth R teacher training and free resource.
3) The Fourth R implementation was a district-wide initiative.

The support of the school district program coordinator. (N=2) When school administrators were asked what they thought facilitated the implementation of Fourth R in their school, two mentioned the support the school received from the school district program coordinator at the school board. According to these administrators, the coordinator was there to support teachers and promote the program more widely: "Because we have the support for

Fourth R from our district, in terms of our phys-ed and health consultant, we've got a go-to person, so that helps keep it at the forefront" (Karen).

Fourth R teacher training and no-cost curriculum resource. (N=2) Two school administrators said that the district-wide teacher training offered to teachers and the free program for schools as a result of attending training was very helpful:

> Our district has done a really good job of in-servicing our teachers on the program. They have given them all of the resources. They are in our school; they are available to them. I don't really know what other support there could be for them, or would need to be for them. (Carol, LIQC)

The Fourth R implementation was a district-wide initiative. (N=1) Karen spoke at length about how support from the district was integral to the adoption and implementation of Fourth R and helps to sustain the program when teachers are assigned to new schools:

> Fourth R has been promoted by our district and we usually like to do what our district is promoting. They're promoting it because they know it's something good… because a huge chunk of the district is now using the Fourth R, it's nice to have some continuity across the board, especially if people are moving from school to school. (Karen)

According to Karen, many health teachers were trained because the Fourth R teacher training and program implementation was district-wide, and this helped with the continuity of the program between schools—especially when teachers moved from one school to another.

School District Program Coordinator Findings

During the interview, the school district program coordinator was asked several questions related to potential influences on implementation. These included: How did your school board get involved in the Fourth R program? In what ways does the Fourth R Program fit into your school boards' priorities, goals, and policies? What do you think makes the program difficult to

implement? What do you think facilitates the implementation of the program? Describe the ways you have supported your Fourth R schools in delivering the program. Have you noticed any changes in your school or in your school district since implementing the program?

School district program coordinator responses to these questions were closely examined during data analysis to inform the creation of codes and themes (see methods section for more information). Qualitative data analysis resulted in the identification of distinct themes that represent the potential influences to implementation as reported by the coordinator. The facilitators she identified fell into two broad themes: (a) characteristics of the Fourth R program and (b) characteristics of the system.

Characteristics of the Fourth R program

The school district program coordinator identified three program characteristics that she believed facilitated fidelity of implementation that were similar to facilitators identified by school administrators:

1. The Fourth R aligned with school district curriculum objectives and priorities.
2. The Fourth R was likable and a valuable resource.
3. The Fourth R was evidence-based.

The Fourth R aligned with school district curriculum objectives and priorities.

Similar to her teaching and administrative counterparts, the school district program coordinator found the program's alignment with district priorities and comprehensive approach to health education to be beneficial:

> Definitely the Fourth R fits really well. Our district has a goal and priority to support student learning through a comprehensive school health approach…As a result of supporting student learning through a comprehensive school health, we look at the

> physical, social, spiritual, emotional, and intellectual wellbeing of our students. So there is a very good tie-in with our district and school's priorities.

The Fourth R was likeable and a valuable resource. The school district program coordinator described the Fourth R as a teacher-friendly and high-quality program. She also identified the likability by teachers of the program as a facilitator to implementation and she maintained that teachers liked the program because it contained all curriculum materials in one place, and because the program was adaptable and flexible enough to accommodate the diverse needs of students:

> The Fourth R is a really user-friendly resource that promotes healthy adolescent relationship and looks at reducing risk behaviours in our children… [the teachers] have all their lessons and units all laid out for them, and they're able to say, "Okay, this is what I'm going to do. It's all there for me." And then of course, being teachers, they're able to take the information and maybe build on it, or relate it to things that are currently going on in their classrooms or their schools…I think the resources are very valuable; teachers love to have everything in one place.

The Fourth R was evidence-based. The Fourth R program has been rigorously evaluated and incorporates best practice approaches to teaching health education. The school district program coordinator believed that together these facilitated the adoption of the program several years ago when the Board was considering the Fourth R, and more recently the scaling up of the program district-wide. She also identified the evidence-based approach to skill development as a key facilitator of implementation:

> I think that this program, [given] that it is evidenced-based, really shows the best practices and approaches to be able give kids those skills that they need to be able to be in a healthy relationship.

Characteristics of the System

In her view, the school district program coordinator, identified one characteristic of the system that she believes facilitated fidelity of implementation:

1. Fourth R Teacher Training.

Fourth R Teacher Training. The school district program coordinator asserted that being able to offer teacher training facilitated fidelity of program implementation because during training, teachers receive hands-on instruction about how to implement the program, and they learn skills to facilitate the role plays:

> It is great that we have the time to be able to do professional development—it gives the teachers that learning opportunity. I think that's really important…It's not just giving them the resources but actually spending some time with the teachers on how to use the resources… As teachers take the training, they get the skills, the tools, and the resources.

According to the program coordinator, because the training showed teachers how to use the resource, they learned the skills and tools they needed to effectively deliver the program.

Moreover, teacher training was cost-efficient: teachers in this Board have one afternoon a month for professional opportunity time, and therefore no costs were incurred for releasing teachers to attend training:

> And [given] that we do have Thursday afternoons as our professional learning opportunity time, we are very fortunate that we don't have to pay for substitute teacher costs. We're able to bring teachers together at no cost to the school or to the district.

Summary

Research Question 2 queried, What facilitates the implementation of Fourth R programs as identified by teachers, school administrators, and the system program coordinator? The purpose of this research question was to explore teachers' perceptions and experiences related to implementing the Fourth R and their reflections about the positive factors that influenced fidelity of implementation. It was hypothesized that teachers in high implementation quality classrooms would identify more facilitators to program implementation than would teachers in low implementation quality classrooms and that both teachers would provide multiple factors that influenced implementation, supporting fidelity. The hypothesis was supported by the data as distinct themes emerged from the qualitative data related to factors associated with the program, the school, and the system, more often identified by teachers in high implementation quality classrooms compared to teachers in low implementation quality classrooms. Almost all teachers, regardless of their fidelity group reported that the program was well organized, easy to use, included all the necessary materials required for teaching, and the comprehensive nature of the resource helped to reduce the burden on teacher preparation. Similarly, almost all teachers noted that the content of the Fourth R facilitated fidelity of implementation because the students and teachers both preferred and liked it over their previous health curriculum. Most teachers also felt that the content was relevant to address what students need to know about health education and that the program created meaningful classroom discussions where students felt safe and comfortable discussing important health topics.

Program facilitators that differed between the two implementation groups were related to the importance of teaching students about healthy relationships. Teachers in high implementation quality classrooms noted that the programs' focus on teaching students about healthy

relationships facilitated implementation especially when teachers noticed students treating each other more positively in their own relationships as what they perceived to be partly related to the benefits of the program.

A supportive school administrator was identified by both groups of teachers as an important facilitator to fidelity of implementation, but the quality of administrator support differed between the two groups; teachers in high implementation quality classrooms discussed the timetabling of health in their school and an awareness of the program being delivered in their classroom as examples of positive administrator support. In contrast, teachers in low implementation quality classrooms discussed administrator support in terms of providing them the opportunity to attend the Fourth R teacher training with no further indication of support after training. Fewer teachers in both groups agreed that the alignment of the Fourth R with the goals and priorities of their schools' approach to violence prevention and healthy relationships helped to facilitate implementation because the Fourth R was one part of a larger school initiative.

Both school administrators and the school district program coordinator identified fewer facilitators to implementation than did teachers and some of the facilitators were distinct from those identified by teachers. Similar to the teachers, both the school administrators and the program coordinator agreed that the Fourth R is a likable and valuable resource and that alignment of the program with the school and district goals around violence prevention, including alignment of the program with the Catholic curriculum expectations helped to facilitate implementation. School administrators discussed the importance of the school district program coordinator in supporting teachers in their implementation of the program, although teachers did not identify this support. The school district program coordinator was the only stakeholder who

identified the evidence-based nature of the program and teacher training as facilitators to program implementation.

Research Question 3: What are the barriers that impede fidelity of implementation of Fourth R program from the perspective of teachers, school administrators, and the school district program coordinator?

Teacher Findings

All teachers (N=11) identified at least one barrier to implementation, and barriers were raised 64 times by teachers during interviews, more often by low implementers (n=49 times) than high implementers (n=15 times). I classified the barriers into three broad areas consistent with Diffusion of Innovation Theory (Rogers, 1995, 2003) and Durlak and DuPre (2008) Ecological Model that have been shown to influence implementation of an innovation: (a) characteristics of the Fourth R program, (b) characteristics of the school, and (c) characteristics of teachers.

Characteristics of Fourth R Program

All participants encountered barriers during the implementation process. Some of these barriers were challenges associated with the characteristics of the Fourth R program itself. Nine teachers overall identified at least one barrier of the Fourth R (4 high implementer and 5 low implementers). I have classified barriers associated with the program into five themes:

1. The Fourth R program was lengthy and timeframes were difficult to meet.
2. The Fourth R role-play scenarios were difficult to carry out.
3. The Fourth R program creates too much classroom discussions.
4. The Fourth R program content was not sufficient.
5. The Fourth R programs' organizational structure was not always adequate.

The Fourth R program was lengthy and timeframes were difficult to meet. (N=8; high implementer=2; low implementer=6). Different aspects of time, such as intervention duration and workload, challenged teachers' implementation of the Fourth R curriculum. All low implementers felt there was too much content and too many activities to deliver within the constraints of the school day, which made fidelity of implementation challenging and difficult. Although the Fourth R curriculum was designed to meet provincial learning objectives and replace regular health curricular activities, low implementers still considered the Fourth R as extra workload. Also contributing to this barrier was the lack of time to complete lessons given the short duration of classes and the school schedule. For example, some teachers explained that their classes were only about 40-50 minutes in length. Conducting a full lesson in this short period of time after the students settled into class was extremely difficult. As one teacher noted,

> I find that there's a lot of information, it's hard to go through the whole program. With the limited time that we actually have to teach in the 42-minute block I find that there's a lot of information there that I haven't even had time yet in the two years to go through. (Beth, high implementer)

For both Sharon and Peter, low implementers, implementing the entire program seemed a daunting task: "The thing … I guess I don't like about it is that … we're supposed to get through the entire program and I just don't know how that would ever be possible" (Sharon, low implementer). Peter discussed his struggle to complete a program lesson: "I would say, I did struggle … if I tried to create, or tried to introduce or present one lesson, as outlined in the Fourth R, I wouldn't come close to finishing it in my classes" (Peter, low implementer).

One of the consequences of the lengthy program and difficulty in meeting the allotted timeframe for activities meant that teachers had to adapt or modify the program in order to

deliver any parts of it. Most low implementers noted that they had to selectively choose lessons that were shorter in length and could be completed in one class block:

> Sometimes it's just too much to do just for one lesson. …I'd go through the lessons to see which ones … I was able to do in one class, because it's hard for the kids to extend it from one lesson to two or three periods. You're looking at a month by the time you started to finish. (Nicholas, low implementer)

Barb, a low implementer noted that adapting or modifying the program by selecting certain lessons to teach created problems when assessing students' cumulative knowledge and skills for health curriculum outcomes:

> It was just down to timing. It's picking and choosing stuff, which is unfortunate because then they aren't getting the buildup knowledge of the previous lessons because I have to show them the assignments right away. That was a challenge because there's all these other lessons that would have been good for them to have before assigning them the assignment, where we had to quickly go over the definitions … they weren't getting that [other] couple lessons beforehand. In the end … they [only] had four marks, so that was a huge challenge to show what they're capable of in health. (Barb, low implementer)

The Fourth R role-play scenarios were difficult to carry out. (N=7; high implementer =3; low implementer =4). The second most frequently identified barrier was implementing role-plays. Many of the participants indicated that the negative response from students was the primary challenge; often, students would not genuinely participate in the role-plays, as noted by one high implementer: "Well we discussed them and we tried to get them to do it but then they [the students] were being really goofy" (Beth, high implementer). Alan, a high implementer noted a gender disparity in involvement in the role-plays: "The boys who it could have been most beneficial for, I wish they were a bit more involved, they of course didn't buy into some of the things like the other kids did".

Two low implementers described how some of the role-play scenarios of the program were not appropriate for their students. Both teachers were concerned about the scenarios related to drug use, drinking at parties, and stealing as poor exemplars to practice conflict resolution skills because they did not believe their students were engaging in these types of behaviour. As a result, they did not feel comfortable practicing these situations in class with their students and did not feel it was a beneficial learning experience for the students:

> Some of the role-play scenario videos aren't necessarily the best exemplars for the kids—the examples on going to a house party and a guy forcing them to drink. Those kids really don't know what that is like at this point. (Barb, low implementer)

Another noted:

> I think, some of it was a little above their heads, things they've never dealt with before… some of the scenarios with drug use and with stealing. We're a pretty sheltered community here, and they haven't really dealt with any of that stuff at this age. So, it was interesting to see their reactions. I'm not sure if it's beneficial for them to be talking about that type of stuff. I don't know what the research says… you guys put that in there if it is beneficial for them. But I think that was a little out of line with our school. (Becky, low implementer)

The Fourth R program creates too much classroom discussions. (N=4; high implementer=2; low implementer=2). Several participants noted that program lessons often initiated lengthy classroom discussions that were critical for learning. These discussions posed a barrier to fidelity of implementation, however, because they added to the challenge of moving through a lesson in the short class period. A few teachers reported that they were hesitant to stop the class discussion, for some of the best moments and learning experience happened during these conversations. As noted by one low implementer:

> With the classes, some of the best moments are when you're discussing: "okay, how is this affecting your life?" And sometimes you go off on a tangent, and [then] you don't

> have enough time to get everything done in the lesson. And I know that's going back to the time thing, but it is packed. (Becky, low implementer)

Another low implementer explained that she did not want to stop the meaningful group discussion simply to finish the program:

> And I find that a lot of these things create such opportunities to talk with the kids … we're having these really great conversations and I don't want to stop it just because I want to move along in the program… I think that's been my biggest challenge: that I feel like I just scratched the surface of the program [and] they [the students] didn't get to experience the entire thing. (Sharon, low implementer)

Moreover, one high implementer commented that she felt it was her job as a teacher to allow the conversations to happen without worrying too much about time constraints:

> I am a firm believer that if they ask, I answer—within the limits of what I am allowed to do—and so if the students want to pursue a conversation, then that's what we do; I don't want to cut them off, that's my job as an educator. (Deanna, high implementer)

The Fourth R program content was not sufficient. (N=3; high implementer=2, low implementer=1). A few teachers identified another barrier to fidelity of program implementation related to the actual content of the Fourth R. Three teachers described how the content of the program was not entirely sufficient for several reasons: it did not address the needs of all students in their classroom, it did not meet the Catholic curriculum requirements for health education, the program was not engaging enough, and it did not include enough visual aids or handouts. For example, one high implementer explained that the role-play scenarios did not reflect the gender identities of students in her class:

> I tried to go through some of the scenarios; I had to re-read them ahead of time because I have students who are having difficulties with their own identity right now, gender identities, so that was really difficult. A lot of these lessons in here I couldn't… I had to really tailor it to my class and that was very difficult because there wasn't any other choices of what else I could do for that unit or that particular lesson. I found that difficult:

> like, okay, what do I do now? With the scenarios it's all about boyfriends, girlfriends—there are other dynamics within the classroom that aren't just boyfriends and girlfriends—so that was tough. I didn't want them to bring up their own scenarios because I wasn't comfortable with that yet. There's all these challenges. (Beth, high implementer)

Another high implementer noted that much of the Fourth R unit on *Healthy Growth and Development* was excluded and instead supplemented with the requirements from the provincial Catholic curriculum requirements for health:

> Because so much has to be taken out for Catholic schools, there's just a couple of the lessons left in that unit for us; I had to use what we have from our district and I aligned it with a couple of lessons that are in the Fourth R program. (Lucy, high implementer)

As noted previously in the analysis of Research Question 1, teachers added additional resources to the program to supplement curriculum content they felt was missing or not appropriate for their class.

The Fourth R program's organizational structure was disorganized. (N=2; low implementer) Two low implementers identified the layout or structure of lessons and activities as barriers to fidelity of implementation:

> I think the program does jump all over a little bit. I think that you start talking about one issue and then you jump away from it…. obviously that's all by design. There were parts of that that I struggled with. (Peter, low implementer)

> I found it hard to see the overview of the unit—even though there was a bit of an overview in it, it's not as detailed as I would have liked. I like to see like a unit plan: what are the outcomes after every lesson and what are we working towards? (Becky, low implementer)

Overall, both teachers indicated that the program felt fragmented and lacked organizational rigour.

Characteristics of Schools

Eight out of 11 teachers identified school characteristics that posed barriers to fidelity of implementation. More low implementers (n=5) identified barriers related to schools compared to high implementers (n=3). I classified the characteristics of school barriers into three themes:

1. The timetabling of health class in schools.
2. School disruptions and external influences.
3. Low prioritization of health education in schools.

The timetabling of health class in schools. (N=7; high implementer=2; low implementer=5). Seven teachers, mostly low implementers identified the timetabling of health classes within the school schedule cycle as a major obstacle to fidelity of program implementation. For example, several teachers reported having one health class every six days:

> We get them once every six-day rotation. There was a possibility that you wouldn't see them for the whole week. You only see them once every six days for 45 minutes. (Nicholas, low implementer)

Another remarked:

> We had, at that point, scheduled health classes once a week; because we are a junior high, our classes are only about 45 minutes long. Because I only had them once a week, if I wanted to do one of the activities that might take a little longer, well, then it [took] almost half a month or a month to actually finish that one activity. I found that quite difficult—they couldn't remember what they were doing by the time they finished. (Barb, low implementer)

As noted by some participants, the key variable to successfully implementing the program with fidelity was the conditions of implementation, which included the broader context of the schools' scheduling of health class:

> We don't rotate the schedule, so every holiday Monday I miss two health classes. It's not the resource package, or the program limitations. It's the limitations of how we implement that subject in the school. It's terrible. (Peter, low implementer)

School disruptions and external influences. (N=5; high implementer=1; low implementer=4) External influences and school disruptions posed other barriers to fidelity of program implementation more often for low implementers compared to high implementers. Participants described assemblies, holidays, other school activities, and early days out as conflicting with fidelity of program implementation. Moreover, Lucy, a high implementer explained that once teaching blocks were missed due to external influences, it was difficult to make up for lost time:

> Let's say we had an assembly or celebration in our school, and it happened to be on a Thursday—which is when we teach our health block—[health class time] would have [been] taken away. Trying to complete the program when you have days taken away from your one block once a week, with that time frame, was hard. It was taken away from us and it's never given back; I ha[d] to be aware of that to make sure that I got through the program. (Lucy, high implementer)

Peter described a situation where one activity in the program took an entire month to complete because of interruptions to the schedule:

> We had [class] time interrupted, so we had two classes where we continued with an activity. Then we had, almost three weeks before we could come back to it. Through the month of February, the students and I were laughing about it: like when are we ever going to get back to it. It was quite ridiculous. (Peter, low implementer)

The low prioritization of health education in schools. (N=5; high implementer=1; low implementer=4) Several low implementers perceived the lack of priority given to health education in schools as a barrier to implementation fidelity. The one high implementer who also raised this barrier, Ann, noted that health was often seen as an afterthought and of value only when all other core subjects were taught: "In an ideal world it would be great to do all the

lessons but it's just not realistic at the moment; they haven't put enough emphasis on health". Sharon, a low implementer expressed her frustration with the belief that core subjects should take priority over health: "I think, unfortunately, in the big scheme of things at school you have your core subjects, which take priority over everything". The same teacher also noted the specific way this presented in Catholic schools: "We are a Catholic school so religion class is very important and unfortunately our health ends up being at the bottom" (Sharon, low implementer). According to this teacher, religion was regularly prioritized over health classes.

Characteristics of Teachers

Three low implementers identified teacher characteristics that they considered barriers to program implementation. One theme emerged during interviews on the subject:

1. Experience with Fourth R program implementation.

Experience with Fourth R program implementation. (N=3, low implementer) Three low implementers described their lack of experience or practice in delivering the program to students as barriers to fidelity of implementation: "However, I felt that if I could teach Grade 7, 8, and 9 health for another year or two, I think I would have an excellent program put together by the time I was done with it" (Peter, low implementer). Another teacher noted that it took some time to understand the program, but with practice and time, the program became easier to implement: "Once I got to know the program better, I mean that's just with any kind of teaching—once you know what you're doing and it's not brand new to you, it's easier to go through things*"* (Sharon, low implementer). Underlying the discussion of this barrier was a general lack of confidence in program implementation.

School Administrator Findings

School administrators also discussed the barriers or challenges of implementing the Fourth R program with fidelity. I have classified the barriers into three broad areas: (a) characteristics of the Fourth R program, (b) characteristics of schools, and (c) characteristics of teachers.

Characteristics of Fourth R Program

School administrators discussed characteristics of the Fourth R program that they perceived as barriers to fidelity of program implementation. Two themes emerged during interviews:

1. The Fourth R program was lengthy and timeframes were difficult to meet.
2. The Fourth R role-plays were difficult to carry out.

The Fourth R program was lengthy and timeframes were difficult to meet. (n=2) In addition to the interviewed teachers, two school administrators discussed the difficulty teachers face in implementing the program because of a lack of time: "Again, it is just time: trying to get through it all." (Lisa). Another school administrator noted that the Fourth R teacher in her school fell short on completing the program: "Some of the group activities … need more time [than allotted]. He [the Fourth R teacher] could use more time" (Susan). As the school administrators discussed, activities of the program tended to take a lot longer than the allocated time for health class, and as a result teachers struggled to implement the program to completion.

The Fourth R role-plays were difficult to carry out. (N=1) Carol was the only school administrator that discussed the challenges teachers faced when facilitating the role-play scenarios of the program: "Some of the issues that are in there, some of the scenarios that they are dealing with, might be a little challenging for [the teachers] because they might not want

some of that discussion". According to this administrator, the scenarios addressing drinking, drug use, sexual behaviour created resistance for some teachers: they did not want to use role-plays because they did not feel comfortable having those types of discussions in their classroom. She identified this discomfort and hesitation as impeding successful implementation. As discussed previously, two low implementers (Barb and Becky), although not from the same school as the school administrator Carol, also noted that the role play scenarios were not appropriate for their students because they were, according to their knowledge, not involved in drinking, drug use, or sexuality activity.

Characteristics of Schools

Lisa was the only school administrator that identified one barrier to fidelity of program implementation related to the characteristics of schools:

1. Lack of school-wide Fourth R teacher training.

Lack of school-wide Fourth R teacher training. When asked to identify factors that made implementation of the Fourth R challenging in her school, Lisa asserted that all teachers should be trained in Fourth R, not just health teachers:.

> Having my entire staff trained in the Fourth R—because they are all responsible, not just the two teachers who lead the health days—[giving] them some more experience doing those things would help. (Lisa)

According to this administrator, teaching students about relationships and conflict resolution skills was the responsibility of all staff, not just those assigned to teaching health, and she believed the training should have been correspondingly school-wide.

Characteristics of Teachers

Susan was the only school administrator that identified a barrier to program implementation that was related to the characteristics of teachers:

1. Preparedness of classroom teachers to deliver the health curriculum.

Preparedness of classroom teachers to deliver the health curriculum. Susan described limited preparedness among teachers to deliver the health curriculum and how this might have impacted fidelity of program implementation:

> I can teach phys-ed and at the beginning of class [and] we can talk about hydration because I only see two kids with water bottles. So you can make it relevant. You know it's…What's the word? When it's not really, really planned. But I think it's such a challenge because the job is so ridiculously hectic. Unless you're really good at your job as a phys-ed teacher, which it's not always the case. (Susan)

According to this administrator, the readiness and ability of teachers to deliver the health curriculum, or lack thereof, could negatively impact the implementation of the Fourth R program.

School District Program Coordinator Findings

The school district program coordinator answered questions about major obstacles or hindrances to the fidelity of Fourth R program implementation. All the barriers the school district program coordinator discussed were related to school characteristics. Specifically, she identified two school-level barriers:

1. The frequent staff changes in schools.
2. The timetabling of health education in schools.

The frequent staff changes in schools. According to the school district program coordinator, staff changes, while a regular school occurrence, were often thought to disrupt program implementation because the new teachers who were assigned to the program may not have received training in any given year. She also mentioned that allocating sufficient time to teach health is important:

> Health is dealt with in a different way and different teachers end up teaching it, seemingly, every year. They might end up teaching it one year and they might not the next and they might again the following year. Or, they might get additional grades from year to year. I think teachers would say that the consistency at the school level to be able to implement the same thing [is important]. Also, the time allocated to be able to actually make a good impact on what's happening.

The school district program coordinator described how the yearly changes in her board to the staffing compliment for health class made it difficult to have a school and district-wide program impact, especially given the short duration of classes and the school schedule for health.

The timetabling of health education in schools. Reiterating the concerns of the teachers and school administrators, the school district coordinator noted that the biggest challenge for teachers in implementing the program was time:

> The biggest struggle is the time. I think many teachers would like to deliver the whole thing as is because that builds the richness, gives kids the skills, and actually makes the biggest impact. But I think teachers' hands are tied because of the amount of time that is allocated within the week for health... they don't have enough time for health given to them for teaching. And I don't think that can change until it changes at a provincial level.

She also felt frustrated, like the teachers interviewed, at the way health class was timetabled and scheduled within the school.

Summary

Research Question 3 asked, What are the barriers that impede fidelity of implementation of the Fourth R program from the perspective of teachers, school administrators, and the school district program coordinator. It was hypothesized that low implementers would identify more barriers to implementation than high implementers. The findings from the qualitative analysis revealed support for this hypothesis. Low implementers raised significantly more barriers to fidelity of implementation compared to high implementers. All low implementers found the Fourth R program lengthy and experienced challenges in meeting the timeframes allotted for each lesson compared to high implementers. Related to the issue of timing, low implementers also contributed the short duration of classes and the manner in which health was timetabled at their school as a barrier to fidelity of implementation. Low implementers, compared to high implementers, found school disruptions and external influences that interrupted class time a barrier to fidelity of implementation, along with their perception that health class was not prioritized at their school compared to other core subjects like Math and English. More low implementers were also in their first year delivering the Fourth R program compared to high implementers. The inexperience in familiarity with delivering the Fourth R for low implementers may have created a greater challenge in implementing the curriculum with high fidelity because they were not used to the program or they may have had other ideas about what would work better, based on their own experience.

Both groups of teachers found the role-play scenarios of the program difficult to carry out although for different reasons. High implementers reported the behaviour of students during the facilitation of role plays as disruptive, immature, and silly, which impeded implementation of the

program by delaying the lesson to manage behaviors. On the other hand, low implementers also struggled to implement the role plays of the program but their challenges were more related to the content of the role plays because they pertained to sex, drugs, and alcohol. This was noted to impact their comfort level in facilitating role plays in their classroom and the uncomfortableness of using role plays related to health topics prevented some of them from actually implementing any role plays.

School administrators and the school district program coordinator echoed the same concerns as teachers around running out of time to implement the Fourth R program, although for different reasons. Interestingly, school administrators did not raise the barrier related to the timetabling of health class but instead mentioned the length of the program and the time allotted to lesson activities as problematic. On the other hand, the school district program coordinator noted the timetabling and allocation of classroom hours assigned for teaching health as a barrier to fidelity of implementation rather than the perception of a lengthy program. The school district program coordinator was the only stakeholder to discuss the frequent staff changes in schools that disrupt program implementation. She also raised the frequent changes in teaching assignments for health that make it difficult for the Fourth R to have sustainable and long-term impact.

Research Question 4: How does implementation quality impact the involvement, knowledge, and experience of students in Fourth R classrooms?

Student Findings

To assess the classroom experience and perceived knowledge of student's in Fourth R programs, I conducted seven focus groups with 37 students in three high implementer's classrooms and four low implementer's classrooms. As described in the methods section, student focus groups

were held early in the school year (October), three and half months after the Fourth R program was completed. Because students were no longer in Fourth R classrooms when notified about the research study, and three classrooms of students had moved on to high school and the school district was unable to arrange focus groups in high schools, and one classroom of students did not return any consent forms, recruiting a high number of students to participate was difficult.

A semi-structured approach to the discussion allowed for students to answer questions related to the purpose of the study but to also stimulate independent responses and ideas around health class. During the focus group, students were asked several questions related to health class. These included: If you talked to an adult or a friend about Health Class, what would you tell them was the most significant thing you learned this past year? In health class, you learned how to develop healthy relationships with friends, family, and other adults in your life. Is teaching young people like yourselves about healthy relationships in schools important? Why or why not? What sources of supports did you learn about in health class that could be helpful to you or your friends if there was something you needed help with? A friend comes to tell you that they are getting bullied by another friend who is texting really mean things about them. Your friend is upset and bothered by this and isn't sure what to do about it. Think about what you would do in this situation and let's discuss this. Did you do role plays in health class? Describe your experience with role plays. What are some effective ways to resolve conflict? Suppose your best friend or a family member was feeling stressed out lately. How would you know something was wrong? What might you suggest to help them? What did you learn in health class about healthy eating? What did you learn in health class about healthy sexuality?

Student responses to these questions were closely examined during data analysis to inform the creation of codes and themes (see methods section for more information). Qualitative

data analysis resulted in the identification of four broad themes that represent student experience and involvement in health class as reported by students: a) experience in health class, b) learning about healthy relationships, c) perception of role-plays, and (d) the most important thing learned in health class. I have also included the number of students who discussed each particular theme by either high implementation classroom (HIC) which means these students were from a class with a high implementing teacher or low implementation classroom (LIC) which means these students were from a class with a low implementing teacher.

Experience in health class

I asked students to describe their overall experience in health class. Two themes emerged from this discussion:

1. Timetabling of health class.
2. Relevancy of health class.

Timetabling of health class. (N=6; HIC=2 & LIC=4) Similar to the other stakeholders interviewed (e.g., teachers, school administrators, and the school district program coordinator), six students also discussed their frustration with not receiving enough of health class because of the time constraints of the school schedule, more often in low implementing classrooms compared to high implementing classrooms.

Students in low implementing classrooms indicated that they felt they did not receive enough time in health class partly because of the way health was timetabled at their school. One male student indicated that having one health block a week did not allow enough time to complete Fourth R lessons: “I think one of the reasons why we didn’t get through [the Fourth R] was because we only have one health class every week” (Male, LIC). One female student from

the same class commented that the class was not able to participate in the *Healthy Growth and Development* unit of the Fourth R because they ran out of time: "Also the health development… We should have been able to talk about that" (Female, LIC).

A few students in low implementing classrooms indicated that they would have liked more health days. For example, one male student said: "I think we should have more health class, to be honest" (Male, LIC). Another male student from the same group expressed the same idea when asked how the Fourth R program could be improved: "Make it more days in health class*"* (Male, LIC).

Two students from high implementing classrooms who raised the issue of timetabling when discussing their experience with the program indicated that their teacher covered more of the program than what they believed the other health teachers in their school completed. When probed further about this, they indicated that they thought this was the case from their discussions with peers in other classrooms. These two students also indicated that despite having sufficient health classes, they still would like more time with the health curriculum. This opinion was held by several other students. A female student said: "I think we should have more health class because we really don't have a lot. But we ended up doing a lot of the Fourth R program compared to some classes who hardly got through any of it*"* (Female, HIC). Several of her classmates agreed with her assessment.

Relevancy of health class. (N=5; HIC) Five students in one high implementing classroom commented that health class was unlike other core courses (like math) and the program provided content that was more relevant to their lives. One female student noted: "[The Fourth R] gives insight on topics and stuff that you don't really have classes about, so it's not like math or social [studies], but it's like life-like classes and lessons" (Female, HIC). Another

student commented that Fourth R role-plays were about topics they could relate to: “You learn life lessons, like the scenarios you can relate to—it’s not like in math where it’s like, oh, that never happens” (Female, HIC). Finally, another female student noted the importance of learning about communication skills in health class: “We talked about how to communicate with people more… it’s not like learning math” (Female, HIC).

Students in this high implementing classroom also discussed how health class prepared them for future situations. A few students indicated that even if they thought they knew how to handle a difficult or risky circumstance, once it actually happened, they didn’t always know what to do unless they had learned and practiced what to do or say. For example, one female student commented:

> A lot of people like to say, “Oh when the time comes I’m sure I’ll figure something out,” but then if something like that actually happens—whatever the situation may be—they’ll be like, “Oh my gosh I actually don’t know what to do, I wish somebody told me how to handle this type of situation. (Female, HIC)

One student recognized that not all students learn health-related content at home, and sometimes there was a misperception that health class was not as important as other classes because students should already know health-related information:

> Some people, they think health isn’t really important because you should already know this: you should know how to take care of yourself, and how to take care of your body, and how to react to people. But some people don’t know about it because they haven’t experienced it yet. If their family is a different kind of family than other people, they don’t know what to do—they were raised different so they don’t know how to react to mad people and how to help out stressed friends and all that kind of stuff. (Female, HIC)

Another female student in this class mentioned that the topics discussed in health class were not things she would normally talk about at home; she explained that her teacher elaborated on topics she thought some students may have felt were not appropriate to think about or talk about:

> I think there are a lot of things in health that everybody maybe thought about. That's just an assumption but the teacher explained it more in-depth to us. I wouldn't really talk about it with my mom, but I would acknowledge the fact that she elaborated on some topics that we, as kids, thought was taboo to think about or talk about. (Female, HIC)

It is not clear why the positive views around the relevancy of health class were raised by only one high implementing classroom and not any other.

Learning about healthy relationships

I asked the student groups about the importance of developing healthy relationships. Four themes emerged in this discussion:

1. Learning about healthy relationships prepared for future relationships.
2. The earlier students learned about relationships, the better.
3. Learning about healthy relationships promoted healthier decisions.
4. Learning about healthy relationships improved current relationships.
5. Learning about healthy relationships promoted better decision-making.

Learning about healthy relationships prepared students for future relationships. (N=8; HIC=5; LIC=3) The students discussed the importance of learning about healthy relationships in health class (more often by students in high implementing classrooms than students in low implementing classrooms), and some raised the notion about feeling prepared for future relationships:

> I think it is important because sometimes in the future… if you don't learn about this you might get confused, and you won't know what to do. It's hard to talk to people about this because once you have an early approach you know how to approach people and how to ask. (Female, HIC)

According to one student in a low implementing classroom, learning about healthy relationships was a way to avoid future unhealthy relationships:

> If there are some people that might understand they're in Grade 7 and 8—they might understand good things and bad things about healthy relationships, start to understand it, so they can avoid unhealthy relationships later on. (Female, LIC)

The earlier students learned, the better. (N=4; HIC=2; LIC=2) Four students expressed the view that the earlier they could learn about healthy relationships, the better. One student from a high implementing classroom highlighted the importance of recognizing the signs of a good and bad relationship at a young age:

> I feel like the earlier the better because kids minds are like sponges, they absorb everything they are told or taught… just like kids with abusive parents, they're like, "Oh maybe that's okay for my dad to hit my mom," things like that. It gets implemented into their minds; I feel the younger we teach them and the longer we teach them, throughout elementary to middle school, then [in] high school they'll understand that that's not right to be in an abusive relationship: they'll catch signs and they'll be like, "Okay I have to get out before it's too late." (Female, HIC).

One male from a low implementing classroom noted that the sooner students could learn about how to develop positive relationships, it was more likely they would have better relationships in the future: "The sooner we are learning about this stuff the better, so people can grow up to be more successful in life with other people."

Learning about healthy relationships improved current relationships. (N=3; HIC=2; LIC=1) When students were asked why teaching students about healthy relationships was important, three students reported that it helped current relationships with friends or romantic partners. For example, one female student from a high implementing classroom stated that unless they learned what an unhealthy relationship looked like, they might not know that they were in one:

> It's good to know about relationships, because maybe if you think something is a little off with the relationship it might actually be an abusive relationship, and you just don't know it yet because that's the only thing that you're used to. (Female, HIC)

Another female from a high implementation classroom addressed the issue of safety: “We have to make sure we are putting ourselves in a safe relationship” (Female, HIC). One male student from a low implementing classroom asserted that all students should be taught about healthy relationships regardless of age:

> What I don’t understand is when people say seventh graders are too young for that—you can’t just control if you have a crush on someone or something, you can’t control that feeling. We can’t do anything about that, but we can give them some advice so they can think for themselves because you can’t control those feelings. (Male, LIC)

Learning about healthy relationships promoted better decision-making. (N=3; HIC=1; LIC=2) Three students explained that learning about healthy relationships promoted better decision-making. For example, one male student from a low implementing classroom said: “It informs us on good decisions we can make” (Male, LIC). Another female noted: “We make the wrong decisions sometimes and if we learn it now I think we will make correct decisions” (Female, LIC).

Perception of role-plays

Students discussed their experience with Fourth R role-plays in the classroom. Two themes emerged in the discussion:

1. Role-plays were an effective way to learn.
2. Role-plays prepared students for future situations.

Role-plays were an effective way to learn. (N=5; HIC=4; LIC=1) When students were asked to discuss their experience with role-plays, several students, mostly from high implementing classrooms indicated that using role-plays in health class were an effective way to

learn. Moreover, a few students noted that role-plays provided a visual type of learning about future possible situations. One female student commented:

> [Role plays] are a really good way to learn because it's [a] situation kind of thing; it's like someone's acting being a bully or something and you're being the victim. You would have to decide what you would do just in case it would happen in the real world. (Female, HIC)

Another student said she learned more when participating in role-plays than she did in other less-interactive classroom activities: "…I find…I learn more from doing skits than sitting and writing notes" (Female, HIC).

Role-plays prepared students for future situations. (N=3; HIC=1; LIC=2) Three students answered questions about how role-plays helped prepare students for future situations and circumstances. The following quotations are excerpts from their discussion:

> You put yourself in that situation so if it does happen in the future you'll know how to react properly. (Male, LIC)
>
> [Role-plays] put you in the situation so you know how it feels. (Female, HIC)

Most significant aspect learned in health class

Participants discussed what they believed to be the most significant aspect of the program that they had learned in health class from the past year. Four themes emerged in this discussion:

1. Relationships and relationship violence.
2. Drugs and substance use.
3. Communication and decision-making skills.
4. Healthy eating.

Relationships and relationship violence. (N=10; HIC=3; LIC=7) When students were asked to describe the most significant things they had learned in health class, several students indicated that learning about healthy and unhealthy relationships was highly meaningful. Notably, students in low implementing classrooms noted this more often than students in high implementing classroom. Students from low implementing classrooms also provided more in-depth responses about peer relationships and bullying behaviours compared to students from high implementing classrooms. For example, when asked the question "What was the most significant thing you learned in health class this year," three female students from high implementing classrooms simply responded with "relationships". In contrast, students from low implementing classrooms provided more descriptive answers: one male student talked about the importance of learning about the qualities that make up a good friend: "Listing what you want to see in a partner and a friend" (Male, LIC). Another male LIC participant responded: "how to be a better person and to be careful not to hang out with the wrong people" (Males, LIQC). Two female students from low implementing classrooms also mentioned the importance of learning about possible responses to being bullied. Finally, two male students from low implementing classrooms discussed the importance of spending time with a positive peer group.

Drugs and substance use. (N=9; HIC=3; LIC=9) Many students discussed the importance of learning about drug prevention and the consequences associated with drug and substance use as topics in health class. Students from low implementation classrooms discussed learning about drugs and substance use most often, referencing, "drugs," "stimulants," and "learning about the effects of caffeine." Students from high implementing classrooms mentioned drugs and substance use less frequently; their comments were related to the consequences of taking drugs and the importance of drug prevention.

Communication and decision-making skills. (N =5; HIC=1; LIC=4) Students from low implementing classrooms who identified communication and decision-making skills as important health topics also highlighted the importance of core Fourth R skills related to passive, aggressive, and assertive communication styles. Two students from low implementing classrooms discussed the importance of demonstrating respect when communicating with others: "…respect others because they have different points of view" (Female, LIC), and, "How to answer someone without hurting someone's feelings or just answering, 'yeah'" (Female, LIC). The one female student from a high implementing classroom who identified communication and decision-making skills as important health topics thought that learning how to make good choices was the most important topic discussed in health class.

Healthy eating. (N=4; HIC=2; LIC=2) Several students in both high and low implementing classrooms also identified healthy eating, exercising, and food choices as significant topics they learned in health class.

Assessment of Student Knowledge

Implementation quality can affect the learning experience of students in the classrooms. To this end, I assessed student knowledge of the key health-related content with questions that asked students what they learned in health class related to: (a) help-seeking behaviours, (b) strategies to support friends or family members who are in distress, (c) how to support a friend who is being bullied by text, and (d) how best to resolve conflict among friends or family members. The number of students who discussed a particular theme is reported to illustrate the prominence of the codes.

Knowledge related to help-seeking behaviours (N=23; HIC=11; LIC=12)

I asked students to identify the sources of support they would access or seek help from if they or a friend needed help for a personal problem. Three broad areas of supports emerged during this discussion:

1. Family and friends.
2. School supports.
3. Community and religious supports.

Family and friends. (N=10; HIC=3; LIC =7) Students identified family members (e.g., parents and siblings) and friends as people they would turn to for support if they or a friend needed help for a personal problem. Students in low implementing classrooms identified these two groups of supports more often than students from high implementing classrooms.

School. (N=9; HIC=6; LIC=3) Several students identified teachers and guidance counsellors as sources of support. School supports were identified more often by students in high implementing classrooms compared to their peers in low implementing classrooms. Students in high implementing classrooms also identified community resource officers and coaches as other adults they could turn to in the school if they needed help with a personal problem. Students in both groups noted the necessity of trust between themselves and the adults from whom they would seek help.

Community and religious supports. (N=4; HIC=2; LIC=2) Three students, two from high implementing classrooms and one in a low implementing classroom identified confidential hotlines, such as Kids Help Phone, as sources of support they could access for help with a

personal problem. One male student from a low implementing classroom identified a religious source, such as God, as a means of support for an emotional problem.

Knowledge related to supporting friends or family members who are in distress (N=26; HIC=15; LIC=11)

Students were asked the following question: Suppose your best friend or a family member was feeling stressed out lately. How would you know something was wrong? What might you suggest to help them? Four themes emerged from this discussion:

1. Be a good friend.
2. Use distraction strategies.
3. Talk to an adult.

Be a good friend. (N=16; HIC=9; LIC=7) Many students in both groups said that if a friend or family member were stressed, they would support the person by demonstrating the qualities of a good friend. According to the students, these included: listening to the person if they wanted to talk (e.g., "Sometimes you don't have to give them advice, just be there to listen to their problems, Female, HIC); providing support by talking to them about their stress, or trying to help to minimize the stress (e.g., "Help them on whatever they are currently doing," Male, LIC); and making them laugh and smile, and spending more time together with them (e.g., "Take them away from it for a while to hangout and relax," Female, HIC). Students in both groups identified similar responses when describing their support to a friend or family member who is stressed by being a good friend.

Use distraction strategies. (N=8; HIC=4; LIC=4) Students in both groups identified distraction strategies as another way they would help someone who was in distress. For example,

students mentioned that they would help the stressed person by suggesting he or she listen to music, engage in activities that they enjoy, or take a break from the stressful situation. The students also said they would change the topic of conversation to take the person's mind off the stress.

Talk to an adult. (N=2; HIC) Two students from high implementing classrooms indicated that they would suggest their stressed friend or family member speak to another adult, such as a guidance counsellor or a therapist. The students would also suggest the stressed person speak to another adult with whom he or she has a close relationship, to create another potential source of support.

Knowledge related to supporting friends who are bullied electronically (N=34; HIC= 18; LIC=14).

Students were read the following scenario and were asked to discuss what they would do in this situation: A friend comes to tell you that they are getting bullied by another friend who is texting really mean things about them. Your friend is upset and bothered by this and isn't sure what to do about it. Think about what you would do in this situation and let's discuss this.
Four themes emerged from student responses:

1. Use available technology tools.
2. Take action.
3. Retaliate.
4. Ignore the bully.

Take action. (N=27; HIC=13; LIC=14) Many students in both groups identified several ways they would take action in a cyber-bullying situation. Some students said they would tell an adult (e.g., "Go ask for help from the parents," N=7; HIC=3; LIC=4). Others said they would intervene by confronting the bully and telling the bully to stop (e.g., "I would confront the bully and tell them to stop," N=9; HIC =5; LIC =4). Several other students indicated strategies they would use to support their friend (e.g., "It helps to know that somebody else is there with you and that understands what you are talking about," N=7; HIC=3; LIC=4), and a few students said they would try to distract their friend and take their mind of the situation (e.g., "Help them focus on something else," N=3; HIC =1; LIC=2).

Use available technology tools. (N=4; HIC=3; LIC=1) Several students indicated that they would help a friend who was being cyber-bullied by telling him or her prevent further communication with the bully by blocking or removing the bully's phone number.

Ignore the bully. (N=2; HIQC) Two students from high implementing classrooms indicated that they would take action by telling their friend to ignore the bully.

Retaliate. (N=1, LIC) One student from a low implementing classroom suggested they might handle the cyber-bullying situation by doing the same thing to the bully as the bully did to their friend.

Knowledge related to resolving conflict (N=7; HIC=4; LIC=3)

Students discussed strategies they would use to resolve a conflict with a friend or family member. In particular, students were asked: What are some effective ways to resolve conflict?

I categorized student responses into four broad areas:

1. Fourth R conflict resolution skills.
2. Interpersonal skills.
3. Problem-solving skills.

Fourth R conflict resolution skills. (N=3; HIC=1; LIC=2) Three students indicated they would resolve conflict by using the Fourth R conflict resolution skills of delay, refusal, and negotiation. For example, one male student from a low implementing classroom said he learned to "negotiate to fix the problem" (Male, LIC), while a female student from a high implementing classroom indicated it was important to be assertive when refusing ("If you are going to refuse, make sure you are firm," Female, HIC) as a way to manage conflict or compromise with the other person.

Interpersonal skills. (N=3; HIC=2; LIC=1) Three students said they learned to resolve conflict by using interpersonal skills such as remaining calm, not resorting to violence, communicating effectively with the other person, and remaining true to themselves. For example, one female student from a high implementing classroom said, "We learned how to not resolve it with violence, how to be calm in the situation, and not raise your voice" (Female, HIC). The one male from a low implementing classroom said, "I learned to sit down and talk about it with someone."

Problem-solving skills. (N=1, HIC) One female student from a high implementing classroom said that resolving conflict effectively requires you to stop and consider your possible response to ensure it is appropriate:

> We learned how to stop and think about the best response… some might seem good, but in the end it might end up wrong. You want to make sure that it doesn't hurt you or anyone else.

Summary

Research Question 4 asked, How does implementation quality impact the responsive, experience and self-reported knowledge of students in Fourth R classrooms? It was hypothesized that students in high implementing classrooms would report the quality of their experience in health class as more positive compared to students in low implementing classrooms. It was also expected that students from high implementing classrooms compared to those in low implementing classrooms would demonstrate more knowledge of the key health curriculum objectives. This hypothesis was partly supported. Only students from high implementing classrooms noted the relevancy of health class to their lives and expressed their satisfaction with learning about real life lessons, feeling more prepared to deal with relationship-type situations that they may encounter in the future, and that health class provided a safe space to discuss topics that were generally not spoken about at home. Although students in both implementation groups discussed the importance of learning about healthy relationships in health class, students from high implementing classrooms noted that health class helped them feel more prepared to deal with future relationships. Not surprisingly, students from high implementing classrooms agreed more often than did students from low implementing classrooms that roles plays were an effective way to learn health related concepts compared to non-dyadic methods of learning. With respect to student knowledge, students from high implementing classrooms identified more strategies to help support a friend or family member who might be in distress. Also, strategies to support a friend who may have been bullied electronically was identified more often by students in high implementation classrooms compared to their peers in low implementation classrooms.

Despite the positive experiences noted by students in high implementation classrooms, the association between implementation quality and youth responsiveness and self-reported

knowledge was not all straightforward. For example, students from low implementation classrooms discussed more often health-related topics that they believed to be the most significant things they learned in health class compared to students in high implementation classrooms. With respect to students' reports of knowledge gained from health class, there were no differences in the types or frequencies of responses related to students identifying sources of supports they would seek help from if they or a friend needed help for a personal problem and in fact, students in low implementation classrooms identified slightly more sources of support than did their peers in high implementation classrooms. Both groups of students were also able to identify similar strategies they would use to resolve conflict with a friend or family member. While on the whole it seems that the quality of implementation is partly related to students' program positive classroom experience, the answer to this research question is more complicated as implementation quality did not necessarily guarantee better student outcomes as measured by student responsiveness and knowledge.

A final student-related finding worth highlighting is the common theme identified by all stakeholders interviewed in this study and that is the notion of time. Students in both implementation groups expressed the interest of more health class and identified the timetabling of health class in their school as problematic. Even though a few students in high implementation classrooms noted that they have more health class than what they believed other students in their school received, the consensus among most students was the need for more health days.

Overall Results Summary

Research Question 1 explored the extent to which teachers understood the notion of fidelity of implementation of the Fourth R, the types of modifications teachers made while delivering the Fourth R, and the reasons why modifications to the program were made. The main conclusions from the data are that: 1) most teachers, regardless of implementation group did not fully understand what program fidelity was, 2) low implementers modified the program more often than high implementers by adding other resources, removing lessons or activities, and picking and choosing what lessons to teach; 3) reasons for modifications included the length and content of program lessons and the shortened duration of health class; differentiation of program lessons to take into account student ability and needs; and alignment with the Catholic Education Curriculum for Health Education.

It is important to highlight that most teachers who completed the teacher training feedback survey after receiving training felt prepared to teach the Fourth R and implement the role plays, felt that the Fourth R was a good fit with their teaching style, and also felt confident to deliver the role plays in their classroom. Thus, at least for the group of teachers who completed the survey, their belief in their ability to implement the Fourth R successfully in their classroom prior to implementation was strong.

Research Question 2 asked, what facilitates the implementation of the Fourth R as identified by teachers, school administrators, and the system program coordinator? The main conclusions from the data are that factors related to the program, the school, and the broader educational system were identified as facilitators of implementation, more often by high implementers compared to low implementers.

Facilitators related to the program identified by both groups of teachers included the organization of the curriculum lessons, the content of the Fourth R that is likeable and relevant to students and teachers, and the comprehensive nature of the resource that included all necessary teaching materials. Teachers in high implementation quality classrooms, however, identified program facilitators that were unique to their experience when delivering the Fourth R compared to their counterparts. That is, teachers in high implementation quality classrooms noted that the programs' focus on teaching students about healthy relationships facilitated implementation especially when teachers noticed students treating each other more positively in their own relationships attributing some of this behaviour to the benefits of the program.

At the school level, a supportive school administrator was identified by both groups of teachers as an important facilitator to fidelity of implementation but the quality of administrator support differed between the two groups; teachers in high implementation quality classrooms discussed the timetabling of health in their school and an awareness of the program being delivered in their classroom as examples of positive administrator support. In contrast, teachers in low implementation quality classrooms discussed administrator support in terms of providing them the opportunity to attend the Fourth R teacher training in-service with no further indication of support after training.

Both school administrators and the school district program coordinator identified fewer facilitators to implementation than did teachers. Like teachers, school administrators and the program coordinator agreed that the Fourth R is a likable and valuable resource and that alignment of the program with the school, and district goals, including alignment of the program with the Catholic Health Education curriculum helped to facilitate implementation. School administrators discussed the importance of the school district program coordinator in supporting

teachers to implement the program, although this support was not identified by teachers or the coordinator herself. The school district program coordinator was the only interviewee who identified the evidence-based nature of the Fourth R and teacher training as facilitators to program implementation.

Research Question 3 explored the barriers that impede fidelity of implementation of the Fourth R program from the perspective of teachers, school administrators, and the school district program coordinator. The main conclusions from the data are that not surprisingly, teachers in low implementation quality classrooms experienced significantly more barriers to fidelity of implementation than did teachers in high implementation quality classrooms. Teachers in low implementation quality classrooms struggled with meeting the timeframes allotted for program lessons, found the Fourth R too lengthy, and noted that the short duration of classes and the timetabling of health class in their school as a barrier to implementation compared to their counterparts. School disruptions and external influences impeded teachers in low implementation quality classrooms to implement the program with fidelity as did their perception that the health curriculum was not a priority at their school compared to the prioritization given to other core subjects like Math and English. Lack of Fourth R implementation experience could be one reason why low implementation quality teachers experienced more challenges to program implementation as more than half of them were in their first year of implementing the Fourth R compared to teachers in high implementation classrooms many of whom were in the second or third year of implementation.

Implementing role plays were a challenge for both groups of teachers, but teachers in low implementation quality classrooms noted a discomfort facilitating roles plays related to topics such as substance use, violence, and sexual behaviour whereas teachers in high implementation

quality classrooms noted the disruption to class time that ensued when role plays were practised due to the maturity level of some students.

School administrators and the school district program coordinator echoed the same concerns as teachers about the length of the Fourth R. While the school district program coordinator also discussed the allocation of classroom hours assigned to teach health and the way health is timetabled at schools as problematic, the school administrators did not raise these concerns. The school district program coordinator was the only stakeholder interviewed who noted that the frequent changes of staff assignments to teaching health disrupts program implementation.

Research Question 4, asked, how does implementation quality impact the experience and knowledge of students in Fourth R classrooms. The main conclusions from the data are that 1) students in high implementation quality classrooms expressed their satisfaction more often with health class noting the relevancy of the health curriculum to their everyday lives, and feeling more prepared to deal with relationship-type situations that they may encounter in the future compared to students in low implementation quality classrooms; 2) students in high implementation quality classrooms were more responsive to role plays as an effective learning tool in class compared to students in low implementation quality classrooms; 3) the association between implementation quality and youth's experience in health class was not all straightforward as students in low implementation quality classrooms discussed more health-related topics that they believed to be significant learning outcomes compared to their peers in high implementation quality classrooms; 4) both groups of students demonstrated adequate knowledge of health related concepts; and 5) while on the one hand it seems that the quality of implementation is related to students' experience in health class, the answer to Research

Question 4 is more complicated as implementation quality did not necessarily guarantee better student outcomes as measured by student responsiveness and knowledge.

Putting the four questions together, some general conclusions drawn are that fidelity interacts with teacher perception, classroom environment, and to a lesser degree, student outcomes. Teachers, school administrators, and the district program coordinator had varied views on the Fourth R and were able to provide insights into barriers and supports for implementing the program. Students in classrooms where the program was implemented with high fidelity report a more positive classroom experience and responsiveness to the curriculum but not necessarily more perceived knowledge of health outcomes. This means that deviations from the curriculum still produced positive outcomes for students. The findings also have important practical implications for the field of implementation science. Program developers should be encouraged to include implementation supports and barriers upfront in program manuals to better prepare teachers about what they can expect to influence implementation especially in the first year of program delivery. These could include constraints to program delivery due to external influence and disruptions, timing, school schedule, or strengths of the program that are seen to facilitate implementation.

Chapter 5 Discussion

This study examined the implementation of a violence prevention program with a focus on the relationship between teacher perceptions, fidelity of implementation, school personnel perceptions about program implementation, and students' self-reported outcomes. The goals of the study were to examine the experiences of teachers delivering *The Fourth R*, to better understand the facilitators and barriers of implementation fidelity and how implementation fidelity influences student responsiveness and self-reported knowledge in health class. This study was undertaken to better understand what facilitates and impedes the fidelity of implementation of the Fourth R program from the perspective of multiple stakeholders and secondly, whether implementation affects student experience and acquisition of knowledge in health class.

Most teachers, regardless of implementation status (i.e., high or low implementer) found strict fidelity a challenge, and modifications and adaptations to the Fourth R were common. Teacher efficacy was not related to implementation status; the majority of teachers, even low implementers felt confident and prepared to deliver the program and facilitate role plays after receiving training. The major facilitators to successful implementation appeared to be at the program and school levels. High and low implementers identified several similar facilitators to fidelity of implementation of the program such as the organizational structure and the content of the Fourth R, and both groups of teachers liked the program overall. High implementers, however, noted the program's focus on healthy relationships as a reason for successful implementation. Moreover, some high implementers noted being motivated to implement the program because they saw changes in their students' relationship skills in their interactions with their peers outside of the program.

At the school level, a supportive school administrator was seen by both high and low implementers as facilitating their implementation experience, but the depth and breadth of the support differed between the two groups. High implementers noted a more involved school administrator around staff and program needs. Not surprisingly, low implementers experienced more barriers to implementation than high implementers. Time was a common barrier for low implementers in that these teachers struggled to meet the timeframes allotted for program lessons, and in general, found the lessons too long to complete in the short duration of health class. Some low implementers also faced challenges of completing program lessons because of school disruptions or other external influences that competed with their time to deliver the health curriculum. Low implementers did not think that the health curriculum was a priority for their school giving examples related to how the course is timetabled compared to other core subjects. On the other hand, high implementers, even with many of the same barriers experienced at school (e.g., short duration of classes, external influences) found ways to move through the program efficiently and completely.

In line with other Fourth R research (Chiodo et al., 2015; Crooks et al., 2008; Crooks et al., 2013; Exner-Cortens et al., 2016), implementing role plays in this study emerged as a barrier to implementation more often for low implementers than it did for high implementers. Chiodo et al. (2015) found that Fourth R key informants from various settings across Canada who played a critical role in implementing and scaling up the Fourth R program in their province expressed the view that role playing is often an uncomfortable methodology for teachers and if given the option, most teachers would leave this component out of Fourth R programming. Chiodo et al. (2015) also note that Fourth R Master Trainers (i.e., expert trainers who deliver Fourth R training in their school district area to other teachers) consistently find that practicing role plays are the

one component of teacher training that is often resisted to the most by teachers, even in a safe, comfortable manner surrounded by colleagues. In the current study, implementing role plays was a challenge for both groups of teachers, but low implementers noted a discomfort facilitating roles plays related to topics such as substance use, violence, and sexual behaviour. This discomfort was not evident among high implementers. Conversely, high implementers found that role plays sometimes disrupt program lessons because students misbehave during role plays, but looked at role plays as teachable moments and were still able to implement them.

Similar to the views of teachers, school administrators and the school district program coordinator agreed that the Fourth R is a likable and valuable resource and that alignment of the program with the school and district goals, including alignment of the program with the Catholic Health Education curriculum helped to facilitate implementation. School administrators discussed the importance of the school district program coordinator in supporting teachers to implement the program, although this support was not identified by teachers or the coordinator herself. The school district program coordinator was the only interviewee who identified the evidence-based nature of the Fourth R and teacher training as facilitators to program implementation. School administrators and the school district program coordinator echoed many of the same implementation concerns as teachers about the length of the Fourth R, and the allocation of classroom hours assigned to teach health. School administrators did not mention the timetabling of health as a barrier to implementation. The school district program coordinator was the only stakeholder interviewed who noted that the frequent changes of staff assignments to teaching health disrupt program implementation.

Students from classrooms with high quality implementation reported liking health class more, noting the relevancy of the health curriculum to their everyday lives. Students in high

implementation classrooms also expressed being more prepared to deal with relationship-type situations that they may encounter in the future compared to students in low implementation quality classrooms. Students in high implementation quality classrooms were also more responsive to role plays as an effective learning tool compared to students in low implementation quality classrooms, where role plays were seldom implemented. Despite receiving significantly less Fourth R content, students in low implementation classrooms were able to discuss many meaningful health-related learning outcomes and both groups of students demonstrated adequate knowledge (albeit their perception of knowledge) of health-related concepts.

The main conclusions from the study are that: 1) strict fidelity of implementation is unlikely to occur in educational contexts because of the multi-faceted nature of students, teachers, and the school environment (McCuaig & Hay, 2014), 2) implementing a health promotion curriculum such as the Fourth R is complicated and challenging; programs should be encouraged to consider which program components are essential and which components teachers may choose to adapt or replace, depending on personal preference, experience, class needs, or priority (Maggin & Johnson, 2015), 3) despite the challenging nature of program implementation, the Fourth R was perceived by all those interviewed as a likeable, valuable, comprehensive resource that teaches health in an engaging and interactive way (Chiodo et al., 2015; Crooks et al., 2013; Exner-Cortens et al., 2016) , 4) administrator support matters but it is the quality of this support that facilitates fidelity of program implementation (Durlak & DuPre, 2008; Payne & Eckert, 2010), 5) perceived competence and confidence to implement the program right after training may not be the best indicator of future implementation success; 6) not all barriers to implementation are perceived the same way by teachers; some factors that were seen as barriers for low implementers (e.g., lengthy classroom discussion) were seen as

important learning opportunities in high implementation classrooms to build class community and relationships; 7) fidelity appears to impact students' overall experience in health class but fidelity did not guarantee a greater demonstration of knowledge gained by students, as seen by students in both high and low implementation quality classrooms demonstrating very similar perceived knowledge of health-related concepts. A more detailed discussion of these conclusions follows.

Fidelity versus Adaptation Debate. Almost all teachers modified the Fourth R in some way, even those in high fidelity classrooms, adding relevant resources, modifying lessons for particular student groups, and removing certain lessons that did not align with their understanding of the Catholic Education curriculum expectations for teaching health. In some ways, this helped teachers feel the material was applicable to their own students' needs. Modifications were also necessary given timetable constraints. Teachers modifying curriculum offered by researchers has been reported in previous studies (e.g., Durlak & DuPre, 2008; Ringwalt et al., 2003). This process has pros and cons. It may reduce curriculum fidelity when a manualized format has been previously adapted (Maggin & Johnson, 2015). However, adaptations allow teachers to gear material to the specific needs or characteristics of their classroom, school, or community. In addition, teachers who modify programs have been found to develop ownership of the curriculum which could potentially facilitate longer term maintenance (McCuaig & Hay, 2014).

The results of this study imply that even those teachers who adhere to as much of the program as they possibly can (i.e., high implementers), modifications and adaptions to the curriculum delivered in the classroom was inevitable. As Durlak & DuPre (2008) found in their review of over 500 studies and the impact of implementation on program outcomes, expecting

perfect or near perfect implementation is unrealistic. No studies in their review documented 100% implementation and in fact, very few studies obtained greater than 80% implementation fidelity. Durlak & DuPre (2008) found that positive program results were obtained with levels around 60% implementation. These findings are important in light of our understanding of the effects of program adaptation on outcomes.

As this study and other studies show, without guidance around the modifications or monitoring what is removed or added, it is hard to know whether modifications alter outcomes or increase the likelihood of program drift. Moreover, it is likely that some changes to the program curriculum will be positive and others will be negative. There is a real difference between modifications based on running out of time or a lack of skill or confidence in delivering a particular component, and adaptations that are planned, organized, and addressed in a systematic way. In the current study, a positive change was noted by one high implementer when she talked about how she added some additional materials to the program when a guest speaker was brought to the school so that alignment between what was discussed as a whole-school matched up with what was discussed in health class. On the other hand, when teachers in this study discussed picking and choosing lessons that were shorter in length just to get them completed on time, we can assume that this change to the program may alter outcomes negatively. Thus, the findings from this study suggest that it is important to be flexible and adaptable when implementing a program in a classroom but to what point? There is a recognized need for flexibility, but if program effects are largely based on the extent to which school personnel are able to adhere to the components of an intervention (Maggin & Johnson, 2015), it will be important to determine which Fourth R intervention components are most important for producing desired outcomes. Moreover, the core implementation features that are needed to put

the Fourth R into practice effectively need to be identified. Determining the valence of Fourth R adaptations, in terms of whether the modification was positive (i.e., in line with the programs' goals and theory) or negative (i.e., takes away from the programs' goals or theories) may be critically important in understanding the association between adaptations and outcomes (Berkel et al., 2011).

Facilitators to Implementation. The qualitative findings offer insights into teachers', school administrators, and the school district program coordinator's experiences and perceptions regarding facilitators to implementation. Themes from the interviews indicate that the Fourth R is likable, well organized, easy to use, engaging and interactive, comprehensive in that it includes everything a teacher requires to deliver the program successfully in class, and the content is relevant to today's youth. The alignment of the Fourth R with school and district goals around health education and especially the fact that the Fourth R meets the Catholic curriculum expectations for health education was an important program component that was perceived to facilitate implementation for most teachers. High and low implementers were able to identify similar facilitators to implementation, even though low implementers were not able to successfully deliver the Fourth R in its entirety. What, then contributes to better fidelity of the Fourth R? The current study would suggest that teachers are more likely to be successful at fidelity outcomes when they feel supported in implementing the program by school administrators, have more experience implementing the program, see positive changes in students, when the program focuses on developing healthy relationships among students, when teachers feel comfortable and confident implementing role plays about health-related topics, when classroom discussions are seen as opportunities to further explore issues rather than as roadblocks, and when constraints due to time or class schedules are managed effectively.

School administrator support and accountability. At the level of the school system, numerous researchers have identified the importance of support and accountability from administrators (see Crooks et al., 2013; Durlak & DuPre, 2008; Langley et al., 2010; Mihalic et al., 2008). In their role as leaders of the school, school administrators' attitudes, behaviours, and support can significantly affect teachers' implementation of new programs (Crooks et al., 2013; Gottfredson & Gottfredson, 2002; Payne & Eckert, 2010). In their study examining the implementation quality of school-based prevention programs in more than 540 schools, Payne & Eckert (2010) found that schools with more supportive school administrators were more likely to engage in higher quality implementation than schools where administrators were less involved and interested with programming efforts. In the current study, school administrator support was perceived by both high and low implementers as facilitating implementation, but the depth and quality of support that implementers received differed. As this study and others have shown, it is not enough for school administrators to send staff to training and to professional development opportunities for program implementation without the ongoing monitoring, check-ins, and that they provided the required supports for successful implementation of the program. Teachers in this study who were more likely to maintain implementation (i.e., high implementers) believed their school administrator noticed whether they were implementing the Fourth R, that it mattered to them, and that they provided the necessary supports to facilitate implementation.

Teacher self-efficacy. A teacher characteristic that has consistently been related to implementation fidelity is self-efficacy. That is, teachers who feel more confident in their ability to do what is expected of them when delivering a program tend to implement more of the program with greater successes than do teachers who feel less confident. Numerous researchers have found that teachers who have a greater sense of self-efficacy around program

implementation invest more effort in implementing the program which leads to more positive experiences around implementing new strategies and practices (Han & Weiss, 2005; Gingiss et al., 2006). Gingiss et al. (2006) also found that a teachers' sense of self-efficacy was related to their enthusiasm about a program and their motivation to implement and experiment with new methods to better meet their students' needs. There were several notable findings in this study related to teacher self-efficacy. Although self-efficacy data was missing for four teachers, perceived confidence and ability to implement the program and in particular confidence around implementing the role plays was high for all teachers post-training. In practice, however, this perceived self-efficacy upon completion of training was not sufficient for some teachers. Several low implementers noted the discomfort in facilitating some of the role plays based on the personal nature of scenarios and in turn, did not implement them. On the other hand, high implementers who felt confident after training to implement the Fourth R program and the role plays were subsequently able implement the program with fidelity. It is possible that assessing self-efficacy immediately after training, and several weeks or even months prior to program implementation which was the case in the current study, is not the most accurate means of assessing teacher efficacy for future program implementation. Moreover, it is possible that teachers genuinely did feel confident to implement the program after receiving full-day training but the implementation barriers encountered for some teachers were too insurmountable that even their beliefs about their ability to implement the program successfully could not overcome them.

Evidence-based programs in schools. Given the importance of schools in improving access to evidence-based programs in the classroom, I thought that the Fourth R as only one of two evidence-based programs in Canada found to prevent adolescent dating violence would have

been identified by teachers as an important facilitator to implementation. Across the health and human services sectors, efforts to guide policy and practice using rigorous evidence are increasing, and this effort is emerging within education. In the current study, teachers and school administrators did not identify the evidence-based nature of the Fourth R as a facilitator of implementation. Only the school district program coordinator noted the importance of the program's research base as a critical determinant for program adoption and what she perceived as a facilitator of implementation for teachers. In previous research (Chiodo et al., 2015), key informants interviewed about what made the implementation and scale-up of the Fourth R program successful in their school district identified the Fourth R as an evidence-based program as a key facilitator of implementation and scale-up. Exner-Cortens et al. (2016) in interviews with 11 Fourth R teachers in schools in Alberta expressed the view that they valued evidence-based practice and for many, it gave them confidence in program delivery and allowed them to justify content and activities. Similar to other Fourth R research findings (Chiodo et al., 2015), some teachers in the Exner-Cortens et al. (2016) study were uncertain or considered evidence-based practice to be only somewhat important to their daily practice of teaching. There was some suggestion that not all teachers in the same school understand evidence-based practice which leads to inconsistent program implementation of the Fourth R in schools (Exner-Cortens et al., 2016).

While there is a clear call to use evidence-based programs in the classroom and a growing group of programs that are proven to be effective in helping students achieve success in educational settings, it is possible that teachers may be too focused on the day-in and day-out of their classrooms that the importance of evidence-based practice isn't always relevant (Chiodo et al., 2015). The other implication for schools is that defining an educational program as evidence-

based remains largely in development and that in practice, the term evidence-based means very different things to teachers and administrators than it does to researchers (Chiodo et al., 2015). Finally, Rogers (2003) in his Diffusion of Innovation Theory (DOI) argues that most individuals evaluate an innovation not on the basis of scientific research by experts, but through the subjective evaluations of their peers who have already adopted the innovation.

The notion of evidence-based practice has implications for implementation and sustainability of the Fourth R in schools because school administrators sometimes struggle with deciding how to choose or adopt a program to implement in their schools, and that unfortunately, some programs are selected not because of the evidence supporting their effectiveness but because the program has the best marketing scheme or flashy cover (Chiodo et al., 2015).

Barriers to Implementation. Different aspects of time such as competing responsibilities, the program's lengthy lessons, and the short duration of classes within the school schedule emerged as the strongest barrier to program implementation among low implementers. A lack of time was endorsed less often by high implementers, but the issue of time is consistent with prior research (Chiodo et al., 2015; Crooks et al., 2013; Exner-Cortens et al., 2016; Forman et al., 2009). Its prominence in this study highlights the importance of this barrier to the experience of teachers, especially for those with less experience in delivering the curriculum. For low implementers, the fact that the program was perceived as lengthy, lesson timeframes were difficult to meet, and the short duration of classes within the school schedule appear to ultimately be the reason they were unable to successfully implement the Fourth R. Interestingly, several low implementers were colleagues with high implementers from the same school where the short duration of classes and the way health class was scheduled would be identical. Moreover, the perception that the program is too lengthy is not entirely accurate

because the timing and the number of lessons matches the provincial health education allotment that teachers are required to deliver to meet the requirements for health education. It appears that other factors gave high implementers the upper hand on implementing more successfully such as additional experience delivering the program, a more involved school administrator, seeing positive changes in their students as a result of the program, acknowledging the value and importance of teaching students about healthy relationships, and using classroom discussions as vehicles to move through the program more efficiently rather than as stumbling blocks. There may also be other reasons, such as teachers recognizing a specific need for the program, or shared-decision making regarding program implementation that were not measured in this study that may have facilitated implementation for high implementers which would be an important next step for future research.

Student Responsiveness and Perception of Knowledge. Students from classrooms with successful implementation found health class to be more relevant, recognized the importance of learning about healthy relationships, felt that role plays were an effective way to learn the health curriculum, and that role plays helped to prepare them for future situations. Students in high implementation quality classrooms did not perceive the timetabling of health to be a barrier to learning health as did the students in classrooms where implementation was less successful. All students, even those in high implementation classrooms wanted to learn more about health than they were currently learning. Altogether, the student findings from this study suggest that fidelity *does* matter for participant responsiveness and overall positive program experience. What is less clear is what an acceptable level of fidelity is for acquiring program content knowledge and identifying key learning outcomes. Students in low implementing classrooms were able to discuss meaningful health concepts they had learned and demonstrated similar acquisition of

knowledge of health-related concepts as did students in high implementing classrooms. It is possible that deviations from the curriculum do not impact student outcomes because students learn about healthy relationships in multiple ways (e.g., other subject areas, family, friends, and technology) and can still produce some positive outcomes as evidence in this study. Indeed, many teachers in this study and others (e.g., Chiodo et al., 2015) noted the benefit of the Fourth R's alignment with school and district goals and priorities around healthy relationships. Thus, it is possible that students in low implementation classrooms have other learning opportunities related to healthy relationships via other school-wide initiatives. What seems to differ between students in high and low implementation classrooms, however, is that students who received more Fourth R perceived health class as relevant, noted the benefits of practicing relationship skills by using role plays, and recognized the importance of learning how to develop healthy relationships in health class.

Significance of Study

The current study contributes to the literature by shedding light on important variables that may facilitate or hinder implementation of prevention programs within the school setting. I found a number of important implementation barriers (i.e., lengthy program and difficulty meeting lesson timeframes, challenges with facilitating role plays, lengthy classroom discussions during program lessons, lack of experience with Fourth R implementation, school disruptions and external influences, and low prioritization of health education in schools) as well as facilitating factors (i.e., organizational structure of the Fourth R, the Fourth R content and comprehensive nature of the program, engaging and interactive discussion ensuing from the lessons, the relationship-focus of the Fourth R, and alignment of Fourth R with school and

district approach to health education). Insights from teachers, school administrators, and a school district program coordinator echo themes that have been highlighted in other studies (e.g., see Durlak & DuPre; 2008; Han & Weiss, 2005; Payne & Eckert, 2010; Gottfredson & Gottfredson, 2002). These findings will be useful to implementation science, a science still in its infancy. This study also makes contributions in that direct relations between fidelity and student responsiveness were identified, but not necessarily with respect to students' self-report knowledge of program content. Fourth, the study contributes in its use of multiple sources of data, by gathering perspectives from teachers, school administrators, school district personnel, and students to understand the complexity of program implementation in schools and the relationship between implementation and student outcomes.

Limitations

The results of the present study need to be considered within the context of the following limitations.

Generalizability: As with all qualitative studies, limits to the generalizability of the findings beyond the participating schools should be recognized. There are similarities between the barriers and facilitators described by participating school staff and the challenges and successes identified in the literature on successful implementation of innovations in schools; however, they are important differences that may be unique to a large, urban school board in Western Canada. Moreover, this research was conducted in one Catholic school board. There are unique considerations when teaching health that are relevant for Catholic teachers, such as the alignment of the Catholic teachings around growth and development and healthy sexuality.

The teachers interviewed for this study may not be representative of all teachers who implement Fourth R in schools, and there may be some bias introduced by their willingness to

volunteer in the study, especially if only those who felt particularly strong about either the intervention, or the research process itself agreed to take part in the interviews. However, the range of views offered by teachers in both groups suggests it seems unlikely that such a bias has influenced my findings.

Sample Size. There are no rules about sample size in qualitative studies (Patton, 2002) and the number of interviews and student focus groups is considered satisfactory. As noted previously, there were a small number of students who consented to participate in focus groups from Fourth R classrooms due to logistical challenges of consent procedures and students who moved on to high school. The small sample size for student focus groups may have introduced a bias to the study by students' willingness to volunteer to share their experience of health class or more involved parents or guardians who returned consent forms to school. The study also did not collect any participant characteristics of students so the ethnic diversity of students is missing as well as any adverse childhood experiences that could have impacted their experience in the program or motivation to participate in the study. The school administrator interviews were low in number (n=4) but that is because multiple teachers volunteered for the study from the same school.

Measure of Fidelity of Implementation. The research is still very inconclusive about how best to measure fidelity of implementation (Domitrovich et al., 2008). Teachers classified as high and low implementers were based on teacher self-report alone. There is some suggestion that self- reports can be biased (Perepletchikova, Treat, & Kazdin, 2007) and that the use of observers might be more reliable when measuring fidelity. The use of one data source to measure fidelity is not recommended (Domitrovich et al., 2008). In this study, there is the possibility that teachers may have over- or under-estimated how much of the program they completed. Tracking logs or

classroom observations may have provided a better measure of fidelity and dosage. Unfortunately, this was not possible for this research because there was no opportunity to design the study from the ground up which if possible, would have included more rigorous methods of fidelity or unannounced fidelity visits. Although multiple data sources may have provided a different perspective of fidelity of implementation, teacher interview data shows a range of views offered by teachers in both groups, and it seems unlikely that such a bias influenced my findings. Unfortunately, a follow-up interview was not included to further explore the themes that emerged.

Measure of teacher self-efficacy related to Fourth R implementation. This study used secondary data related to teacher self-efficacy to implement the program. There are several limitations worth noting with respect to this data. The first is that the data was available for only seven of the 11 teachers. There was no information available as to why the survey was not collected for the other four teachers by the Alberta Healthy Youth Relationship strategy (AHYR) Fourth R trainers. It is possible that the survey data went missing, or the teachers may have left training early and therefore would not have completed the survey. It is also possible that because the survey is voluntary, they chose not to complete the survey. The other important limitation to this data is the self-efficacy items used. There were only two questions asked: "I feel confident to implement role-plays" and "I feel prepared to deliver the program". It is possible that teachers responded favorably due to social desirability, were concerned that school personnel would have access to the data and felt pressured to respond favorably, that they *truly* did feel confident after training to deliver the role plays and the program, or that the two items are not really measuring self-efficacy at all.

Measure of student knowledge. The mixed findings with respect to implementation quality and acquisition of student knowledge in class may be partly related to the way student knowledge was assessed in focus groups. Although both groups differed in identifying the types of health-related knowledge from the program, on the whole, students from both implementation classroom groups demonstrated adequate knowledge of health-related concepts. It is possible that with the extent of healthy relationship and health promotion programming that many schools engage in, all students learn health-related concepts in multiple ways either through other subject areas, family, friends, other programs, and the media. There may also be a 'threshold' or acceptable level of fidelity to produce changes in student knowledge and, at this level, perhaps it is the case that all students learn the content as long as the curriculum is implemented with *some* fidelity. And while students in this study may have learned health related content with minimal fidelity, the experience of practicing health-related skills through the use of role plays was not equal between the two groups. Previous research has found that Fourth R students are more adept at demonstrating conflict negotiation and communication skills in role-play type situations compared to non-Fourth R students and that these skills translate to fewer reports of dating violence perpetration (Wolfe et al., 2012).

Implementation Experience. The results may have looked different and led to a deeper insight if all the interviews had been carried out at a later stage of the implementation process, as six teachers were implementing the Fourth R for the first time where challenges to implementation are common (Crooks et al., 2013; Durlak & DuPre, 2008;). Moreover, there were more low implementers delivering the Fourth R for their first time (4 out of 6 teachers) compared to the number of first time high implementers (2 out of 5 teachers). General level of experience with the curriculum may have affected low implementers ability to accurately

measure their level of fidelity *and* may have resulted in greater challenges to implement the curriculum with high fidelity.

Mandatory Fourth R Training. Prior to the uptake of the Fourth R in this school district, endorsed and recommended training and implementation of prevention programs in schools was atypical in this board. The fact that two low implementers noted they did not have a choice to attend Fourth R training and several others felt some pressure to attend Fourth R training offered by their district may have affected their readiness and confidence to deliver the program. Previous research has shown that laying the ground work to cultivate institutional understanding and readiness of teachers to implement a program is critical for successful implementation of a program (Adelman & Taylor, 2003). Moreover, programs chosen as a result of local planning process are likely to be better implemented (Payne, 2009). It is possible that some of the teachers in this study did not feel a personal connection to the program or a sense of 'buy-in' because of the expectation placed on them to implement the program from their school district which may have influenced their ability to implement the program effectively.

The Fourth R Program. Although program implementation is an incredibly complex issue, the Fourth R program itself could have negatively influenced implementation. I do not think we can ignore more than a decade of anecdotal and evaluated evidence that the Fourth R is perceived to be a lengthy program (Chiodo et al., 2015; Crooks et al., 2013; Exner-Cortens et al., 2016). In a randomized controlled trial design of the Fourth R curriculum with more than 500 diverse, urban youth population in the Bronx, New York, several teachers interviewed in this study also noted not enough time to fully cover topic lessons (Cissner & Ayoub, 2014). Teachers in the Cissner and Ayoub (2014) study found the content to be a lot of information to cover in one lesson and many teachers simply ran out of time to deliver the program in its entirety.

The other limitation of the Fourth R program itself is that the version of the program that was used in this study has been significantly updated and looks quite different from the version that was used in the initial RCT evaluation, research that is now more than a decade old. In fact, all schools now receive a newer version of the Fourth R updated to reflect more current-day adolescent relationships issues, the role of social media, cyber-bullying, and mental health and wellbeing components. Future research should consider a second randomized control trial of the revised program.

The Researcher. As the interviewer and focus group facilitator who was also involved in both the design and analysis of the study, I may have biased the evaluation. I have many years of experience working with teachers and other stakeholders who implement the Fourth R and have listened and responded to various implementation successes and challenges along the way. I may have paid greater attention to barriers that I believed to be problematic in Fourth R implementation more than others. On the other hand, my extensive experience with the Fourth R allowed me to have authentic dialogue with my participants, contributing to the conversation in ways that I believe helped to discuss their experience. To reduce the potential bias that I brought to the study, I debriefed with colleagues and my supervisor frequently about the study and the data, which helped to provide outside or neutral opinions to counterbalance my judgements.

Implications for Practice

What lessons did I learn that will guide future implementation efforts of the Fourth R in schools in general, and for the *Alberta Youth Healthy Relationship* strategy in particular? At the outset of the study, I thought that the most important group to study would be the high implementers so that I could better understand how these teachers were able to overcome barriers

and put into practice the strategies necessary to implement the program with success. Now, however, I believe that the most critical group are the low implementers. As this study showed, we must acknowledge that there will be teachers at one end of the continuum who will be able to overcome barriers and implement with high fidelity and at the other end of the continuum will struggle to implement the program, either by choice because they don't agree with it, or they have other preferences, or because they lack the skills, support, flexibility, or knowledge to implement the curriculum components. The current study found low implementers, despite training, positive beliefs that they can implement the program with success, a manualized program, and some support from school administration, still struggled to implement the program with fidelity. What more can be done to help low implementers overcome barriers? Our data indicate that low implementing teachers would have benefited from better quality administrative support, more information about student benefits, more assistance implementing role plays, more guidance around how to manage the allocation of time for each lesson, and notably, more experience implementing the program. Moreover, all teachers would benefit from a Fourth R manual that prepares them ahead of time for potential barriers to implementation and strategies to mitigate these challenges. These findings may be useful in future design and implementation of prevention programs in schools and may contribute to the broader area of implementation science. Several practice implications arise from the current study and are highlighted below.

1. Ongoing monitoring of implementation at the district level will likely increase implementation. Most school districts do not have mechanisms in place to monitor teachers' implementation of curriculum-based programs or other professional development activities they receive training for (Ahwee, Pilonieta, & Menedez, 2003). Typically, there are few mechanisms in place to observe whether teachers are actually implementing the program they learned, or

what additional follow-up support they could use to help their implementation efforts. Programs should include measures of fidelity to ensure that teachers are implementing with fidelity and to increase fidelity. This suggestion is supported by studies that have found programs to have more positive outcomes when implemented with fidelity (Crooks et al., 2013, Gottfredson & Gottfredson, 2002, Han & Weiss, 2005; Payne & Eckert, 2010). Manualized programs should also include information for teachers about why fidelity matters, how to implement with fidelity, ways to increase fidelity, and suggestions of how potential barriers can be surmounted or seen as opportunities to overcome.

2. **Successful programs should work with teachers and other school level personnel to identify supports and problem solve benefits.** The interview data from this study show that teachers form perceptions about the Fourth R and are able to identify supports and barriers to implementation. Programs can work with teachers to help alleviate barriers and increase supports. Future efforts would also benefit from including school administrators and district leaders in problem-solving how best to schedule time for health curriculum implementation and to discuss how to provide support (e.g., conveying the importance of delivering the curriculum in its entirety, providing additional technical assistance and support, acknowledging implementation success).

3. Planned, organized, and systematic adaptation to programs is a priority. Many scholars have argued that traditional approaches to fidelity within the context of health promotion or public health should not be applied within an educational context because the approach does not take into account the different issues and complexities that exist within classrooms and schools. Instead, what has recently been proposed is a new approach towards the understanding of program fidelity within the context of school-based health education (McCuaig

& Hay, 2014). Education and health scholars have suggested that intentional adaptations to health programs delivered in schools may not be counterproductive but rather, strict adherence to fidelity may compromise or suppress teachers' capacity to enact the principals of their profession (Achienstein and Ogawa, 2006, McCuaig & Hay, 2014, O'Donnell, 2008). McCuaig and Hay (2014) argue instead that developers and researchers of health education programs must articulate a notion of fidelity that more appropriately accounts for the dynamics and expectations of education systems, including teacher and classroom characteristics. As this study shows, teachers had strong opinions about strict fidelity of implementation, stating that implementing the Fourth R in the way it was developed was not a realistic expectation. This belief that adhering to uniform implementation of the Fourth R needs to be better understood. Schools or school boards may not be interested or motivated to adopt a program or continue with it if there is no flexibility to adapt the program to meet the unique needs of their school or system. Balancing the need to implement programs with fidelity while also considering the local context increases the likelihood that programs will be adopted, meet the local need, and sustained (Kutcher & Wei, 2013; McCuaig & Hay, 2014,).

4. More attention should be paid at the school and district level around the practices that promote fidelity of implementation. As this study and many others have demonstrated, it is no longer enough to assume that interventions and curricula are being implemented with fidelity. In this study, administrator support, professional development and training, and a likeable, comprehensive curriculum were not enough to ensure implementation fidelity for some teachers. Forgatch, Patterson and DeGarmo (2005) note that program manuals do not guarantee competent application of a program. In their study of the fidelity of the Oregon Model of Parent Management Training, they argue that intervention delivery must be evaluated

for implementation fidelity to the program content and processes otherwise it is not clear whether failure to replicate findings is a problem with the program, or the application of the program in practice. Some practices that have been noted to promote fidelity of implementation include the need to 1) clearly describe the intervention program, components, procedures and techniques to the teacher, 2) clearly define roles and responsibilities, 3) create a system for measuring program implementation at all levels; 4) link implementation fidelity and improved outcomes for data, 5) create accountability measures for noncompliance (Pierangelo & Giuliani, 2008). Schools implementing the Fourth R and other prevention programs should consider ways to incorporate these practices into their implementation planning.

Han and Weiss (2005) have identified essential ingredients that characterize potentially sustainable teacher-implemented classroom mental health programs. In their review, a sustainable program must be (a) acceptable to schools and teachers, (b) effective, (c) feasible to implement on an ongoing basis with minimal (but sufficient) resources, and (d) flexible and adaptable. The fact that the Fourth R is implemented in over 5000 schools across Canada and the United States is a positive indication that the program is acceptable to schools and teachers. The Fourth R has a strong evidence base to support its effectiveness, although the original RCT is now almost a decade old and the program has undergone significant revisions since the original evaluation. The Fourth R is also feasible to implement on an ongoing basis with minimal resources. It is also aligned to meet health education curriculum expectations in every province, territory, or state it is implemented in. Once the program and training is purchased, the ongoing costs to schools are minimal for already-trained teachers. The online community of practice and Fourth R website are free for teachers to access for booster training and support once their initial purchase has been made. It is the last factor related to flexibility and adaptability that is less clear

on its impact of the effectiveness of the Fourth R. There is research to suggest that the more clearly the effective core components of an intervention are described, the more readily the program or practice can be implemented (e.g., Maggin & Johnson, 2015). Future research must identify the core ingredients of the Fourth R program and those parts of the program that can be adapted.

5. The Alberta Healthy Youth Relationship Strategy would benefit from slowing down the scale-up of the Fourth R across the province until programmatic, school and system level barriers are addressed. Finally, this study has important implications for the Alberta Healthy Youth Relationship (AHYR) strategy. Although this study was conducted in only one district among many in the province, and it does represent the experiences of teachers in a small snapshot of time, the findings are very similar to other Fourth R research studies. The scaling up of the Fourth R is not simply a matter of doing more of the same, but on a larger scale. This was successful up to a point because teachers across the province have received professional development and the Fourth R program to implement in their classroom. But as this study shows, accompanied with what the AHYR strategy has experienced for several of years of implementation, program and organizational barriers need to be solved during the early stages of implementation if the expectation is that the curriculum will be implemented in its entirety. The implementation of a comprehensive program like the Fourth R places high demands on teachers. Moreover, participants within each program likely influence facilitators and barriers to implementation. For example, implementing a program with high fidelity or quality may be particularly challenging with a disruptive group of students, students who may have or are experiencing violence, become triggered by some of the sensitive topics that are discussed, or if you are inexperienced teacher. Hence, the process of implementation needs to be thoroughly

planned otherwise the use of the curriculum might end prematurely and with disappointing outcomes. What may follow is a return to "education as usual" or moving on to the next "silver bullet" (Aldeman & Taylor, 2003; Fixsen, Blasé, Duda, Naaom, & Van Dyke, 2010). Previous research supports the use of implementation teams (e.g., Fixsen, Blasé, Horner, & Sugai, 2009) whose members have expertise regarding the program, implementation science and practice, how to sustain change in organizations, and for assuring that effective interventions and effective implementation methods are in use to produce intended outcomes for youth. Fourth R school districts should consider the use of implementation teams, master trainers, mentors with Fourth R experience, or peer support and observation to further support and refine the process for implementation of healthy relationship programs in schools. The AHYR strategy is also uniquely positioned to advocate for a realistic amount of time to be allocated to health education as most teachers in this study and in other Fourth R research (e.g., Chiodo et al., 2015; Exner-Cortens et al., 2016) have agreed that the time allocated for health education in schools is minimal.

Directions for Future Research

One of the most powerful factors in classroom-based prevention programs is the teacher, therefore future research could include understanding the circumstances that promote or discourage teacher implementation fidelity above those identified in this study. Future reseach could also expand on the number of factors related to curriculum implementation that reside in teacher attitudes and beliefs. Durlak and DuPre's (2008) review of implementation influences and impacts identified four teacher characteristics that have been shown to be related to successful implementation: 1) perceived need for the intervention, 2) belief that the intervention would succeed, 3) confidence in their ability to carry out the intervention (self-efficacy), and d) possession of required skills to implement the intervention. While this study did not find a

relationship between teachers self-confidence to implement the program and the actual implementation of the program for some teachers, further research is needed to understand teachers beliefs about the effectiveness of the intervention, their satisfaction with the program, the skills and confidence needed to implement the program, and teachers' perceived need for the intervention. Beyond teacher characteristics, future research in this area could also include considering other program factors, cultural and individual curriculum demands on fidelity, and classroom make-up that may result in higher fidelity. Klein and Sorra (1996) argue that researchers need to consider the cumulative influences on implementation fidelity (e.g., training, incentives, administrative support, school climate) rather than focus on just the individual level (e.g., teacher characteristics). One of the challenging issues in understanding the influences on implementation is that many factors intervene and interact with key elements or active ingredients of programs making it difficult to pinpoint exactly what is creating the effects that are observed. This may be especially relevant for a health curriculum that discusses more personal topics such as healthy sexuality, relationships, and emotions. Future studies should also include a larger number of teachers and students with diverse backgrounds. Being able to capture a range of experience and quality, teachers may demonstrate different levels of fidelity and perceptions of barriers and facilitators of implementation. Moreover, future research would benefit from examining Fourth R implementation fidelity in boards without broad provincial support and capacity as is the case in Alberta.

Further research should examine what an educationally relevant notion of fidelity would look like for a program like the Fourth R and other health education programs. Many researchers see adaptation and tailoring of programs as critical for successful dissemination of evidence-based programs in schools, and are calling for the development of systematic strategies to guide

this process so that key program components are retained and the context is considered (Kutcher & Wei, 2013; Wandersman, 2003). Unfortunately, there is little empirical evidence on the impact of local enhancements or modifications on programs achieving their desirable outcomes. To date, it is not yet clear whether and under what conditions adaptations to the Fourth R might enhance program outcomes or result in a loss of program effectiveness. Moreover, adopting a different approach to fidelity for health education programs will likely change the expectations we have of the educational and behavioural outcomes of students, which would require further research to understand completely. Engaging teachers in a professional and educational dialogue around fidelity in education and how programs can be delivered in the practices and experiences of the classroom is critical.

This study was limited in its assessment of student outcomes. Consideration to other student outcomes that would allow for exploration of the potential impact of fidelity on the development of relationship skills, student knowledge, and classroom observations of student responsiveness beyond what was explored in the current study would be beneficial. Teacher perception of the program may also have an impact on student outcomes. There is likely a myriad of factors that warrant exploration to understand the relationship between fidelity and positive student outcomes. Examining the interplay of teacher perceptions and experience, and the entire process of implementing a health curriculum on student outcomes is worthwhile.

While there is likely no single measure that will adequately capture all the elements of fidelity of implementation (Domitrovich et al., 2008), there is a clear need to develop, well-validated, cost-effective measures of fidelity of implementation along with a standardized methodology for measuring it. For example, some studies have teachers use logs or tracking forms to document the activities they covered and how much they covered. Other studies will use

observations or site visits to assess fidelity. It is also not clear on how much fidelity of program implementation data should be collected. For example, is assessing fidelity of implementation with a random selection of one program session enough or do we need to assess fidelity of all program sessions? And how much of a program must be delivered to be considered 'high fidelity' compared to 'low' or even 'medium' fidelity? Future studies examining this topic should address these questions, and include several rigorous measures of fidelity that help to verify fidelity and include classroom observations. The inclusion of different dimensions of fidelity such as adherence may also yield different results.

Future research would also benefit from a comprehensive evaluation that includes the core components that comprise the procedural framework of the Fourth R, the methods, and practices used to support the incorporation of the intervention into the school setting. Despite the potential of the Fourth R curriculum manual to guide the implementation of the program, the significant variability in the application of the program suggests that a better understanding of the physical actions, procedures, routines, and core components that are needed to successfully carry out and deliver the Fourth R.

Summary and Conclusions

Overall, this study illuminates further evidence on the importance of implementation fidelity. This study provides insight into teacher's (and other school personnel) perception of the Fourth R and various supports and barriers to curriculum implementation. These findings may be used by prevention programs to support implementation fidelity. Implementing a prevention program in schools is not merely a matter of training teachers and providing a manual. Moreover, effective prevention programs do not implement themselves; they are carried out by teachers, school administrators, support staff in the field, and the multi-dimensional context of

the school environment. Introducing and effectively supporting evidence-based programs in education are simultaneously promising and problematic. While knowledge about the effectiveness of a program or intervention is important, such knowledge is not necessarily sufficient to change practice in the classroom or school. Unfortunately, evidence about a program does not tell us anything about the changes within an organization or system that need to be made to support implementation. As Jerald (2005) noted in a briefing report on school improvement, "As thousands of administrators and teachers have discovered too late, implementing an improvement plan –at least any plan worth its salt- really comes down to changing complex organizations in fundamental ways" (p.2). Educational settings must attend to the process of implementation to ensure that evidence-based innovations are effective and sustainable in typical classroom settings (Fixen et al., 2009). As an educational researcher, and in line with my Fourth R experience, this study is another example of the incredible success but also the inherent challenge of Fourth R Implementation. Even with a multi-systemic strategy like the Alberta Healthy Youth Relationships, implementation is not easy. I can only assume that Fourth R schools or classrooms with little or no support might find implementation even more challenging. The perspectives of the individuals in this study provide an important basis for improving implementation of Fourth R programs moving forward. It is now incumbent upon us at the Fourth R to use the perspectives provided in this study to help inform future Fourth R scale up efforts. It seems fitting to me to close with a quote by Seymour Sarason, considered one of the most significant American researchers in education psychology, in his book, *Revisiting the Culture of the School and the Problem of Change*, "You can have the most creative, compellingly valid, productive idea in the world, but whether it can become embedded and sustained in a socially complex setting will be primarily a function of how you conceptualize the

implementation process (Sarason, 1996, p.78). Integrating implementation science into the educational domains of program adoption right through to program sustainability is a must.

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List of Appendices

Appendix A (Approval of Research Ethics)

Western Research

Research Ethics

Western University Health Science Research Ethics Board
NMREB Delegated Initial Approval Notice

Principal Investigator: Dr. Peter Jaffe
Department & Institution: Education\Faculty of Education,Western University

NMREB File Number: 106384
Study Title: A Qualitative Study of the Implementation Quality of an Evidence-Based Healthy Relationship Program
Sponsor: Public Health Agency of Canada

NMREB Initial Approval Date: April 10, 2015
NMREB Expiry Date: April 09, 2016

Documents Approved and/or Received for Information:

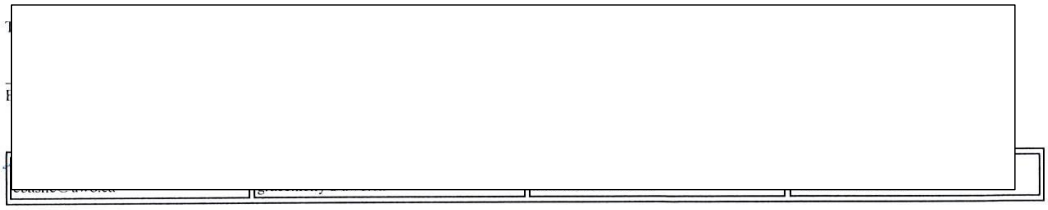
Document Name	Comments	Version Date
Letter of Information & Consent		2015/03/16
Letter of Information & Consent		2015/03/16
Instruments		2015/03/16
Revised Western University Protocol		2015/03/16
Other	SO Interview Guide	
Recruitment Items	Email Script	
Other	Teacher Consent Form	
Other	Principal Consent Form	
Other	SO Consent Form	
Other	Principal Interview Guide	
Other	Student Focus Group Protocol	
Other	Interview Guide for Teachers	

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the above named study, as of the NMREB Initial Approval Date noted above.

NMREB approval for this study remains valid until the NMREB Expiry Date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario.

Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB.



This is an official document. Please retain the original in your files.

Appendix B

(Teacher, Principal, and School District Coordinator Letter of Information and Consent)

Western Education | Centre for Research & Education on Violence Against Women & Children

Teacher Consent and Letter of Information

Project Title: A Qualitative Study of the Implementation Quality of an Evidence-Based Healthy Relationship Program.

Principal Investigator: Peter Jaffe PhD, Professor, Faculty of Education

Letter of Information

As a teacher of a Grade 7 or 8 Health class involved in the implementation of the *Fourth R Program*, you and your students are being asked to participate in a research project about the program that is being delivered in a number of elementary schools across the Edmonton Catholic School District (ECSD). As you know, the Fourth R program helps students develop positive, healthy relationship skills.

Purpose of Study

The purpose of this letter is to provide you with information required for you to make an informed decision regarding your participation in the research study. The purpose of this study is to understand the barriers and successes that influence the implementation of the Fourth R program in Health class. This study will also examine the experiences of students who are receiving the Fourth R program in Health class with respect to the knowledge, skill acquisition, and enjoyment of program materials.

Inclusion Criteria

All Grade 7 or 8 teachers in the ECSD who have been trained to deliver the Fourth R program and are implementing the program in their health class this year are invited to participate. Grade 7 or 8 teachers who have not been trained and are not implementing the Fourth R program in Health class are not eligible to participate in this study. Students receiving the Fourth R Grade 7 or 8 program will also be invited to participate.

Study Procedures

If you agree to participate, you will be asked to participate in a 35-45 minute interview (by phone or in person) to hear about the successes and challenges related to the implementation of the Fourth R program. This interview will take place at the end of the school year, upon completion of Health class at your school. There will be questions about your experiences delivering the program, challenges you might have experienced during implementation, and observations made about your students during the course of implementation. We would also like to use the feedback data you provided at the time of training to gather information about the confidence and preparedness you felt after receiving training. Interviews will be audio-recorded. You cannot participate in this study if you do not want to have your interview audio-recorded.

If you agree to participate, students in your class will also be invited to participate in a 35-45-minute focus group to gather information about their experience in the program, their enjoyment of the program's activities and lessons, as well as any knowledge or skills gained. This focus group will take place at the end of the school year, upon completion of Health class during regular classroom time. There will be approximately ten teachers, ten principals, and about 200 students participating in this study. The Superintendent of Program Services will also be invited to participate in this study.

Possible Risks and Harms

There are no known or anticipated risks or discomforts associated with participating in this study.

Possible Benefits

You may not directly benefit from participating in this study but information gathered may provide benefits to society as a whole that include furthering our understanding of why prevention programs succeed or face challenges when delivered in schools. Moreover, this study may provide useful information about the feasibility of delivering the Fourth R program that could potentially inform the training of teachers, the redesigning of the program, and the future scale-up efforts.

Compensation

If you agree to participate in this study, you will be compensated with a $50.00 gift card at a merchant of your choice for your participation in this study. If you do not complete the entire study you will still be compensated at a pro-rated amount. For example, if you can only complete a ten minute interview, you will receive a ten dollar gift card. If you can only complete a 20 minute interview, you will receive a $20 dollar gift card.

Voluntary Participation

Participation in this study is voluntary. You may refuse to participate, refuse to answer any questions or withdraw from the study at any time with no effect on your future involvement in delivering Health class or implementing the Fourth R program in the future.

Confidentiality

All data collected will remain confidential and accessible only to the investigators of this study. Confidentiality will be breached if you report that you are in danger of harming yourself or others. All data collected will be encrypted and will not include any personal identifying information. If you choose to withdraw from this study, your data will be removed and destroyed from our database. Your name will not be included on the audio-recording of your interview. Your data will only be identified by a unique identifier.

Contacts for Further Information

If you require any further information regarding this research project or your participation in the study you may contact Dr. Peter Jaffe. You may also contact Debbie Chiodo, the project team member. If you have any questions about your rights as a research participant or the conduct of this study, you may contact The Office of Research Ethics.

Publication

If the results of the study are published, your name will not be used. If you would like to receive a copy of any potential study results, please contact Dr. Peter Jaffe
Thank-you for your consideration in this study.

Principal Investigator: Peter Jaffe PhD, Professor, Faculty of Education

This letter is yours to keep for future reference.

Participant Consent Form

Project Title: A Qualitative Study of the Implementation Quality of an Evidence-Based Healthy Relationship Program.

Principal Investigator: Peter Jaffe PhD, Professor, Faculty of Education

I have read the Letter of Information, have had the nature of the study explained to me and I agree to participate. All questions have been answered to my satisfaction.

Participant's Name (please print): _____

Participant's Signature: _____

Date: _____

Contact Information (required for setting up interview time)

Telephone _____

Email: _____

Other:_____

Western Education | Centre for Research & Education on Violence Against Women & Children

Principal Consent

Project Title: A Qualitative Study of the Implementation Quality of an Evidence-Based Healthy Relationship Program.
Principal Investigator: Peter Jaffe PhD, Professor, Faculty of Education

Letter of Information

As a principal of a school that is implementing the Grade 7 or 8 *Fourth R Program* in Health class, you are being asked to participate in a research project about the program that is being delivered in a number of elementary schools across the Edmonton Catholic School District (ECSD). As you know, the Fourth R program helps students develop positive, healthy relationship skills. This study also includes Grade 7 or 8 teachers who are delivering the program, students in these classrooms, and the Superintendent of Program Services of the ECSD.

Purpose of Study
The purpose of this letter is to provide you with information required for you to make an informed decision regarding your participation in the research study. The purpose of this study is to understand the barriers and successes that influence the implementation of the Fourth R program in Health class. This study will also explore your role in the implementation of the Fourth R program and any student or teacher changes you may have observed in your school since the delivery of the program.

Inclusion Criteria
All principals in the ECSD who have a teacher that has been trained to deliver the Fourth R program and is implementing the program in their health class this year are invited to participate. Principals in schools where the Grade 7 or 8 Fourth R program is not being delivered this year are not eligible to participate in this study.

Study Procedures
If you agree to participate, you will be asked to participate in a 35-45 minute interview (by phone or in person) to hear about the successes and challenges related to the implementation of the Fourth R program. This interview will take place at the end of the school year upon completion of the school year. There will be questions about your views and perception of healthy relationship programming in schools; the alignment of the Fourth R program with your schools' philosophy, goals, policies, and other programs; and your perceived support, encouragement, and accountability for the implementation of the Fourth R program in your school. The interview will be audio-recorded and you cannot participate in this study if you do not want your interview audio-recorded.

There will be approximately ten teachers, ten principals, and about 200 students participating in this study. The Superintendent of Program Services will also be invited to participate in this study.

Possible Risks and Harms
There are no known or anticipated risks or discomforts associated with participating in this study.

Possible Benefits
You may not directly benefit from participating in this study but information gathered may provide benefits to society as a whole that include furthering our understanding of why prevention programs succeed or face challenges when delivered in schools. Moreover, this study will provide useful information about the feasibility of delivering the Fourth R program that could potentially inform the training of teachers, the redesigning of the program, and the future scale-up efforts.

Compensation
If you agree to participate in this study, you will be compensated with a $50.00 gift card at a merchant of your choice for your participation in this study. If you do not complete the entire study you will still be compensated at a pro-rated amount. For example, if you can only complete a ten minute interview, you will receive a ten dollar gift card. If you can only complete a 20 minute interview, you will receive a $20 dollar gift card.

Voluntary Participation
Participation in this study is voluntary. You may refuse to participate, refuse to answer any questions or withdraw from the study at any time with no effect on your schools' future involvement with the Fourth R program.

Confidentiality
All data collected will remain confidential and accessible only to the investigators of this study. Confidentiality will be breached if you report that you are in danger of harming yourself or others. All data collected in your audio-recorded interview will be encrypted and will not include any personal identifying information. If you choose to withdraw from this study, your data will be removed and destroyed from our database

Contacts for Further Information
If you require any further information regarding this research project or your participation in the study you may contact. You may also contact Debbie Chiodo, the project team member.

If you have any questions about your rights as a research participant or the conduct of this study, you may contact The Office of Research Ethics (519) 661-3036, email: ethics@uwo.ca.

Publication
If the results of the study are published, your name will not be used. If you would like to receive a copy of any potential study results, please contact Dr. Peter Jaffe.

Thank-you for your consideration in this study.

Principal Investigator: Peter Jaffe PhD, Professor, Faculty of Education

This letter is yours to keep for future reference.

Principal Consent Form

Project Title: A Qualitative Study of the Implementation Quality of an Evidence-Based Healthy Relationship Program.

Principal Investigator: Peter Jaffe PhD, Professor, Faculty of Education

I have read the Letter of Information, have had the nature of the study explained to me and I agree to participate. All questions have been answered to my satisfaction.

Participant's Name (please print): _____

Participant's Signature: _____

Date: _____

Contact Information (required for setting up interview time)

Telephone _____

Email: _____

Other:_____

Western Education | Centre for Research & Education on Violence Against Women & Children

School District Program Coordinator Letter of Information and Consent

Project Title: A Qualitative Study of the Implementation Quality of an Evidence-Based Healthy Relationship Program.
Principal Investigator: Peter Jaffe PhD, Professor, Faculty of Education

Letter of Information

As the Superintendent of Program Services of a school board that is implementing the Grade 7 or 8 *Fourth R Program* in Health class, you are being asked to participate in a research project about the program that is being delivered in a number of elementary schools across the Edmonton Catholic School District (ECSD). As you know, the Fourth R program helps students develop positive, healthy relationship skills. This study also includes Grade 7 or 8 teachers who are delivering the program, their students in these classrooms, and principals of schools delivering the program this year.

Purpose of Study
The purpose of this letter is to provide you with information required for you to make an informed decision regarding your participation in the research study. The purpose of this study is to understand the barriers and successes that influence the implementation of the Fourth R program in Health class.

Inclusion Criteria
As the supervisory officer responsible for the adoption and implementation of school-based programs in your board, you are included in this study. No other supervisory officers will be invited to participate. All principals in the ECSD who have a teacher that has been trained to deliver the Fourth R program and where the teacher is implementing the program in their health class this year are also invited to participate. Students in Fourth R classrooms will also be invited to participate. Teachers, principals and students who are not involved with the Grade 7 or 8 Fourth R program this year will not be invited to participate.

Study Procedures
If you agree to participate, you will be asked to participate in a 35-45 minute interview (by phone or in person) to hear about the successes and challenges related to the implementation of the Fourth R program as well as other questions as outlined above under the Purpose of the Study. This interview will take place at the end of the school year. Your interview will explore your views and perceptions about healthy relationship programming in schools; the alignment of the Fourth R program with your school boards' philosophy, goals, policies, and other programs; your perceived support, encouragement, and accountability for the implementation of the Fourth R program in your schools; your knowledge about the program; and your attitudes and beliefs

around sustainability of the Fourth R program in your board. Your interview will be audio-recorded. You cannot participate in this study if you do not want your interview audio-recorded. There will be approximately ten teachers, ten principals, and about 200 students participating in this study.

Possible Risks and Harms
There are no known or anticipated risks or discomforts associated with participating in this study.

Possible Benefits
You may not directly benefit from participating in this study but information gathered may provide benefits to society as a whole that include furthering our understanding of why prevention programs succeed or face challenges when delivered in schools. Moreover, this study will provide useful information about the feasibility of delivering the Fourth R program that could potentially inform the training of teachers, the redesigning of the program, and the future scale-up efforts.

Compensation
If you agree to participate in this study, you will be compensated with a $50.00 gift card at a merchant of your choice for your participation in this study. If you do not complete the entire study you will still be compensated at a pro-rated amount. For example, if you can only complete a ten minute interview, you will receive a ten dollar gift card. If you can only complete a 20 minute interview, you will receive a $20 dollar gift card.

Voluntary Participation
Participation in this study is voluntary. You may refuse to participate, refuse to answer any questions or withdraw from the study at any time with no effect on your school boards' future involvement with the Fourth R program.

Confidentiality
All data collected will remain confidential and accessible only to the investigators of this study. Confidentiality will be breached if you report that you are in danger of harming yourself or others. All audio-recorded data collected will be encrypted and will not include any personal identifying information. If you choose to withdraw from this study, your data will be removed and destroyed from our database

Contacts for Further Information
If you require any further information regarding this research project or your participation in the study you may contact Dr. Peter Jaffe. You may also contact Debbie Chiodo, the project team member.

If you have any questions about your rights as a research participant or the conduct of this study, you may contact The Office of Research Ethics.

Publication
If the results of the study are published, your name will not be used. If you would like to receive a copy of any potential study results, please contact Dr. Peter Jaffe.

Thank-you for your consideration in this study.

Principal Investigator: Peter Jaffe PhD, Professor, Faculty of Education
This letter is yours to keep for future reference.

Participant Consent Form

Project Title: A Qualitative Study of the Implementation Quality of an Evidence-Based Healthy Relationship Program.

Principal Investigator: Peter Jaffe PhD, Professor, Faculty of Education

I have read the Letter of Information, have had the nature of the study explained to me and I agree to participate. All questions have been answered to my satisfaction.

Participant's Name (please print): _____

Participant's Signature: _____

Date: _____

Contact Information (required for setting up interview time)

Telephone _____

Email: _____

Other:_____

Appendix C: Youth Assent and Parent Consent

Western Education | Centre for Research & Education on Violence Against Women & Children

Youth Assent

Project Title: A Qualitative Study of the Implementation Quality of an Evidence-Based Healthy Relationship Program.
Principal Investigator: Peter Jaffe PhD, Professor, Faculty of Education

Letter of Information

As a Grade 7 or 8 student, you are invited to participate in a research project about your Health class. This year in Health, you are receiving the *Fourth R Program*, a healthy relationship program that meets the curriculum expectations for Health. This program is part of a province-wide strategy aimed at preventing violence and is being delivered in a number of elementary schools across the Edmonton Catholic School District (ECSD). By 2017, the province is expected to have the Fourth R program delivered in all Grade 7, 8, and 9 Health classrooms. The Fourth R program helps students develop positive, healthy relationship skills.

Purpose of Study
We are seeking your consent to participate in the research aspect of the program. The purpose of this letter is to provide you with information required for you to make an informed decision regarding your participation in the research study. The purpose of this study is to understand the barriers and successes that influence the delivery of the Fourth R program in Health class. This study will also examine the experiences of students who are receiving the Fourth R program with respect to what they learned and their satisfaction with program materials.

Inclusion Criteria
All Grade 7 or 8 students in your class are eligible to participate.

Study Procedures
If you agree to participate, you will be involved in one classroom focus group conducted at the end of the school year to assess your knowledge and skills related to the program content. You will be given the opportunity to discuss what you liked and did not like about the program, and provide feedback overall on your experience with the program activities and lessons. The focus group will be conducted during class time and will be approximately 34-45 minutes in length. The focus group will also be audio-recorded.

There will be approximately ten teachers, ten principals, and about 200 students participating in this study. The Superintendent of Program Services in the ECSD will also be invited to participate in this study.

Possible Risks and Harms
There are no known or anticipated risks or discomforts associated with participating in this study.

Possible Benefits
You may not directly benefit from participating in this study but information gathered may provide benefits to society as a whole that include furthering our understanding of why prevention programs succeed or face challenges when delivered in schools. Moreover, this study may provide useful information about the feasibility of delivering the Fourth R program that could potentially inform the training of teachers, the redesigning of the program, and the future scale-up efforts.

Compensation
There is no compensation for participating in this study.

Voluntary Participation
Participation in this study is voluntary. You may choose to withdraw from the study at any time. Even if your parent(s) agree for you to be in the study, you do not have to agree also. If you choose not to participate in the study, this will not affect your participation in your Health class or your grades.

Confidentiality
All the data we collect in this study are confidential. Your name is not associated with any data we collect. Confidentiality will be breached if you report that you are in danger of harming yourself or others, or if there is a disclosure of sexual or physical abuse. Only the principle investigator and the other researchers on this study will have access to the data.

Contacts for Further Information
If you require any further information regarding this research project or your participation in the study you may contact Dr. Peter Jaffe. You may also contact Debbie Chiodo, the project team member.

If you have any questions about your rights as a research participant or the conduct of this study, you may contact The Office of Research Ethics.

Publication
The information collected during this research may be used for educational purposes or become part of a published scientific report. This information, however, will only be reported in terms of group findings. No information will be reported that would allow anyone to be identified individually. If you would like to receive a copy of any potential study results, please contact Dr. Peter Jaffe.

Thank-you for considering your child's participation in this study.

Principal Investigator: Peter Jaffe PhD, Professor, Faculty of Education

This letter is yours to keep for future reference.

Participant Consent Form

Project Title: A Qualitative Study of the Implementation Quality of an Evidence-Based Healthy Relationship Program.

Principal Investigator: Peter Jaffe PhD, Professor, Faculty of Education

I have read the Letter of Information, have had the nature of the study explained to me and I agree to allow my child to participate. All questions have been answered to my satisfaction.

Child's Name:

_____

Date:

_____

Parent / Legal Guardian / Legally Authorized Representative Print:

_____

Parent / Legal Guardian / Legally Authorized Representative Sign:

_____

Parent / Legal Guardian / Legally Authorized Representative Date:

_____

Western Education | Centre for Research & Education on Violence Against Women & Children

Parent Consent

Project Title: A Qualitative Study of the Implementation Quality of an Evidence-Based Healthy Relationship Program.
Principal Investigator: Peter Jaffe PhD, Professor, Faculty of Education

Letter of Information

As a parent/guardian of a Grade 7 or 8 student, your child is being invited to participate in a research project about their Health class. This year in Health, your child is receiving the *Fourth R Program*, a healthy relationship program that meets the curriculum expectations for Health. This program is part of a province-wide strategy aimed at preventing violence and is being delivered in a number of elementary schools across the Edmonton Catholic School District (ECSD). By 2017, the province is expected to have the Fourth R program delivered in all Grade 7, 8, and 9 Health classrooms. The Fourth R program helps students develop positive, healthy relationship skills.

Purpose of Study
The purpose of this letter is to provide you with information required for you to make an informed decision regarding your child's participation in the research study. The purpose of this study is to understand the barriers and successes that influence the quality of implementation of the Fourth R program in Health class. This study will also examine the experiences of students who are receiving the Fourth R program with respect to the knowledge, skill acquisition, and enjoyment of program materials.

Inclusion Criteria
All Grade 7 or 8 students in your son or daughter's class are eligible to participate.

Study Procedures
If you and your child agree to participate, your child will be involved in one classroom focus group conducted at the end of the school year to assess students' knowledge and skills related to the program content. Students will be given the opportunity to discuss what they liked and did not like about the program, and provide feedback overall on their experience with the program activities and lessons. The focus group will be conducted during class time and will be approximately 34-45 minutes in length. The focus group will also be audio-recorded.

There will be approximately ten teachers, ten principals, and about 200 students participating in this study. The Superintendent of Program Services in the ECSD will also be invited to participate in this study.
Possible Risks and Harms

There are no known or anticipated risks or discomforts associated with participating in this study.

Possible Benefits
You child may not directly benefit from participating in this study but information gathered may provide benefits to society as a whole that include furthering our understanding of why prevention programs succeed or face challenges when delivered in schools. Moreover, this study may provide useful information about the feasibility of delivering the Fourth R program that could potentially inform the training of teachers, the redesigning of the program, and the future scale-up efforts.

Compensation
There is no compensation for participating in this study.

Voluntary Participation
Your child's participation in this research is voluntary. There are minimal risks involved in this research. Your child will not be required to answer any question that makes him or her uncomfortable. Your child may refuse to participate, refuse to answer any questions, or withdraw from the research at any time with no effect on his or her program involvement. You may decline to have your child participate, if you wish. Choosing not to participate in the study will not affect your child's participation in their Health class or their grades.

Confidentiality
The information your child gives us is confidential. Only the researchers responsible for the project will be able to look at the data collected from this study. Your child's name is not associated with any data collected. There is one important exception. If the researchers or project staff feel that your child is in danger of harming him/herself or others, or that his/her health or life is in immediate danger, they are required by law to inform the appropriate authorities.

Contacts for Further Information
If you require any further information regarding this research project or your participation in the study you may contact Dr. Peter Jaffe. You may also contact Debbie Chiodo, the project team member.

If you have any questions about your rights as a research participant or the conduct of this study, you may contact The Office of Research Ethics.

Publication
The information collected during this research may be used for educational purposes or become part of a published scientific report. This information, however, will only be reported in terms of group findings. No information will be reported that would allow anyone to be identified individually. If you would like to receive a copy of any potential study results, please contact Dr. Peter Jaffe.

Thank-you for considering your child's participation in this study.

Principal Investigator: Peter Jaffe PhD, Professor, Faculty of Education

This letter is yours to keep for future reference.

Participant Consent Form

Project Title: A Qualitative Study of the Implementation Quality of an Evidence-Based Healthy Relationship Program.

Principal Investigator: Peter Jaffe PhD, Professor, Faculty of Education

I have read the Letter of Information, have had the nature of the study explained to me and I agree to allow my child to participate. All questions have been answered to my satisfaction.

Child's Name:

_____

Date:

_____

Parent / Legal Guardian / Legally Authorized Representative Print:

_____

Parent / Legal Guardian / Legally Authorized Representative Sign:

_____

Parent / Legal Guardian / Legally Authorized Representative Date:

_____

Appendix D: Implementation Experiences Survey (IES)

Fourth R Teacher Implementation Experiences Survey

You are being asked to complete this survey as the teacher who is implementing the Fourth R program this year as part of a province-wide evaluation. The survey will take approximately 5-10 minutes to complete. The information you provide will provide an important perspective on the implementation process. Your answers are confidential and will be combined with teachers from all schools that implemented the Fourth R in the Edmonton Catholic School District to provide a summary of teacher experiences and perspectives.

We would appreciate your participation in a future research study on the Fourth R program to hear more about your experiences with the program. You will be compensated for your time. If interested, please indicate your name and a contact email and number. Thank you very much for taking the time to complete this survey.

Part A: About You

You are: O Male O Female

What school are you teaching at? _____

What grade are you teaching? _____

For how many years have you been teaching? _____

PART B: Overall Satisfaction with the Fourth R to Date

	Not at all	Not very	Neutral	Somewhat	Very Much
To date, to what extent is implementing the Fourth R a positive experience?	O	O	O	O	O
To date, to what extent would you recommend the Fourth R to other teachers?	O	O	O	O	O
To date, to what extent do you feel the Fourth R was beneficial for your students?	O	O	O	O	O

Comments:

Please indicate which Units of the Fourth R program you have already delivered or have started to deliver this past year.

O have not started the program yet

O Unit 1- Injury and Safety Prevention

O Unit 2 – Substance Use and Abuse

O Unit 3 –Healthy Sexuality

O Unit 4 –Healthy Eating

Comments:

Please estimate how much of the Fourth R program (lessons, role plays, and activities) you have implemented this year?

- ○ < 20%
- ○ 21-40%
- ○ 41-60%
- ○ 61-80%
- ○ 81% +

Please indicate how much of the <u>role plays</u> your class has completed so far this year?

O All

O Some

O None

Have you made any modifications to the program while you were implementing it?

O Yes

O No

<u>Modifications to the Program</u>

If you made modifications, what modifications did you make? Please check all that apply.

- ○ Shortened program by dropping lessons
- ○ Shortened program by dropping activities
- ○ Added new activities

- ○ Added new topics
- ○ Added supplementary resources (videos, speakers)
- ○ Other (please specify): _____

What was your primary reason(s) for modifying the program?

_____
_____
_____
_____

PART C: Implementation Experience

Was there anything about the Fourth R that made it difficult to implement? Please check all that apply.

- ○ Time frames difficult to meet
- ○ External influence (disruptions, assemblies, other curriculum priorities)
- ○ Students did not respond well
- ○ Mismatch with local culture
- ○ Not enough training in role plays
- ○ Role plays difficult to carry out
- ○ Instructions for some activities unclear
- ○ Difficult to have appropriate technology available
- ○ Students resisted role play exercises
- ○ Pressure or resistance from parents
- ○ Other (please specify): _____

If you are interested in participating in further research, please provide your name, a contact number, and email: _____

Appendix E: Teacher Self-Efficacy

Fourth R Teacher Self-Efficacy

Name: _____

Gender: Male ❍ Female ❍
Training Location:_____

Name of Trainer (s):
_____

Please use the following scale for the next set of questions.

Not at all	Somewhat	Mostly	Completely
1	2	3	4

a. How prepared do you feel to teach the Fourth R? _____
b. How confident do you feel you can implement role plays in your classroom? _____
c. How well does the Fourth R program fit with your teaching style? _____

1. Did this training increase your capacity to promote positive mental health and relationship skills among youth (please circle):

YES NO

Comments:

2. What changes would you suggest to make this training program more effective?

3. Are there any topics you would have liked covered at the training that you believe will help you deliver the curriculum more effectively or confidently?

4. Do you have any additional comments?

Appendix F: Interview Protocol for Teachers

INTERVIEW PROTOCOL FOR TEACHERS

OBJECTIVE

The interview will elicit discussion about teachers' experiences with the implementation of the Fourth R program. The objective of the interview will be to hear about the factors that may have facilitated or impeded the implementation of the program.

INTERVIEW GUIDE

The questions below will provide the framework for the interview. Answers provided by teachers may affect the order in which the questions are asked; however, the discussion will centre on these main questions. Follow-up questions and probes may be used, when appropriate, to gather further information as the discussion develops.

INTRODUCTION

"The purpose of this interview is to hear from teachers about their experience in implementing the Fourth R Program. Please share your honest opinions, positive or negative that will help us understand what barriers or successes you faced this past year in delivering the program. This interview is being taped for research purposes but your name is not associated with any data collected nor will it ever be reported in any report. Please be reminded that you do not have to answer any questions you do not feel comfortable answering or chose not to answer. You will not be penalized in any way from terminating this interview early.

QUESTIONS

1. What are your general impressions of the program?
2. What interested you in the Fourth R Program?
3. In what ways does the Fourth R Program fit into your school's or classroom activities, approaches or goals?
4. Did you implement the role plays with your students? Why or why not?
5. Describe what is working well with the program
6. Describe any challenges to implementation
7. Was there anything about the Fourth R that made it difficult to implement?
8. Was there anything about the Fourth R that made it easy to implement?
9. How fully did you implement the program?
10. How prepared did you feel to deliver the lessons?
11. Are there ways you have modified the program?
12. Why have you modified the program?
13. How is your administrator supporting you in delivering this program?
14. Is it important to your principal that you are teaching the Fourth R program?
15. Have you seen any changes in your students' behaviours, language, and understanding of healthy relationships?
16. What does program fidelity mean to you?

Appendix G: Interview Protocol for School Administrators

INTERVIEW PROTOCOL FOR SCHOOL ADMINISTRATORS

OBJECTIVE

The interview will elicit discussion about principals' experiences with the implementation of the Fourth R program in their school. The objective of the interview will be to hear about the factors that may have facilitated or impeded the implementation of the program.

INTERVIEW GUIDE

The questions below will provide the framework for the interview. Answers provided by administrators may affect the order in which the questions are asked; however, the discussion will centre on these main questions. Follow-up questions and probes may be used, when appropriate, to gather further information as the discussion develops.

INTRODUCTION

"The purpose of this interview is to hear from principals about their experience in the implementation of the Fourth R Program in their schools. Please share your honest opinions, positive or negative that will help us understand what barriers or successes your school faced this past year in delivering the program. This interview is being audio- taped for research purposes but your name is not associated with any data collected nor will it ever be reported in any report. Please be reminded that you do not have to answer any question you do not feel comfortable answering or chose not to answer".

QUESTIONS

1. How did your school get involved in the Fourth R program?
2. In what ways does the Fourth R Program fit into your school's priorities, goals, and policies?
3. How have you timetabled Health class?
4. What would you say is working well with the program?
5. Is there anything you dislike about the program?
6. What do you think makes the program difficult to implement?
7. What do you think facilitates the implementation of the program?
8. Have you noticed any changes in your school/students since the implementation of this program?
9. Have you supported your Fourth R teacher delivering the program? If yes, describe.

Appendix H: Interview Protocol for School District Program Coordinator

INTERVIEW PROTOCOL FOR SCHOOL DISTRICT PROGRAM COORDINATOR

OBJECTIVE

The interview will elicit discussion about school district program coordinators' experiences with the implementation of the Fourth R program in their school board. The objective of the interview will be to hear about the factors that may have facilitated or impeded the implementation of the program.

INTERVIEW GUIDE

The questions below will provide the framework for the interview. Answers provided by school district program coordinator may affect the order in which the questions are asked; however, the discussion will centre on these main questions. Follow-up questions and probes may be used, when appropriate, to gather further information as the discussion develops.

INTRODUCTION

"The purpose of this interview is to hear from principals about their experience in the implementation of the Fourth R Program in their schools. Please share your honest opinions, positive or negative that will help us understand what barriers or successes your school faced this past year in delivering the program. This interview is being audio- taped for research purposes but your name is not associated with any data collected nor will it ever be reported in any report. Please be reminded that you do not have to answer any question you do not feel comfortable answering or chose not to answer".

QUESTIONS

1. How did your school board get involved in the Fourth R program?
2. In what ways does the Fourth R Program fit into your school boards' priorities, goals, and policies?
3. What do you think makes the program difficult to implement?
4. What do you think facilitates the implementation of the program?
5. Describe the ways you have supported your Fourth R schools in delivering the program.
6. Have you noticed any changes in schools or at a system-level since implementing the program?

Appendix I: Interview Protocol for Student Focus Group

INTERVIEW PROTOCOL FOR STUDENT FOCUS GROUP

OBJECTIVE

The focus group will elicit discussion about students' experiences with the Fourth R program. The objective of the focus group will be to hear from students about what they liked, what they learned, and what they felt were some of the most important learnings from the program.

FOCUS GROUP DISCUSSION GUIDE

The questions below will provide the framework for the focus group discussion. Answers provided by focus group participants may affect the order in which the questions are asked; however, the discussion will centre on these main questions. Follow-up questions and probes may be used, when appropriate, to gather further information from students.

INTRODUCTION

"The purpose of this focus group is to hear from students about their experience in the Fourth R Program. What you tell us today will help to make changes to the program and help us understand what sorts of things you may have learned. Please share your honest feelings, positive or negative that will help make health class better. What we discuss during this focus group will not affect your grades. The information that we share in this focus is also confidential to us in this classroom and should not be shared with others".

FOCUS GROUP QUESTIONS

1. If you talked to an adult or friend about Health Class, what would you tell them was the most significant thing you learned this year?
2. In health class, you learned how to develop healthy relationships with friends, family, and other adults in your life. Is teaching young people like yourselves about healthy relationship in schools important? Why or why not?
3. What are some effective ways to resolve conflict?
4. What sources of support did you learn about in Health class that could be helpful to you or your friends if there was something you needed help with?
5. A friend comes to tell you that they are getting bullied by another friend who is texting really mean things about them. Your friend is upset and bothered by this and isn't sure what to do about it. Think about what you would do in this situation and let's discuss this.
6. Did you do role plays in health class? Describe your experience with role plays.
7. Suppose your best friend or a family member was feeling stressed out lately. How would you know something was wrong? What might you suggest to help them?
8. What did you learn in health class about healthy eating?
9. What did you learn in health class about healthy sexuality?

Appendix J: Teacher Codebook

Implementation Study Teacher Codebook

Note on Excerpting: *Excerpts should start with the interviewer question, and end where there is a natural change of thought/direction. This may be the end of the respondent's answer to the question, or this may result in the respondent's answer being broken up into several distinct excerpts (if broken up, some of the excerpts will of course not contain the interviewer question). The latter is especially likely with very long responses. In general, a change of thought is indicated by the need for a new set (or a revised set) of child codes. The parent code will often be the same.*

When possible given the nuances in the data, excerpts should be mutually exclusive (i.e., non-overlapping).

Challenges and Barriers: this code is used to indicate general challenges or barriers that the participant had in implementing the Fourth R this year or that may have influenced implementation quality. It might also be used in the question "*what are your general impressions of the program*" as some participants may allude to the challenges and barriers of program.

- Program Specific: use this code to indicate when the participant describes a challenge or barrier specifically with the Fourth R program that impeded implementation.
    - **Comprehensive/Lengthy**: use this code when the participant describes that there is just too much in the program to get through (good or bad) and underlying this barrier will be the discussion of time as a challenge to complete activities in the allotted time.
    - **Discussions**: whether positive or negative, use this code when the participant describes how discussions and class conversations make it difficult to implement the program
    - **Content**: use this code when the participant discusses how there is something with the content of the program that impacts implementation (e.g., something is missing, language of program, too much of one thing, catholic sexuality)
    - **Class composition/make up**: Use this code when the participant discusses how the composition of their class impacts implementation
    - **Relevance Developmentally**: use this code when the participant describes how some of the material isn't relevant to kids that age
    - **Program Structure**: use this code when the participant discusses how the program structure impacts implementation.
- School Specific: use this code to indicate when the participant describes a challenge or barrier within the school that impeded implementation.
    - **Timetabling:** use this code when the participant describes how the way health class is blocked or timetabled at the school impedes program implementation

    - **Class size:** use this code when the participant describes how the class size impedes implementation of program.
    - **School Disruptions:** use this code when the participant discusses the external influences and school disruptions that occur that impede program implementation.
    - **Value and Prioritization of Health class.** Use this code when the participant discuss the perception of the value placed on health education and the priority of health education within the school.
- Teacher specific: use this code to indicate when the participant describes something about themselves that may have impeded successful implementation (e.g., not enough experience)
    - **Experience with the Program:** use this code when the participant discusses how not enough experience delivering the program impacted their ability to implement as intended.
    - **Authenticity of Group Discussion:** use this code when the participant discusses how as a teacher, they want to stay true to the group discussion and that can impede implementation.

Can also be used where the participant replies they don't have any, don't know etc.

Good Quotes: use this code to highlight any exemplary, illuminating or interesting quotes.

Fourth R Program Stories: use this code for any general stories (i.e., anecdotes) participants tell that seem interesting or illuminating.

Facilitators and Successes: this code is used to indicate general successes and facilitators that enhanced the implementation quality of the Fourth R program. It might also be used in the question "*what are your general impressions of the program*" as some participants may allude to the successes and facilitators of program. Also could be used with the question, "*Tell me in what way the fourth r fits into your schools*' alignment with healthy relationships or violence prevention, or what you do in your classroom in general". Also the question "*what works well with the program?"*

- Program Specific: use this code to indicate when the participant describes a facilitator specifically with the Fourth R program that enhanced implementation.
    - **Organizational structure of program**. Use this code to indicate when the participant describes something about the organizational structure of the program, like the layout, or the ease of using the resource, or that all materials are there in one place (laminates, videos, rubrics) that enhanced implementation.
    - **Program Content**: Use this code to indicate when the participant identifies the content of the program, like activities, lessons, etc., as enhancing implementation

    - **Opportunity for Discussion/Collaboration**: use this code when the participant describes the discussions, group collaboration or dialogue as an enhancement to implementation
    - **Learning about relationships**: use this code when the participant describes learning about relationships as an enhancement to implementation
    - **Engaging and Interactive**: use this code when the participant describes the engaging and interactive nature of the program as enhancing implementation
    - **Alignment with expectations:** use this code when the participant describes that aligning the program with the health expectations was a facilitator to implementation.

- School Specific: use this code to indicate when the participant describes a facilitator within the school that enhanced implementation.
    - **Alignment with Fourth R Values**: use this code when the participant describes that the school's values align with Fourth R program values (e.g., building relationships, respect, and communication) and this helps to facilitate program implementation.
    - **Alignment with Fourth R Components**: use this code when the participant describes how components of the Fourth R, like role plays, teaching strategies, group activities and discussions, align with school's approach to teaching and facilitates implementation.
    - **Timetabling**: use this code when the participant describes how the way health is timetabled at school has facilitated program implementation.

- Classroom Specific:
    - **Class composition/dynamic:**

- Teacher Specific: use this code to indicate when the participant describes a facilitator related to their ability, values, or strategies that enhanced implementation quality
    - **Cross curricular implementation:** use this code when the participant describes that using other curricular blocks, like literacy or drama, helps facilitate implementation.
    - **Preparation:** use this code when the participant describes being prepared to deliver the program as a facilitator to program implementation.
    - **Teaching style:** use this code when the participant describes their particular teaching style as helping to facilitate program implementation.
    - **Experience with program:** use this code when the participant describes how their previous experience teaching the program facilitated implementation.

- **Flexibility and adaptability:** use this code when the participant describes how being flexible, adaptable to program or student needs helps to facilitate implementation

Fidelity: use this code to indicate participants' understanding of program fidelity and the importance of fidelity as it relates to Fourth R implementation. This code also covers the question "*What does program fidelity mean to you?"*

- Adaptation and Flexibility: use this code when the participate describes their views around adaptation and flexibility of program implementation

Program Modification Reason: use this code to indicate any reasons for modifications the participant made to the Fourth R program, including the question *"Are there ways you have modified the program?"*

- **Time**: use this code to indicate discussion of time as a reason for modifying the program in that the participant dropped lessons or picked and choose activities to fit a period or block
- **Religion**: use this code to indicate catholic/religion expectations as reasons for modifying the program (adding or keeping the same or changing)
- **Class composition**: use this code to indicate characteristics of the class as reasons for modifying the program. For example, if there were language or skill issues and they just did certain exercises.
- **Content Missing**: use this code if the participant felt there was some content missing from Program that they wanted to add.
- **No modification**: Use this code if the participant said they made no modifications to program
- **Framework**: use this code if the participant said they modified the program to change the approach or framework of what was taught
- **Expectations**: to deliver as much of the expectations as possible

Program Modification Strategy: Use this code to indicate how the participant modified the program.

- Pick and Choose: use this code when the participant describes that they just picked and choose lessons and activities
- Enhanced/ added to program: use this code when the participant describes enhancing the program with other resources
- Deleted: use this code when the participant describes not doing some of the activities or removing them

Program Impacts: use this code to indicate discussion of specific impacts, positive, negative or neutral (i.e., lack of), the participant attributes to the Fourth R program. This code should also be used with the question *"have you seen any changes in your students' behaviours, language, and understanding of healthy relationships?* Could also be used with the question, *"did you have any successful moments in class that you could describe".* Sometimes comes out in the question around memorable lesson.

- **Student Behaviour**: use this code to indicate changes in student behaviours as a result of the Fourth R program
- **Healthy Relationships**: use this code to indicate whether the participant discusses changes in relationships (either positive or negative or neutral) as a result of the program.
- **Language**: use this code to indicate changes in language/communication as a result of the program
- **Knowledge and Awareness**: use this code when the participant describes how the program has impacted the knowledge students have about the issues raised in the program or a new awareness.
- **No change**: use this code if the participant says there was no impact or change they could see in student.

Supports: something that the individual can identify in their school, classroom. etc. that provides support to implementation quality (e.g., timetables,). *Support provided can be positive or negative.*

- Types of Supports: use this code to indicate when a participant is discussing particular supports that helped with the implementation of the program
  - Principal: use this code to indicate support from school principal
  - Peers: use this code to indicate support from other peers or teachers in school.

Recommendations: this code is used to indicate general recommendations the participant has for Fourth R programs.

- **Content**: use this code when the participant indicates that there needs to be additional content added to the program
- **More interactive components**: use this code when the participant indicates that there needs to be more interactive components added to the program.
- **More role play examples:** use this code when the participant indicates that more role play exemplars need to be added to the program
- **No recommendations:** use this code when the participant has no recommendations
- **Shorter, condensed Fourth R:** use this code when the participant indicates a recommendation related to shorter, more condensed version of Fourth R
- **Timetabling:** use this code when the participant discusses how the program should be timetabled.
- **Program Structure:** use this code when the participant describes something about the structure of the program as a recommendation

Role Plays: this code is used to indicate whether the participant used or tried to deliver role plays as part of the program. Use with the question *"did you try role plays with your student?"*

- **Successes**: this code is used to indicate any successes the participant describes when implementing role plays in the classroom
- **Challenges**: this code is used to indicate any challenges the participant describes when implementing role plays in the classroom.
- **Perceptions of students**: use this code to indicate any perceptions students had about the role plays.

Involvement with Fourth R: use this code when the participant describes how they got involved with the Fourth R and the question "*why did you get involved with Fourth R program*".

- PD Opportunity: use this code to indicate reason for involvement was related to a PD opportunity that arose
- General Interest: use this code to indicate reason for involvement was related to a general interest
- Principal encouragement: use this code to indicate the reason for involvement was that the principal wanted the teachers to be trained.

Interest in Fourth R program: use this code when the participant describes why they were interested in signing up for Fourth R and the question "*What interested you in Fourth R program"*

- **Getting help**: use this code to indicate that the participant was interested in Fourth R training to get more help in teaching Health class
- **Need for this type of programming**: use this code to indicate that the participant felt that this program was needed
- **Lack of resources**: use this code to indicate that the participant was interested in Fourth R because there was a lack of healthy resources available.
- **No choice**: use this code to indicate when the participant indicates they had no choice but to become involved in Fourth R
- **Comprehensiveness of program**: Use this code when the participant describes that the comprehensive nature of the program and all the teaching and assessment parts of the program was a reason for interest
- **Referral from colleague**: Use this code when the participant describes that their interest stemmed from a referral from colleague.

Composition of current Fourth R class: use this code when the participant describes characteristics of their class that they taught Fourth R to this year.

- Size: use this code if the participant describes the size of class
- Grade: use this code if the participant describes the grade level of class

- Skill Level: use this code if the participant describes the skill level of students
- Ethnicity: use this code if the participant describes the ethnicity of students

Amount of Program Implemented: use this code when the participant describes how much of the program was implemented or the question *"tell me about how much of the program was implemented"*. Also used to describe the rotation schedule or the amount of block that was used.

Look forward to teach program: use this code when the participant is asked whether they look forward to teaching the fourth R program.

Intent to teach Fourth R next Year: use this code when the participant is asked whether they will implement the program next year.

Appendix K: School Administrator and Fourth R District Program Coordinator

Implementation Fidelity STUDY Principal and School District Program Consultant Codebook

Note on Excerpting: *Excerpts should start with the interviewer question, and end where there is a natural change of thought/direction. This may be the end of the respondent's answer to the question, or this may result in the respondent's answer being broken up into several distinct excerpts (if broken up, some of the excerpts will of course not contain the interviewer question). The latter is especially likely with very long responses. In general, a change of thought is indicated by the need for a new set (or a revised set) of child codes. The parent code will often be the same.*

When possible given the nuances in the data, excerpts should be mutually exclusive (i.e., non-overlapping).

Demographics: this code is used to indicate general personal characteristics of the principal being interviewed

- **Number of years in education**: use this code when the participant describes how many years in education they have worked.
- **Number of years as an administrator**: use this code when the participant describes how many years they have worked as an administrator.
- **Previous experience**: use this code when the participant describes their previous school experience.

School Characteristics

- **Size**: use this code when the participant describes the size of their school.
- **Academically**: use this code when the participant describes how their school is academically.
- **Culture and Ethnicity**: use this code when the participant describes the culture or ethnicity of their school.

Involvement in Fourth R:

- **PD Opportunity**: use this code to indicate reason for involvement was related to a PD opportunity that arose
- **Referral from Colleague**: use this code to indicate reason for involvement with Fourth R was a referral from colleague
- **Need for this type of programming**: use this code to indicate reason for involvement with Fourth R was the need for this type of programming

Timetabling of Health Class: use this code when the participant describes how health class is timetabled in their school.

Good Quotes: use this code to highlight any exemplary, illuminating or interesting quotes.

Challenges and Barriers: this code is used to indicate general challenges or barriers that the participant perceives in implementing the Fourth R or that may have influenced implementation quality. It might also be used in the question "*what do you think makes the program difficult to implement*.

- Program Specific: use this code to indicate when the participant describes a challenge or barrier specifically with the Fourth R program that impeded implementation.
    - **Comprehensive/Lengthy**: use this code when the participant describes that there is just too much in the program to get through (good or bad) and underlying this barrier will be the discussion of time as a challenge to complete activities in the allotted time.
    - **No Barriers**: use this code when the participant says they are not aware of any barriers to implementing the program.
    - **Content**: use this code when the participant discusses how there is something with the content of the program that impacts implementation (e.g., something is missing, language of program, too much of one thing, catholic sexuality)
    - **Discussions**: whether positive or negative, use this code when the participant describes how discussions and class conversations make it difficult to implement the program

- School Specific: use this code to indicate when the participant describes a challenge or barrier within the school that impeded implementation.
    - **Teacher Training:** use this code when the participant indicates that not having all teachers trained in this school can impede implementation
    - **Timetabling:** use this code when the participant indicates that not having the health timetabled like it should impedes implementation
    - **Inconsistency of Health Teachers:** use this code when the participant describes the inconsistency of who is teaching health from year to year.
    - **Inconsistency in teaching assignments:** use this code when the participant discusses how the inconsistency in teaching assignments from year to year impacts implementation.

- Teacher specific: use this code to indicate when the participant describes something about the teacher that may have impeded successful implementation
    - **Not planning Health:** use this code when the participant discusses how health class is done ad-hoc with physical education when the need arises

Can also be used where the participant replies they don't have any, don't know etc.

Facilitators and Successes: this code is used to indicate general successes and facilitators that enhanced the implementation quality of the Fourth R program. It might also be used in the question "*What are your overall impressions of the program?*

- Program Specific: use this code to indicate when the participant describes a facilitator specifically with the Fourth R program that enhanced implementation.
    - **Teachers Like and Value Program:** use this code when the participant indicates that teachers like and value the program
    - **Role Plays**: use this code when the participant describes role plays as helping facilitate implementation
    - **Engaging and Interactive**: use this code when the participant describes the engaging and interactive nature of the program as enhancing implementation
    - **Comprehensive nature of program**: use this code when the participant describes the comprehensive nature of the program (i.e., all the resources are there) as a facilitator to implementation
    - **Developmentally appropriate/relevant**: use this code when the participant describes that the program is applicable or relevant to kids that age
    - **Alignment with school/district/province priorities:** use this code when the participant describes that the program aligns with the priorities, goals, values, of the school, district, or province in terms of health education
    - **Ease of :** use this code when the participant describes the program as easy to implement or easily accessible resource
    - **Program Content**: Use this code to indicate when the participant identifies the content of the program, like activities, lessons, etc., as enhancing implementation
    - **Learning about relationships**: use this code when the participant describes learning about relationships as an enhancement to implementation
    - **Self-regulation and conflict resolution:** use this code when the participant indicates that the self-regulation and conflict resolution parts of the program help to facilitate implementation
    - **Evidence-based**: use this code when the participant indicates that the evidence-based nature of the program facilitates implementation

- School Specific: use this code to indicate when the participant describes a facilitator within the school that enhanced implementation.

    - **Collaboration with Staff**: use this code when the participant describes the collaboration with staff facilitating implementation.
    - **Timetabling**: use this code when the participant describes how the way health is timetabled at school has facilitated program implementation

- System Specific: use this code to indicate when the participant describes a facilitator related to the district that has enhanced facilitation.
    - **Teacher Training**: use this code when the participant describes the training of teachers across a district as a facilitator to implementation
    - **District wide initiative:** use this code when the participant describes the fact that the entire district uses the Fourth R and there is continuity and mandate for everyone to be doing the same thing
    - **District wide consultant:** Use this code when the participant describes how having a phys ed consultant at the board as a go to person facilitates implementation

Program Impacts: use this code to indicate discussion of specific impacts, positive, negative or neutral (i.e., lack of), the participant attributes to the Fourth R program. This code should also be used with the question *"have you seen any changes in your school/ student since the implementation of this program".*

Student Behaviour: use this code to indicate changes in student behaviours as a result of the Fourth R program

- **Healthy Relationships**: use this code to indicate whether the participant discusses changes in relationships (either positive or negative or neutral) as a result of the program.
- **No change**: use this code if the participant says there was no impact or change they could see in student.

School-Level Impacts: use this code when to indicate the programs' role in changing something at the school level

- **Consistency of health education:** use this code when the participant discusses how the implementation of fourth r has changed the way the health education is delivered at the school level.

System Specific impacts: use this code to indicate when the participant describes something about the implementation of the Fourth R that has impacted the way the system or district does work.

- **Awareness of the importance healthy relationships programming:** use this code when the participant indicates that the implementation of Fourth R has increased the awareness of the importance of healthy relationship programming
- **Policy changes**: use this code when the participant describes any policy changes that has been influenced by the implementation of Fourth R programs.

Supports: use this code when the participant describes the ways they (e.g., administrative team) has supported the Fourth R teacher in delivering the program

- **No Support**: use this code when the participant indicates that they did not do anything in particular to support the implementation of the program

- **Financial**: use this code when the participant indicates that they support the Fourth R teachers by providing resources and can pay for costs associated with resources
- **Tech Support**: use this code when the participant describes media or tech support for Fourth R teacher
- **Collaboration with teachers:** use this code when the participant describes the collaboration opportunities made available to Fourth R teachers
- **Community of Practice**: use this code to indicate the development of a community of practice to support implementation efforts
- **Booster training:** use this code to indicate the role of booster training at the system level to support implementation efforts

Appendix L: Student Codebook

Implementation Fidelity STUDY Student Codebook

Note on Excerpting: *Excerpts should start with the interviewer question, and end where there is a natural change of thought/direction. This may be the end of the respondent's answer to the question, or this may result in the respondent's answer being broken up into several distinct excerpts (if broken up, some of the excerpts will of course not contain the interviewer question). The latter is especially likely with very long responses. In general, a change of thought is indicated by the need for a new set (or a revised set) of child codes. The parent code will often be the same.*

When possible given the nuances in the data, excerpts should be mutually exclusive (i.e., non-overlapping).

Most important things learned in Fourth R Program: use this code when the participant discusses what they would tell adults they learned in Fourth R.

Relationships and Relationship Violence: use this code when the participant talks about learning about healthy relationships (with self-or others), unhealthy relationships, friendships as the most important thing in Fourth R class, as well as bullying or violence, etc.

Healthy eating: use this code when the participant talks about learning about healthy eating as the most important thing in Fourth R class.

Drug and substance abuse: use this code when the participant talks about learning about drug and substance abuse as the most important thing in Fourth R class.

Communication and decision-making skills: use this code when the participant talks about learning about communication skills as the most important thing in Fourth R class.

Emotions and Coping Strategies: use this code when the participant talks about learning about their emotions, stress and coping as most important thing in Fourth R class

Can't remember: use this code when the participant indicates they cant remember learning anything in health class.

Growth and development: use this code when the participant indicates that one of the most important things in health class was related to growth and development

Ways to resolve conflict

Delay, refusal and negotiation skills: use this code when the participant mentions delay, refusal or negotiation as an effective way to resolve conflict.

Communicate: use this code when the participant talks about communicating with the person to resolve conflict

Be calm: use this code when the participant talks about being calm, not raising voice

Problem Solve: use this code when the participant talks about trying to think through the best response before jumping in

Be genuine: use this code when the participant talks about being honest or true

Understanding of stressful symptoms: use this code when the participant discusses how to recognize stressful symptoms.

Physical: use this code when the participant discusses changes in someone physically when stressed (e.g., low energy, headache, upset stomach, tense, heartbeat, sick)

Emotional: use this code when the participant discusses changes in someone emotionally when stressed (e.g., quiet, anxiety weight changes, lonely,

Behavioural: use this code when the participant discusses changes in someone's behaviours when stressed. (e.g., acting differently, sleep changes, withdrawal, unhealthy eating)

Understanding how to support friends who are stressed: use this code when the participant discusses how to support friends who are stressed.

Distraction: use this code when the participant discusses using distraction as a way to support someone who is stressed.

Companionship: use this code when the participant discusses being a supportive friend to someone who is stressed.

Be a good friend: use this code when the participant discusses talking to their friend in order to support them when stressed, being positive and a good friend, or helping them out

Safe Space: use this code when the participant discusses giving their friend a safe space to vent or just relax when stressed.

Talk to adult: use this code when the participant suggests that the stressed friend should talk to an adult

Intervene: use this code when the participant suggests intervene in the stressful situation

Ways to help a friend who is being bullied by text: use this code when the participant discusses ways to help a friend who is being bullied by text.

Tell an adult: use this code when the participant mentions telling an adult to help their bullied friend.

Block or remove number: use this code when the participant mentions blocking or removing the number, anything technical to the phone to help bullied friend.

Support: use this code when the participant discusses supporting bullied friend by being there, a good friend

Distraction: use this code when the participant discusses using distraction to help bullied friend

Intervene: use this code when the participant discusses intervening to help the bullied friend by either talking to bully or see if they can solve it first themselves.

Ignore the bully: use this code when the participant discusses telling friend to just ignore the bully.

Retaliate: use this code when the participant discusses retaliating on the bully

Knowledge about bullying: use this code when the participant discusses what they learned about bullying.

Conflict resolution skills: use this code when the participant discusses they learned about delay, negotiation and refusal skills during bullying unit

Confront the situation: use this code when the participant indicates that they should confront the situation.

Talk to someone: use this code when the participant indicates that they should talk to someone about the situation.

Knowledge around healthy eating: use this code when the participant discusses what they learned around healthy eating.

Food choices: use this code when the participant indicates they learned about healthy and unhealthy food choices during healthy eating unit.

Food quantities: use this code when the participant indicates that they learned about food quantities during healthy eating unit (e.g., food size, how much to eat).

Diet: use this code when the participant indicates that they learned about diets during the healthy eating unit.

Exercise: use this code when the participant indicates that they learned about exercise during the healthy eating unit.

Healthy balance: use this code when the participant indicates that you need to eat in moderation and have a healthy balance;

Didn't do it: use this code when the participant indicates that they didn't do healthy eating.

Knowledge around healthy growth and development: use this code when the participant discusses what they learned about healthy growth and development.

Didn't learn it: use this code when the participant indicates they didn't learn about healthy growth and development in health class.

STDs: use this code when the participant indicates that they learned about STDs STIs during healthy growth and development.

Sexual relationships and peer pressure: use this code when the participant indicates that they learned about sexual relationships and peer pressure

Contraception: use this code when the participant indicates that they learned about contraception use in healthy growth and development.

Knowledge around sources of support: use this code when the participant discusses what they learned around sources of support when in need.

Adults: use this code when the participant indicates that they learned to seek help from adults in their lives as sources of support

Family: use this code when the participant indicates that they learned to seek help from a family member (e.g., parent, sibling)

School source: use this code when the participant indicates that they learned to seek help from someone at school

Trusted source: use this code when the participant indicates that they learned to seek help from any trusted source.

Friend: use this code when the participant indicates that they learned to seek help from a friend.

Helpline: use this code when the participant talks about seeking support from a hotline (e.g., kids help phone)

Religious person: use this code when the participant talks about a religious source as support.

Good Quotes: use this code to highlight any exemplary, illuminating or interesting quotes.

The importance of teaching about healthy relationships: use this code when the participant discusses why it is important to learn about healthy relationships at this age.

Better prepared for future situations: use this code when the participant discusses that they need to learn about healthy relationships because they will be better prepared for future situations.

The earlier, the better: use this code when the participant indicates that the sooner they learn about healthy relationships, the better.

Healthier current relationships: use this code when the participant discusses that they need to learn this stuff now so that they can be in healthy relationships presently.

Healthier decisions: use this code when the participant discusses that they need to learn this stuff now so that they can make better decisions.

Perception of Role Plays: use this code when the participant discusses the use of role plays in the classroom.

Effective way to learn: use this code when the participant indicates that role plays are an effective way to learn in class

Better prepared for the future: use this code when the participant indicates that role plays help you prepare for future situations.

Fun: use this code when the participant indicates that doing role plays in class is fun.

Boring: use this code when the participant indicates that role plays are boring.

Realistic and Relevant: use this code when the participant indicates that role plays allow for real life experiences.

Experience in Health Class: use this code when the participant talks about their experience in Health Class

Relevant to Our Life: use this code when the participant talks about health class as being relevant to their life

Interactive and engaging: use this code when the participant talks about the interactive nature of health class.

Teaches skills: use this code when the participant talks about how health class teaches them certain skills (e.g., communication, conflict resolution)

Not enough health class: use this code when the participant talks about how they didn't have enough health classes; wanted more health.

Curriculum Vitae

Debbie Chiodo, M.A., M.Ed. Ph.D (Counselling Psychology)
Centre for Addiction and Mental Health
Provincial Systems Support Program

Education

2012-present	Degree and institution	**Ph.D., (Educational Psychology)** Faculty of Education Western University
	Supervised by:	Dr. Peter Jaffe
2002-2004	Degree and institution:	**M.Ed. (Counselling Psychology)** University of Western Ontario
	Thesis:	The characteristics of abused women on the caseload of a child protection service
	Supervised by:	Dr. Alan Leschied
2003-2004	Clinical Internship	Centre for Children and Families in the Justice System of the London Family Court Clinic, Clinical Supports Team
	Supervised by:	Ms. Sue Malla, MSW, RSW
2000-2001	Degree and institution:	**M.A. (Psychology)** University of Western Ontario
	Dissertation:	Selective information processing biases of food and body shape/weight stimuli in women with unhealthy eating attitudes
	Supervised by:	Dr. Tony Vernon
1995-2000	Degree and institution:	**H.BSc. (Psychology, *with high distinction)*** University of Toronto
	Thesis:	The night eating syndrome: Is it really just a form of female dietary restraint
	Supervised by:	Dr. Janet Polivy

Employment Experience

Research Experience

2004-present ***Senior Research Associate and Project Consultant,*** Centre for Addiction and Mental Health (CAMH)

- Develop, design, implement, and evaluate programming and initiatives in school-based research, bullying and violence prevention, healthy relationships, mental and well-being of youth, suspension and expulsions, alternative education, and FNMI mentoring.
- Conduct research and responsible for data, project, and staff management of small and large scale longitudinal research, program evaluation, process evaluation, and qualitative research studies on prevention research related to healthy relationships, program evaluation, FNMI populations, mental health, wellness, academic success, suspension and expulsions, alternative education, and adolescent risk behaviours.
- Work collaboratively with schools and school boards provincially and nationally to understand the barriers and successes of program implementation in schools
- Develop evaluation frameworks in schools that are flexible, adaptable, iterative and rigorous.
- Responsible for knowledge mobilization, translation, and transfer activities that include publishing academic and non-academic technical reports and peer review papers/chapters; reviewing best practices of implementation of prevention programming in schools and communities and assisting with the implementation of recommended approaches and strategies;
- Develop knowledge exchange products such as videos, manuals, newsletters, presentations and workshops, and other curriculum-based resources with communication strategies that help to build knowledge, awareness, and recommended approaches for system-level change and reform in the education sector;
- Significant experience in grant writing, academic and non-academic publishing, literature reviews and synthesis, supervision of research associates
- Proficient in data analysis; completion and monitoring of research ethics to REB boards within the University of Western Ontario and CAMH;
- Responsible for working with schools and community partners, including First Nations communities across Canada for evaluation of programming, program development and implementation;
- Training of parents, teachers, and youth and community professionals in a variety of topics related to mental health, growth mindset, resiliency, media, and learning.
- Yearly completion of TCPS2 certificates and ICH-GCP-training. Yearly completion of Hospital Emergency Codes. Proficient in MS Office Software, presentation technologies such as Prezi and info-graphic technology. Proficient in statistical software such as SPSS, MPlus, and qualitative software such as Dedoose.

1995- ***Statistical and Research Consultant***
Provide consulting with respect to research design, data collection, statistical analysis, interpretation and presentation of results for numerous community agencies, including:

- YouthREX
- Western University
- Centre for Research on Violence Against Women and Children
- United Way of London & Middlesex
- Fibromyalgia Clinic, St. Joseph's Hospital, London, ON
- Eating Disorders Research Laboratory, University of Toronto
- Ministry of Education (Ontario)
- Ministry of Child and Family Services
- Ministry of Attorney General

Teaching Experience

2015-present ***Lecturer***, Faculty of Education, Western University, London, ON; Research Methods in Counselling Psychology, Graduate course.

2002-2008 ***Lecturer***, Kings College and Department of Health Science, Western University, London, ON. Research Methods, Special Topic in Adolescent Mental Health

Professional Experience

2004-2012 ***Research Centre Manager*,** Centre for Addiction and Mental Health (CAMH) Centre for Prevention Science, London, ON.

- Oversaw daily functioning and human resources components of the research centre; responsible for research budgets totaling more than 5 million dollars; monitored and audited all research activities, grants and staffing projects
- Participated in the hiring and dismissal of research staff, conducting performance evaluations, approvals of staff requests for vacation, change of hours,
- Responsible for financials of the research centre in partnership with Western and CAMH

Publications

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8. Crooks, C. V**.,** Snowshoe, A., **Chiodo, D**., & Brunette-Debassige, C. (2013). Navigating between rigor and community-based research partnerships: Building the evaluation of the Uniting Our Nations health promotion program for FNMI youth. Canadian Journal of Community Mental Health.

9. Crooks, C. V.**, Chiodo, D.,** Zwarych, S., Hughes, R., & Wolfe, D. A. (2013). Predicting implementation success of an evidence-based program to promote healthy relationships among students two to eight years after teacher training. Canadian Journal of Community Mental Health.

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11. Wolfe, D.A., Crooks, C.V, **Chiodo**, D., Hughes, R., Ellis, W (2012). Observations of adolescent peer resistance skills following a classroom-based healthy relationship program: A post-intervention comparison. Prevention Science, (DOI) 10.1007/s11121-011-0256-z.

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2. Crooks, C. V., **Chiodo, D.,** Thomas, D., Burns, S., & Camillo, C. (2010). ***Engaging and empowering Aboriginal youth: A toolkit for service providers (2nd Ed.).*** Bloomington, IN: Trafford.
3. Crooks, C. V., **Chiodo, D**., Thomas, D., Burns, S., & Camillo, C. (2010). ***Engagement et Responsabilisation des Jeunes Autochtones : Trousse D'Outils Destinée Aux Fournisseurs de Services (2nd Ed.).*** Bloomington, IN: Trafford.
4. Crooks, C. V., **Chiodo, D.**, & Thomas, D. (2009). *Engaging and empowering Aboriginal youth: A toolkit for service providers. First Edition* Victoria, B.C.: Trafford.

Technical reports

1. Hughes, R., Dale, S., & **Chiodo, D**. (2017). Review and Analysis of Safe School Plans in Northwest Territories: Recommendations and Next Steps. Final report prepared for the Government of Northwest Territories, Department of Education, Culture, and Employment.
2. **Chiodo, D**., Crooks, C.V., & Exner-Cortens, D. (2016). Lessons learned from Fourth R parent engagement strategies. London, ON: Centre for School Mental Health, Western University.
3. **Chiodo**, **D**., Pollock, K., Faubert, B., Hauseman, C., Bakker, P. (2016). School suspension and expulsion literature review. Technical report prepared for the Ontario Ministry of Education.
4. **Chiodo, D**., Pollock, K., Faubert, B., Hauseman, C., Bakker, P. (2016). School suspension and expulsion literature interjurisdictional scan. Technical report prepared for the Ontario Ministry of Education.
5. **Chiodo, D**.., Exner-Cortens, D., Crooks, C. (2015). Scaling Up the Fourth R Program: Facilitators, Barriers, and Problems of Practice. Final report prepared for the Public Health Agency of Canada.
6. **Chiodo, D.**, Hughes, R., Wolfe, D., & Hurley, F. Evaluation of the Enhanced Fourth R Alternative Education Program (2009). Final report prepared for the Ontario Education Services Corporation, Ministry of Education.
7. Mamo, A. A., Jaffe, P. G, & **Chiodo, D.** (2007). Recapturing and Renewing the Vision of the Family Court. Final report prepared for the Ministry of Attorney General, Toronto.
8. Leschied, A., **Chiodo, D**., Nowicki, E, & Rodger, S. (2006). "Better to Build a Child than Fix an Adult". A report to the Canadian National Crime Prevention Council on Predictors of Risk for Youth who Proceed to the Adult Justice System. University of Western ON and

CAMH Centre for Prevention Science, London, ON.

9. Wolfe, D.A., Crooks, C.V., **Chiodo, D**., Hughes, R., & Jaffe, P.G. (2005). The Fourth R interim evaluation report (September, 2005). *Impact of a comprehensive school-based prevention program: Changes in adolescents' knowledge, attitudes, and behaviour about violence, sexual behaviour, and substance use*. London: ON: CAMH Centre for Prevention Science. Available at www.thefourthr.ca.
10. Rawana, J. S., Ellis, W., **Chiodo**, **D**, Hughes, R., & Wolfe, D.A. (2005). A pilot-program to implement and evaluate the *Fourth R* in Strict Discipline Demonstration Projects. CAMH Centre for Prevention Science, London, ON. Available at www.thefourthr.ca.
11. Leschied, A.W., **Chiodo, D**., Whitehead, P.C., & Hurley, D. (2004). *Assessing the appropriateness of placements in the child welfare system: Improving stability and outcomes for children.* Final report prepared for the Ministry of Services for Children and Youth and the Children's Aid Society of London and Middlesex.
12. Leschied, A.W., **Chiodo, D**., & Whitehead (2004). Testing the inter-rater reliability of static and dynamic risk ratings of women offenders. *Final Report prepared to the Women Offender Sector of Correctional Services Canada.*
13. Leschied, A.W., Whitehead, P., Hurley, D., & **Chiodo, D**. (2003/2004). Protecting children is everybody's business: Investigating the increasing demand for service. *Canada's Children: Centre of Excellence for Child Welfare Update.*
14. Whitehead, P.C., Bala, N., Leschied, A,W., & **Chiodo, D**. (2004) A New Model for Children and Youth Advocacy in Ontario. Final Report prepared for the Ministry of Children and Youth Services, Toronto.
15. **Chiodo, D**., & Leschied, A.W. (2003). A meta-analysis of school-based mental health interventions: Examining treatment outcomes for emotional and behavioural disordered children 6 to 14 years of age. Final Report prepared for Algoma Family Services, Sault Ste. Marie, Ontario.
16. **Chiodo, D**. & Hill, M.L. (2002). Determining the need for allied health treatment services in the Rheumatology outpatient clinic: Patient-identified versus Nurse-identified treatment needs. Rheumatology Department Needs Assessment Final Report prepared for the Rheumatology day Program Design Team, Arthritis Institute, St. Joseph's Health Care London.
17. Hill, M.L. & **Chiodo, D**. (2001). A survey of patient-identified and rheumatologist identified need for allied health treatment services in the Rheumatology Department. Rheumatology Department Needs Assessment Final Report prepared for the Rheumatology Day Program Design Team, Arthritis Institute, St. Joseph's Health Care London.

Other works

Encyclopedia entries in C. Renzetti & J. Edleson (Eds.) (2010). *Encyclopedia of Interpersonal Violence.* Thousand Oaks, CA: Sage. Entry has additional authors:

1. Violence Prevention Curriculum for Adolescents (**Chiodo, D**., Hughes, R & Wolfe, D)

Research and project funding

2016-2017 Our Stories, Our Voices II: Supporting Syrian youth and their families with successful math competencies. Parent Reaching Out Grant. Ontario Ministry of Education, Safe Schools Division. ***Principal Investigator***. **$10000.**

2015-2016 Our Stories, Our Voices, Supporting Newcomer Youth and their Families. Parent Reaching Out Grant. Ontario Ministry of Education, Safe Schools Division. ***Principal Investigator***. **$15000.**

2015. London Community Foundation: Acorn Fund for Youth. Using Student Voice to Support Newcomer Mental Health and Well-Being. ***Principal Investigator***. **$1,000.**

2015-2017. Suspension/Expulsion Program Evaluation, ***Research Associate***. Ontario Ministry of Education, **110,000.**

2008-present Urban and Priority High School Projects, London Ontario. ***Principal Investigator.*** Ontario Ministry of Education, Safe Schools Division. **$150,000.**

2008-2015 SSHRC Strategic Knowledge Clusters Network: The Development of a Canadian Prevention Science Research Cluster. ***Collaborator.*** **$2,087,491.**

2009 Increasing Participation and Engagement of Aboriginal Parents and Families in Schools. ***Principal Investigator.*** Parent Engagement Office, Ministry of Education, PRO Grants. **$25,000.**

2008-2009 Fourth R Projects with Aboriginal Youth. *University Collaborator.* (grant recipient: Thames Valley District School Board) Aboriginal Education Office of the Ministry of Education to Support the Implementation of the Ontario *First Nation, Métis, and Inuit Education Policy Framework*, including building and enhancing partnerships with Aboriginal communities and organizations, to support student achievement. $**84,985.**

2008-2009 Enhancing the Fourth R Alternative Education Program for Aboriginal and Non-Aboriginal Students: A Bullying Prevention Perspective. ***Principal Investigator***. Ministry of Ed **$119,992.**

2007-2009 Building community capacity to address victimization among Aboriginal high school students. ***Co-Principal Investigator.*** Ontario Ministry of the Attorney General,

Office of Victim Services, $**51,575.98**.

2007-2009 Fourth R projects with Aboriginal youth. ***University Collaborator.*** (Grant recipient: Thames Valley District School Board). Aboriginal Education Office of the Ministry of Education Initiative to Increase School Boards' Capacity to Implement the Policy Framework, Including Enhancing Partnerships, to Support Student Achievement, **$55,000.**

2007-2008 The Fourth R Model Program: Innovative Expansion Initiatives to Promote Positive Student Behaviour, Leadership Skills and Academic Success of Aboriginal and Non-Aboriginal Elementary and Secondary Students. ***Collaborator.*** Ministry of Education, **365,000.**

2007-2008 Evaluation of the Unified Family Court System. **Co-Principal Investigator.** Ministry of Attorney General, Toronto **$180,000.**

2005-2008 Adapting best practice violence prevention programs for Aboriginal youth. ***Co-Principa Investigator.*** Population Health Fund, Health Canada, **$292,000**.

2004 Development of options for a new model for the Office of the Child and Family Service Advocacy. ***Co-Principal Investigator***. Ministry of Children's Services, **$45,000.**

2003-2004 Testing of the inter-rater reliability of the Custody Rating Scales for women offenders. ***Co-Principal Investigator***. Correctional Services Canada, **$40,000.**

2003-2004 Assessing the appropriateness of placements in the child welfare system. ***Co-Principal Investigator.*** Ministry of Children and the Family, **$50,000.**

2003 Review of school-based interventions for children: A meta-analysis. ***Principal Investigator***. Algoma Family Services, **$10,000.**

2003 Protecting children is everybody's business: Investigating the increasing demand for service at the Children's Aid Society of London/Middlesex. ***Co-Principal Investigator***. United Way, City of London, Ontario Ministry of Community and Social Services, London/Middlesex Children's Aid Society, **$60,000.**

Academic honors and awards

2012-2013 Western Graduate Research Scholarship ($7,000)

2011-2012 Western Graduate Research Scholarship ($7,000)

2010-2011 Western Graduate Research Scholarship ($7,000)

2008-2009 Western Graduate Research Scholarship ($7,000)

2006-2007 Outstanding CAMH Research Employee Award

2004-2005	Dean's Honor Role of Teaching Excellence, University of Western Ontario
2004	Distinguished Contribution to Research in Graduate Studies Award, Canadian Psychological Association
2003-2004	Ontario Graduate Scholarship ($15,000)
2002-2003	Dean's Honor Roll of Teaching Excellence, University of Western Ontario
2001-2002	Ontario Graduate Scholarship ($15,000)
2000-2001	President's Scholarship for academic excellence upon acceptance to UWO ($19,500)
2000-2002	Highest rated TA Instructor as a lab instructor for an undergraduate research methods course
2001-2002	Graduate Student Teaching Award, Society of Graduate Studies, University of Western Ontario

Referred conference presentations

Papers

1. Temple JR, Choi HJ, Wolfe DA, **Chiodo D**. (2015, March). Parallel developmental trajectories of teen dating violence and recent alcohol use. Paper to be presented at the annual meeting of the National Conference on Health and Domestic Violence (NCHDV). Washington DC.

2. Exner-Cortens, D., **Chiodo, D**., Crooks, CV (2014, November). Program scale-up in Canada: Lessons learned from the national implementation of a healthy relationships program. American Public Health Association. New Orleans, LA.

3. Wolfe, D.A., Crooks, C.V., **Chiodo, D**., Hughes, R., Ellis, W., & Jaffe, P. (2008). Effectiveness of a School- Based Program to Prevent Violence and Related Risk Behaviors Among Adolescents Society for Prevention Science, San Francisco.

4. Wolfe, D.A., Crooks, C.V., **Chiodo, D**., Hughes, R., Ellis, W., & Jaffe, P. (2007). Cluster randomized trail of a school based program to reduce multiple problem behaviors among adolescents. Society for Prevention Science, Washington DC.

5. **Chiodo, D.** (2004). Symposium-2004: Youth issues in our schools and in our communities. Plenary and presenter at the 5^{4h} Annual Chatham-Kent Symposium.

6. **Chiodo, D**., Leschied, A, Whitehead, P., & Hurley, D (2003). The empirical basis of risk assessment in child welfare: Assessing the concurrent and predictive validity of risk assessment and clinical judgment. Paper presented at the Canadian Psychology Association

64th Annual Convention, Hamilton, Ontario.

7. Hurley, D., Leschied, A.W., **Chiodo, D**., & Whitehead, P. (2003). Intergenerational continuity and systemic oppression in marginalized families in the child welfare system. Platform presentation at the Canadian Association of Schools of Social Work, Halifax, Nova Scotia.

Posters

8. Exner-Cortens, D., **Chiodo, D**., Hughes, R., Wolfe, D (submitted). Associations Between Traditional and Cyber-Bullying and Composite Mental Health in a Sample of Canadian Adolescents. Society for Research on Adolescents.

9. **Chiodo,D**., Wolfe, D.A., Crooks, C., & Hughes, R (October 2014). Skills for Healthy Youth Relationships: A Seven Year Journey of the Canadian Prevention Science Cluster. Encompasse Conference, Vancouver, British Columbia.

10. Wolfe, D.A., Crooks, C.V., **Chiodo, D.,** Hughes, R., Ellis, W., & Jaffe, P. (2007). *Cluster randomized trial of a school based program to reduce multiple problem behaviors among adolescents.* Society for Prevention Science, Washington DC.

11. Rawana, J.S., Crooks, C.V., **Chiodo, D.**, Hughes, R, & Pereira, J. (2006). Engaging Aboriginal youth in school-based violence prevention initiatives. Poster presentation at the Banff International Conference on Behavioural Science: Violence in the Lives of Children and Families.

12. Ellis, W.E., Rawana, J.S., **Chiodo, D**., Hughes, R., & Wolfe, D. (2006). Risk behaviour among youth attending alternative schools: Some preliminary directions. Poster presentation at the Banff International Conference on Behavioural Science: Violence in the Lives of Children and Families.

13. **Chiodo, D**., Leschied, A, Whitehead, P., & Hurley, D (2004). The characteristics of abused women on the caseload of a child protection service. Poster presentation at the Canadian Psychology Association 65th Annual Convention, St. John's, Newfoundland.

14. **Chiodo, D**., Hill, M.L. (2002). Determining the need for allied health treatment services in the Rheumatology outpatient clinic: Patient-identified versus Nurse-identified treatment needs. Poster presented at the Canadian Psychology Association **63rd Annual Convention, Vancouver, British Colombia.**

15. Hill, M.L., **Chiodo, D**., Bell, D.A., Harth, M., LeRiche, N., Pope, J., Thompson, J.L. & White, K.P. (2002). Determining the need for allied health treatment services in the Rheumatology outpatient clinic: Patient-identified versus Rheumatologist-identified treatment needs. Poster presented at the Association of Rheumatology Allied Health Professionals Annual Scientific Meeting, New Orleans, Louisiana.

16. Hill, M.L., **Chiodo, D**., Bell, D.A., Harth, M., LeRiche, N., Pope, J., Thompson, J.L. & White, K.P. (2002). Determining the need for allied health treatment services in the Rheumatology outpatient clinic: Patient-identified versus Rheumatologist-identified treatment needs. Poster presented at the Lawson health Research Institute Rehabilitation and Geriatric Care Research Day.

Invited presentations and workshops

1. **Chiodo, D** (November, 2016). Growth Mindset and Achievement. Parent Reaching Out Conference, St. Thomas, Ontario

2. **Chiodo, D.** (May, 2016). Growth Mindset and Achievement. Parent Reaching Out Conference, Ingersoll, Ontario
3. **Chiodo, D.** (May, 2016). Growth Mindset and Resiliency. Teacher Professional Development Day Workshop, Ingersoll, Ontario.
4. **Chiodo, D.** (April, 2016). Growth Mindset and Resiliency. Teacher Professional Development Day Workshop, Lucan, Ontario
5. **Chiodo, D.** (March, 2016). If you imagine less, less will be what you undoubtedly achieve. Resiliency and Growth Mindset. Masonville Public School, Parent Reaching Out Workshop
6. **Chiodo, D**. (March 2016). Reflection of Evaluation of Urban and Priority High School Non-Academic Outcomes. Ontario Ministry of Education. Toronto Canada.

7. **Chiodo, D.**, Dale, S., Townsely, D., & Zwarych, S (November, 2015). PREVNet: Promoting Relationships and Eliminating Violence Network. *The Healthy Relationships Plus Program*. Toronto, Canada.

8. **Chiodo, D** (May, 2015). Understanding Emotional Well-Being: The Impact of the Hypersexualization of Girls. Thames Valley District School Board Parent Reaching Out Workshop.

9. **Chiodo, D**. (April, 2015). Healthy Relationships Expert Panel Discussion and Presentation. Canadian Women's Foundation Stewardship Event. Toronto, Canada.

10. **Chiodo,** (April 2015). Invited Wilberforce Public School Professional Development Day Workshop.

11. Rothman, E., **Chiodo, D**., Varley, I., Miller, E., Wolfe, D.A (2015, March). Which dating violence primary prevention programs have demonstrated effectiveness through research? Workshop presented at the annual meeting of the National Conference on Health and Domestic Violence (NCHDV). Washington DC.

12. **Chiodo, D** (2015, March). If You Imagine Less, Less Will be What You Undoubtedly

Deserve: Resiliency and Mindset. Workshop presented at the Thames Valley District School Board Conference on Self Esteem: Raising a Confident Child. London, ON.

13. Wolfe, DA., **Chiodo, D**., & Hughes, R (February, 2015). Promoting the Well-Being of Youth in Schools: Why Social and Emotional Programming Matters. Presented at the Ontario Education Research Symposium. Toronto, Canada.

14. **Chiodo, D**. (2014, December). Embracing a Strength-Based Approach in Education: Why the assessment and measurement of resiliency matters. Presented at the Association of Educational Researchers of Ontario. Toronto, Canada.

15. **Chiodo, D.** (November, 2014). Promoting the Well-Being of Girls. *Breaking Down Barriers: Mental Wellness*. Thames Valley District School Board, London ON.

16. **Chiodo, D.** (May, 2014). The Critical Role of School Leaders in Creating a Culture of Learning, Safety, and Social and Emotional Competency: Lessons from the Fourth R Program. Principal's Qualification Course, London. ON.

17. **Chiodo, D**. (May, 2014). The HyperSexualization of Young Girls: What Parents Need to Know. H.B. Beal Secondary School Parent Workshop, London. ON.

18. **Chiodo, D**. (May, 2014). Understanding Emotional Well-Being and the Mental Health of Adolescent Girls–Girls Matters! *Canadian Safe Schools Network: It's a Girls World*. Toronto, Canada.

19. Zwarych, S. & **Chiodo, D.** (2014, April). Supporting Parents and Schools through Technology. *Presented at the Ontario Health Schools Coalition*. London, ON.

20. **Chiodo, D**. (March, 2014). Cyber-Bullying: Protecting our Children From Digital Danger. Canadian Women's Foundation, Toronto, ON.

21. McKenzie, P., **Chiodo**, D., Giles, R., Pool, S (February 2014). A strengths-based approach to supporting the social, emotional, and academic needs of First Nations, Metis, and Inuit students (February 2014). *Presented at the Ontario Education and Research Symposium.* Toronto, ON.

22. **Chiodo, D**., Jimmy, R., McClure, R (2013, November). Prevention and Intervention Strategies for Classroom Teachers to Help Students who are Cyber Bullied or who Cyber Bully. *Presented at the Social Media and Sexual Violence Conference: Understanding the links to Students' Mental Health and Wellbeing*. London, ON.

23. **Chiodo, D**. (2009, April). *Skills for Healthy Youth Relationships: The Fourth R Program.* Ontario Association for Students at Risk. Toronto, ON.

24. Crooks, C. V. & **Chiodo, D.** (2008, November). *Uniting Our Nations: Relationship-based programming for First Nations and Métis youth.* Enhancing Prevention Programming for and With Aboriginal Youth. London, ON.

25. **Chiodo, D**. Safe, Healthy & Successful Schools: *Engaging Educators in the Prevention of Disordered Eating.* Ontario Secondary School Teachers' Federation. November 2008. Toronto, ON.

26. Crooks, C., & **Chiodo, D**. Association of Family and Conciliation Courts Eight International Symposium on Child Custody Evaluations (September 2008): The Impact of Domestic Violence on Parenting. Albuquerque, New Mexico.

27. **Chiodo, D**. Sexual Harassment in High School. Canadian Safe Schools Network (May 2008). Toronto, Canada.

28. **Chiodo, D**. The Fourth R Program: Sustainable Strategies for Healthy Youth Relationships. Peel's Anti-bullying Collaborative Network Showcase (April 2008). Mississauga, ON.

29. **Chiodo, D.** Developing Innovative and Sustainable School Prevention Programs. Third Annual Children Exposed to Domestic Violence Conference (May 2007). London, ON.

30. **Chiodo, D**. What Parents Need to Know About Teen Substance Use. (April 2007). Community Forum for parents in London, ON.

31. **Chiodo, D**. Safe, Healthy & Successful Schools: *Engaging Educators in the Prevention of Disordered Eating and Poor Body Image Among Adolescents*. Ontario Secondary School Teachers' Federation. November 2006. Toronto.

32. **Chiodo, D**. Building Safe and Healthy Families and Communities: Policy Forum on Aboriginal Women and Violence (March, 2006). Ottawa.

33. **Chiodo, D**. *Understanding High-Risk Children and Families in Our Community: Implications for Social Workers*. (April, 2004). St. Joseph's Health Care, London ON.

34. **Chiodo, D**. Protecting Children is Everybody's Business: Investigating the Increasing Demand for Service at the Children's Aid Society of London/Middlesex. (February 2004). Youth Opportunities Unlimited (YOU) London/Middlesex.

35. **Chiodo, D**. Investing in Children. Protecting Children is Everybody's Business: Investigating the Increasing Demand for Service at the Children's Aid Society of London/Middlesex. (January 2004). Centre for Research on Violence Against Women and Children Community Research Group.

36. **Chiodo, D.** Protecting Children is Everybody's Business: Investigating the Increasing Demand for Service at the Children's Aid Society of London/Middlesex. (January 2004). Child Abuse Council of London/Middlesex.

37. **Chiodo, D**. Protecting Children is Everybody's Business: Investigating the Increasing Demand for Service at the Children's Aid Society of London/Middlesex. (October 2003). Middlesex County Council.

Training

1. 2006 Spring Judicial Conference Charleston: The Effects of Domestic Violence on Children, West Virginia.

Grant and journal review experience

Grant review
Ontario Mental Health Foundation

Journal review
2007- 2013 *Statistical Editor*, Child Abuse and Neglect

Psychological Bulletin

Journal of Consulting and Clinical Psychology

Development and Psychopathology

Journal of School Psychology

Journal of Interpersonal Violence

Journal of Adolescence

Professional memberships

Association of Educational Researchers of Ontario

Society for Prevention Research

Committee and board of directors experience

2016-present	PREVNet Provincial Advisory Committee member for Program Selection, Development and Fidelity Products
2008-present	Ministry of Education Urban and Priority High School Project (TVDSB) Steering Committee Member
2013-present	Ministry of Education Urban and Priority High School Project (TVDSB) Provincial Evaluation Committee Member
2013-present	National Teen Healthy Relationships Collaborative Committee. Canadian Women's Foundation

2013-2014	Public Health Agency of Canada Innovation Strategy Policy Advisory Member
2011-present	Fundraising Committee, Mary J. Wright University Laboratory School
2004-2006	Board of Directors, Hope's Garden Director and Strategic Planning Committee Member and Fund Developer
2004-2006	United Way Community Focus Group Facilitator
2003-2004	United Way Allocation Committee Member
2001-2003	Teaching Assistant Bursary Committee Member, University of Western Ontario
2001-2002	Ontario Psychological Association (OPA)