UNDERSTANDING AND ADDRESSING BARRIERS: ENGAGING ADOLESCENTS IN MENTAL HEALTH SERVICES

by

Heather Nicole Spielvogle

A thesis submitted in conformity with the requirements for the degree of Doctor of Philosophy
Factor-Inwentash Faculty of Social Work
University of Toronto

© Copyright by Heather Spielvogle 2011
UNDERSTANDING AND ADDRESSING BARRIERS: ENGAGING ADOLESCENTS IN MENTAL HEALTH SERVICES

Heather Nicole Spielvogel

Doctor of Philosophy

Factor-Inwentash Faculty of Social Work
University of Toronto

2011

ABSTRACT

This randomized-controlled pilot study explored the impact of a pretreatment, engagement intervention on adolescents’ initial mental health service attendance and four secondary outcome variables (i.e., autonomous/controlled treatment motivation, self-efficacy, and working alliance). Twenty-seven adolescents received the engagement intervention and completed assessments and 24 completed assessments only. Associations between the outcome variables and initial treatment attendance were explored. The extent to which demographic variables (i.e., age, gender, race, immigration status, and residence in low income neighbourhoods), psychological distress, and self-reported barriers (i.e., mismatched treatment expectations and external demands) were associated with treatment attendance was also explored. The primary findings from this pilot study indicated that adolescents who received the engagement intervention had greater initial treatment attendance ($M=2.11$, $SD=1.01$) than the assessment only group ($M=1.54$, $SD=1.22$), but the difference only approached significance. Moreover, no significant between-group differences in the secondary outcome variables were found. The results of the paired samples t-tests indicated that that the experimental and control groups both demonstrated a significant decrease in controlled motivation at follow-up. In addition, the control group demonstrated a significant decrease in autonomous treatment motivation at follow-up.
Correlation and linear regression analyses were used to explore the associations between initial attendance and the secondary outcome variables, psychological distress, self-reported barriers, and demographic variables. A negative association between age, barriers and initial attendance was found. A positive association was found between working alliance and initial attendance. While the majority of adolescents who participated in this research lived in low income neighbourhoods and nearly half were second generation immigrants, these demographic variables were not associated with initial treatment attendance. Although the engagement intervention had a medium effect on initial treatment attendance, this difference was not statistically significant. Future research with a larger sample size and longer follow-up is needed to determine the effectiveness of the engagement intervention.
ACKNOWLEDGEMENTS

I am grateful for the support and encouragement of my friends, family, and mentors who have helped make the completion of this dissertation possible.

First of all, I would like to thank Dr. Faye Mishna, my dissertation supervisor, who guided me through the development of this research project and provided support and feedback throughout every stage of my doctoral work. I truly appreciated Faye’s commitment to my development as an independent researcher. I would also like to thank my committee members, Drs. Cheryl Regher and Paula Ravitz. Cheryl provided invaluable input which advised me in the planning phase of this research and helped me expand my results. Paula imparted her thoughtful theoretical and clinical insights which greatly contributed to this work. Paula also served as a clinical mentor and deepened my understanding of interpersonal dynamics which have forever shaped my practice. I express my appreciation to Drs. Ramona Alaggia and Catherine Greeno for their contributions as examiners of my defense. I also offer my gratitude to Dr. Olesya Falenchuk and Mr. Justin Brantley for advising me on the study design and data analysis.

I am exceptionally grateful to Youthlink, Oolagen Community Services, Central Toronto Youth Services, and Delisle Youth Services who agreed to participate in this project. The clinical directors and counsellors of each agency candidly shared their knowledge, experience, and opinions of this research which greatly improved its relevance. In particular, I would like to thank Mr. Paul Bessin, Ms. Bindu Persaud, Ms. Suzanne Young, and Dr. Fred Mathews for their extra investment and dedication to this project.

I give special thanks to Drs. Holly Swartz, Allan Zuckoff, and Robert L. Hewitt. Holly and Allan’s intellectual generosity provided me the opportunity to understand the multiple
aspects of intervention research and sharpen my clinical skills. As an undergraduate at Shippensburg University, Bob Hewitt inspired my passion in social work and challenged me to dream beyond what I initially thought possible.

I would like to acknowledge the support of Master John Fraser and Massey College which was a second home during my doctoral studies. I am grateful for the friendship of my “fellow fellows” including Chris Charles, Sarah Copland, Uli Germann, Andrew House, Jenni Konieczny, Tanya Morton, Ors Obrist, Angela Varma, Kath Verhagen, and Simon Watson.

The support family throughout my doctoral studies provided the foundation for my perseverance. I am appreciative of Dr. Gillian Wu’s personal and professional guidance. I thank my parents Susan and Jim Bovard, for always standing behind me and encouraging me to move forward. I thank my father, Rick Spielvogle, for providing the fire that ignited the spark inside of me. I offer my unending gratitude to my husband, David Wu, for his love, patience, and understanding.

Finally, and most importantly, I express my appreciation to the teens who participated in this research—I was profoundly touched by their openness and sensitivity. If the teens who participated in this research are an indication of the next generation, the future is bright.
# Table of Contents

ABSTRACT.................................................................................................................. ii
ACKNOWLEDGEMENTS............................................................................................ iv
LIST OF FIGURES ...................................................................................................... viii
CHAPTER ONE: INTRODUCTION .............................................................................. 1
  Statement of the Problem ..................................................................................... 1
  Study Aims ........................................................................................................... 7
  Organization of the Dissertation ....................................................................... 8

CHAPTER TWO: THEORETICAL FRAMEWORK AND BACKGROUND INFORMATION ....... 9
  Theoretical Framework ....................................................................................... 9
    Social behavioural model of health service use ............................................. 10
    Self-determination theory ............................................................................. 22
    Bordin’s conceptualization of the working alliance ...................................... 31
    Integrated theoretical framework ................................................................. 36
  Background Information ................................................................................. 38
  Barriers to child and adolescent mental health services ............................. 38
  Engagement interventions in child and adolescent mental health services. .......... 42

CHAPTER THREE: ADAPTED ADOLESCENT ENGAGEMENT INTERVENTION .......... 46
  Engagement Intervention Description ............................................................ 46

CHAPTER FOUR: METHODS ...................................................................................... 50
  Participants and Setting ................................................................................... 50
  Procedures ......................................................................................................... 53
  Measures ........................................................................................................... 55
  Data Analysis .................................................................................................... 60

CHAPTER FIVE: RESULTS .......................................................................................... 63
  Exploratory Data Analysis ............................................................................... 63
  Comparability of Groups at Baseline ............................................................... 64
  Data Analysis between Intervention and Comparison Groups at Baseline and
    Follow-up ........................................................................................................ 69
  Investigation of the Association between Barriers and Attendance and the Effect of
    Barriers on Attendance Controlling for Age .................................................. 76

CHAPTER SIX: DISCUSSION ....................................................................................... 79
  Key Findings ....................................................................................................... 80
  Sociodemographic Characteristics of the Sample .......................................... 80
  Main Analysis ..................................................................................................... 84
  Secondary Analyses .......................................................................................... 87
  Working Alliance ............................................................................................... 91
  Barriers to Treatment Participation ............................................................... 92
  Limitations of the Research .......................................................................... 94
  Implications for Future Research .................................................................. 98
  Implications for Social Work Practice .......................................................... 100
  Concluding Note .............................................................................................. 101

REFERENCES ......................................................................................................... 102
APPENDICIES ......................................................................................................... 142
LIST OF TABLES

Table 1 Data Collection .......................................................................................................................... 54
Table 2 Baseline Demographic Characteristics of the Study Sample .......................... 66
Table 3 Baseline Clinical Characteristics and Mental Health Service Motivation of the Study Sample ......................................................... 68
Table 4 Tests for Association between Categorical Variables and Attendance For Participants ................................................................................ 70
Table 5 Adolescents’ Baseline Reports of Psychological Distress, Generalised Self Efficacy, Autonomous/Controlled Motivation, and Attendance: Correlations and Descriptive Statistics............................................................ 71
Table 6 Demographic Characteristics and Attendance: Correlations and Descriptive Statistics.............................................................................. 71
Table 7 Descriptive Statistics: Barriers to Treatment Participation Scale ................. 77
LIST OF FIGURES

Figure 1 Social Behavioural Model of Health Service Use........................................12
Figure 2 Integrated Theoretical Model........................................................................37
CHAPTER ONE: INTRODUCTION

Statement of the Problem

Mental health problems, including diagnosed and undiagnosed mental illnesses, are a significant concern among Canadian children and adolescents (Health Canada, 2002; Ministry of Children and Youth Services, 2006; Waddell et al., 2005). An estimated 14-25% of children and adolescents in Canada meet diagnostic criteria for at least one mental illness (Boyle & Georgiades, 2009; Waddell, Offord, Shepherd, Hua & McEwan, 2002). Mental health problems are associated with significant economic burden (Health Canada, 2002; Stephens & Joubert, 2001) and a number of detrimental consequences, including criminality, academic failure, teen pregnancy, substance abuse, and suicide (Fergusson, Horwood, & Ridder, 2007; Fergusson & Woodward, 2002; Kessler, Foster, Saunders, & Stang, 1995; Kessler et al., 1997; National Institute of Mental Health, 2001; Simonoff et al., 2004; Waddell et al., 2002). Despite the prevalence of and consequences associated with mental health problems, between 40-75% of Canadian children and adolescents do not access mental health services (Cheung & Dewa, 2007; Offord, Boyle, Fleming, Munro Blum, & Rae Grant, 1989; Waddell et al., 2005).

Among all age groups entering mental health services, adolescent-aged children (i.e., individuals between the ages of 13-19) may be the most critical population to engage. Suicide, the most detrimental outcome associated with mental health problems, is the second leading cause of death among Canadian adolescents (Statistics Canada, 2007a). Although interventions which identify and address suicide risk factors (Aseltine & DeMartino, 2004) and which are
aimed to prevent repeat suicidal behavior (Links, Bergmans, & Cook, 2003) are available, many teenagers forgo formal mental health services (Boldero & Fallon, 1995; Kalafat & Elias, 1995).

Mental health problems have been linked to adolescent learning difficulties, low self-esteem, and impaired peer relationships (Barker, Oliver & Maughan, 2010; Kovacs & Golston, 1991; Messer & Beidel, 1994; Patterson, DeBaryshe, & Ramsey, 1989; Prinstein, Borelli, Cheah, Simon & Aikins, 2005; Rudolph, Lambert, Clark, & Kurlakowsky, 2001; Woodward & Fergusson, 2001) which subsequently may constrain adaptation in adulthood (Sroufe, 1997). Moreover, adolescent-onset mental health problems potentiate the risk of subsequent, more severe mental health problems in adulthood (Capaldi, Chamberlain, Fetrow, & Wilson, 1997; Costello, Mustillo, Erkanli, Keeler & Angold, 2003; Harrington, Fudge, Rutter, Pickles, & Hill, 1990; Kessler et al., 2005; Lewinsohn, Rhode, Klein, & Seeley, 1999; Oes, Jones, Lewis, Wadsworth & Murray, 1997; Pine, Cohen, Gurley, Brook & Ma, 1998; Rutter, Silberg, O'Connor, & Simonoff, 1999; Woodward & Fergusson, 2001). However, many adolescents who are at risk for detrimental psychosocial outcomes may not receive the full benefit of mental health services because they dropout of services prematurely (Andrade, Lambert, & Bickman, 2000; Burns et al., 1995; Harpez-Rotem, Leslie, & Rosenhack, 2004; Kazdin & Marzurick, 1994). A number of complex issues are related to barriers to mental health service access and attrition including service location/coordination, family dynamics, adolescent development, stigma, and individual perceptions of service need.

According to Steinberg (2005), adolescence is a period during which more biopsychosocial changes occur than any other developmental stage except infancy. The developmental changes which occur in adolescence, including the formation of identity and the ability to form close, reciprocal affectional ties, shape adaption in adulthood (Carlson, Sroufe, & Egeland, 2004;
Chase-Lansdale, Wakschlag, & Brooks-Gunn, 1995; Holmbeck et al., 2000). Risk and protective factors, which are predictive of individual differences in developmental pathways, seem to have the most significant influence during developmental transitions (Rutter, 1990). Although risk factors such as poverty, harsh parenting, and exposure to violence are associated with developmental maladaptation (Bernard, 1999; Rutter, 1994; Weinfield, Sroufe, & Egeland, 2002), protective factors such as the availability of caring and supportive adults outside of the family can offset the effects of risk factors leading to better developmental outcomes (Masten & Powell, 2003; Werner & Smith, 1992; Zimmerman, Bingenheimer, & Notaro, 2002). Thus, a counsellor may serve a significant protective role at this stage of development. Moreover, Cicchetti and Toth (1996) propose that adolescence is a fruitful juncture for intervention because the instability associated with the developmental transition may result in greater receptivity to interventions. Therefore, mental health interventions can capitalize on the potential opportunity to influence developmental trajectories.

Child and adolescent mental health treatment (e.g., individual/family psychotherapies and pharmacotherapy), may provide an opportunity to alleviate mental health problems and inhibit the related consequences. An accumulating body of research has demonstrated the beneficial effects of child and adolescent mental health treatment in comparison to no treatment (e.g., Chorpita et al., 2002; Hoagwood, 2005; Kazdin, Bass, Ayers, & Rodgers, 1990; Weisz, Weiss, Han, Granger, & Morton, 1995). Moreover, psychotherapy, regardless of approach, appears to reduce the severity of emotional and behavioural problems among adolescents (Weisz & Hawley, 2002). For instance, meta-analyses have demonstrated treatment effect sizes between .54 and .97 on emotional/behavioural problem symptom reduction for adolescents receiving a range of psychotherapies (Kazdin, Bass, Ayers, & Rogers, 1990;
Proust & Proust, 1998; Weisz et al., 1995; Weisz, Weiss, Alicke, & Klotz, 1987). The vast majority of this literature however, describes results from efficacy studies in which psychotherapy was delivered within research clinics rather than community mental health centres that are more representative of real world scenarios.

More recently, effectiveness studies have shown that interventions delivered in community-based settings improve functioning (i.e., functioning in school, home and the community) and decrease symptoms associated with mental health problems (Angold et al., 2000; Daleiden et al., 2006). Moreover, dissemination studies of evidence-based practices delivered in community settings have demonstrated promising results. For instance, interventions such as social skills training for externalizing disorders (e.g., attention deficit disorder, conduct disorder, and oppositional defiant disorder) (Tynan, Schuman, & Lambert, 1999), interpersonal therapy for depression (Mufson et al., 2004; Santor & Kusumakar, 2001), and cognitive behavioural therapy for depression and post-traumatic stress disorder (Asarnow et al., 2005; Stein et al., 2003) have all been administered in community settings and have demonstrated reductions in acute symptom severity.

The potential impact of mental health services is compromised by high dropout rates estimated to be between 40-60% among individuals who access child and adolescent mental health services (Andrade, Lambert, & Bickman, 2000; Burns et al., 1995; Harpez-Rotem, Leslie, & Rosenhack, 2004; Kazdin & Marzurick, 1994). Moreover, Edlund and colleagues (2002) found that individuals between the ages of 15-24 demonstrated the highest rates of mental health service dropout among individuals (aged 15-65) living in Ontario and the United States who participated in the Mental Health Supplement to the Ontario Health Survey (MHSOHS; Offord et al., 1996) and the National Comorbidity Survey (Kessler et al., 1994), respectively.
Although Edlund and colleagues (2002) combined adolescents and young adults into one group, this was the most representative investigation of mental health service access among young Ontarians. Moreover, it is possible that Ontarian adolescents and young adults (ages 15-24) have similar dropout rates. For instance, Cheung and Dewa (2007) found no significant difference in service use between Ontarian adolescents (ages 15-18) and young adults (ages 19-24) with depression.

The majority of child mental health services research on dropout has investigated demographic variables associated with mental health service use and, with the exception of socioeconomic and ethnoracial minority status, commonly measured variables (e.g., age of child, gender, and type/severity of emotional or behavioural problems) are inconsistent predictors of attrition (Ambruster & Fallon, 1994; Armbruster & Kazdin, 1994; Cohen & Hesselbart, 1993; Dishion & Patterson, 1992; Gasquet et al., 1997; Griffen, Cicchetti, & Leaf, 1993; Harpaz-Rotem, Leslie & Rosenheck, 2004; Keely & Weins, 2008; McKay, Pennington, Lynn, McCadam, 2001; Padget et al., 1993; Schonert-Reichl & Mueller, 1996; Verhulst & Van Der Ende, 1997; Wu et al., 2001). Furthermore, it is unclear how these demographic characteristics influence treatment dropout (McKay & Bannon 2004). It is therefore important to understand and address factors that contribute to service dropout among adolescents and develop interventions to increase retention.

A small number of parental engagement strategies have been developed to explicitly address treatment barriers and have demonstrated significant improvements in treatment attendance (Kazdin & Whitely, 2003; McKay, McCadam, & Gonzales, 1996; Nock & Kazdin, 2005). While parent engagement is clearly important, it is also crucial to engage the main recipient of the services (i.e., the child or adolescent) and to understand barriers from their
point of view. Although parents play a key role in bringing their offspring to treatment, engaging an adolescent in the therapeutic process may be as important to treatment outcomes as parental engagement.

Nevertheless, adolescents are considered more difficult to engage in mental health services than adults and children (Diguiseppe, Linscott, & Jilton, 1996). Adolescents rarely seek services on their own accord (Boldero & Fallon, 1995; Sheffield, Fiorenza, & Sofronoff, 2004) and are often coerced into attending services by their parents or schools. Unfortunately, individuals who are forced to attend services are rarely invested in changing their behavior (Kazdin et al., 1990; O’Malley, 1990) and are less likely to develop a therapeutic alliance with their therapist or to participate fully in treatment (Luborsky, 1976). Low investment in change and poor alliance are two key predictors of dropout and poor outcomes (Coatsworth, Santisteban, McBride, & Szapocznik, 2001; Dishon & Patterson, 1992; Hawke, Hennen, & Gallione, 2005; Hawley & Garland, 2008; McKay, Harrison, Gonzales, Kim, & Quintana, 2002). Alternatively, individuals who make the choice to attend services may be more likely to use psychotherapy effectively and experience favourable outcomes. For instance, Zuroff and colleagues (2007) found that autonomous treatment motivation (i.e., motivation associated with personal beliefs) was a predictor of remission among adults with depression while controlled treatment motivation (i.e., motivation associated with guilt and others’ demands) was not a significant predictor of remission.

Given the circumstances under which most adolescents enter mental health services, it is not surprising that many adolescents perceive the therapeutic process as a means to limit their autonomy (Hanna & Hunt, 1999). Thus, an important component in ensuring active participation in mental health treatment begins with gaining an awareness of the unique barriers
adolescents experience and addressing these barriers within the engagement process. With a few exceptions (e.g., Aubrey, 1998; Gowers & Smyth, 2004), however, the majority of treatment engagement interventions have been developed for caregivers rather than exclusively for adolescents. In an effort to address the gap related to engaging adolescents in mental health services, an aim of this dissertation research was to explore an engagement intervention specifically adapted for adolescents entering child and adolescent mental health services.

Study Aims

The primary aim of this research was to explore the impact of an adapted, pre-treatment engagement intervention on initial treatment attendance (i.e., the first three sessions of mental health services). The engagement intervention under study was adapted from a previously manualized adult engagement intervention (Zuckoff et al., 2004). The primary hypothesis was that the engagement intervention, compared to assessment only, would result in greater initial treatment attendance. The second aim was to explore the impact of the engagement intervention on working alliance, self-efficacy, and autonomous/controlled treatment motivation. It was also hypothesized that the engagement intervention, compared to assessment only, would be associated with higher levels of self-efficacy, working alliance, and/or autonomous motivation and lower levels of controlled motivation. The third aim was to explore potential mechanisms (i.e., self-efficacy, autonomous/controlled treatment motivation, and working alliance) associated with initial treatment attendance. It was hypothesized that, irrespective of condition, higher baseline levels of working alliance, self-efficacy and/or autonomous motivation and lower levels of controlled motivation would predict greater initial treatment attendance. Finally, this research explored the extent to which demographic factors (i.e., age, gender, race, immigration status, and neighbourhood income level), psychological distress, and self-reported barriers (e.g.,
mismatched treatment expectations and external demands) are associated with treatment attendance.

**Organization of the Dissertation**

This dissertation will begin with a discussion of the theoretical frameworks which underpinned the development of the engagement intervention and the mechanisms explored in this thesis research. This chapter also provides background information on barriers specific to child and adolescent mental health services and reviews engagement interventions which have been used to address barriers and encourage treatment attendance in child and adolescent mental health settings. The third chapter provides a brief description of the adapted engagement intervention. The fourth chapter discusses the methodology of the study and the fifth chapter provides the study results. The sixth chapter includes a discussion of this research including the findings, limitations, and implications for future research and social work practice.
CHAPTER TWO: THEORETICAL FRAMEWORK AND BACKGROUND INFORMATION

Theoretical Framework

This dissertation draws on the empirical contributions of the literature on the barriers to adolescent mental health service use. This literature has informed the modification of a treatment engagement intervention (Zuckoff et al., 2004) and has provided a framework to explore factors associated with adolescent mental health service use. The majority of the studies which have investigated factors related to child/adolescent mental health service use and access have not reported the application of a theoretical framework. The aim of this section is to develop an integrated model to explore factors associated with adolescent mental health service use during the beginning phase of treatment when a therapeutic engagement occurs.

Theoretical perspectives. This integrated model will draw on three primary frameworks: “Social Behavioural Model of Health Service Use” (Andersen, 1995); “Bordin’s Conception of the Working Alliance” (Bordin, 1976); and “Self-Determination Theory” (Deci & Ryan, 2000). The amalgamation of these three theories will provide a model for exploring environmental, intrapersonal and interpersonal factors that may influence adolescent mental health service attendance during the initial phase of treatment.

The social behavioural model of health service use (SBM; Andersen, 1995) will be included in this integrated model to provide an overarching framework for understanding mental health service access on a socio-environmental level. The SBM generally focuses on the reciprocal impact of the health care system, external social environment, and individual factors which determine health care use. Most applications of the SBM have focused on the process by which individuals access mental health services rather than on the interactions that occur with
health care providers after services are entered (Goldsmith, 2002). Prior investigations using the SBM do not fully account for important intrapersonal and interpersonal factors which may be associated with mental health service. As such, the proposed integrated model will augment the SBM and include working alliance and self-determination theory to account for additional factors related to adolescent mental health service use.

**Social behavioural model of health service use**

The SBM was developed to “assist in the understanding of why families use health services; to define and measure equitable access to health care; [and] to assist in developing polices to promote equitable access” (Andersen, 1995, p. 1). Based on a system’s perspective, the behavioural model incorporates individual and contextual (i.e., environmental and provider-related) variables related to an individual’s decision to seek services (Kohn & White, 1976; Phillips, Morrison, Andersen, & Aday, 1998). Specifically, according to the SBM an individual’s decision to use health services is a function of three components: 1) the individual’s predisposition to use health services; 2) factors that enable or hinder service use; and 3) the individual’s perceived and evaluated need for health services (Andersen, 1995; Gelberg, Andersen, & Leake, 2000). According to Andersen (1995), in some cases, all three components underlie an individual’s decision to use health services, and in other cases, one component plays a primary role in determining service use.

Predisposing factors refer broadly to factors that exist prior to the individual’s perception of health service need but that shape, indirectly or directly, an individual’s behavioural response towards using a particular service. Predisposing factors traditionally include three underlying factors: 1) demographic factors (e.g., age, gender); 2) social structure factors (e.g., education,
occupation, ethnicity, health of the physical environment); and 3) health beliefs (e.g., attitudes, values, knowledge).

Enabling factors include personal or community resources that facilitate or inhibit the use of health services. According to Andersen (1995), community resources are simply the availability of health providers and facilities where the individual lives and are commonly measured by travel and wait time for services. Phillips and colleagues (1998) suggested that in addition to provider availability, provider characteristics (e.g., gender, ethnicity) may interact with individual characteristics to influence the acceptability of services. For instance, clients with a history of sexual abuse may be particularly selective about their therapist’s gender.

Personal enabling factors include the means and knowledge to obtain and utilize health services. Typically, personal enabling factors are indicated by the individual’s access to health insurance or medical benefits and the ease of receiving services. Although an individual’s knowledge of services contributes to access, few studies have examined this enabling factor (Andersen, 1995). In a more recent version of the SBM for vulnerable populations, Gelberg, Andersen, and Leake (2000), have included social relationships to personal enabling factors adding that family members often provide financing or transportation to health services or may encourage or discourage the use of such services. In particular, child and adolescent mental health service use is primarily initiated by the parent(s).

Need factors consist of an individual’s perceived and evaluated need for health services. Perceived need factors comprise the individual’s beliefs about their health, their experience of symptoms, and the degree to which they feel health services are necessary. Evaluated need refer to a health care professional’s judgment of an individual’s need for health services (Andersen, 1995).
The latest version of the SBM (Anderson, 1995) includes feedback loops that consider the dynamic relationship among health behavior, health service outcomes, predisposing, enabling, and need factors (see Figure 1). The updated model acknowledges the important role of the individual’s experience with the health system and their health outcomes which affect subsequent mutable predisposing, enabling, and need factors. Most epidemiological studies that have utilized the SBM however, fall short of measuring barriers to continued service use including client satisfaction even though it is a potential determinant of future service use. Although the SBM accounts for the recursive relationships among predisposing, enabling, need factors and service access, research has not fully explored these relationships, due in part to both a lack of data on individuals’ experiences once health care access is realized and the absence of statistical methods to model those complex interrelationships (Auchincloss & Diez Roux, 2008).

Figure 1.
Social Behavioural Model of Health Service Use (Adapted from Andersen, 1995 & Gelberg, Andersen, & Leake, 2000)
In order to explore how health service use subsequently impacts perceived need, the SBM could be enhanced by adding variables that account for the user’s experience of need and their perception of the health care provider and the relevance of services once service is initiated. The consumer’s initial interactions with the health care provider may have a direct impact on their perception of their health concern, beliefs in their ability to make changes to affect their health status, and the degree to which the consumer feels their perception of their health status will be respected. This interactional process between health care provider and consumer may be particularly important in predicting the extent to which adolescents will attend mental health services. For instance, Schell, Orlando, and Morral (2005) assert that service exposure may affect a youth’s cognitions, such as their self-efficacy, and facilitate future service initiation and retention especially in cases where the youth is experiencing a more severe mental health problem.

Although the SBM is based on a systems perspective, the model is more specific than general systems theory. General systems theory has been critiqued for being over inclusive, often incorporating indistinct, non-operationalized constructs (Forder, 1976; Littlejohn, 1989) which decreases its explanatory value. Like general systems theory, the SBM supports the concept of circular causality; the SBM broadly specifies constructs however (i.e., predisposing, enabling, and need factors) associated with health service use.

A competing theoretical framework, not explored in this dissertation research, which has been used in health promotion and prevention research is the health beliefs model (Rosenstock, 1974). Essentially, the health beliefs model assumes that service use is determined largely by an individual’s perceived threat (i.e., belief formation) of medical consequences in relation to the net benefits of taking action (i.e., behavior change). Belief formation is influenced by an individual’s health beliefs, knowledge and attitudes. While the SBM integrates elements of the
health beliefs model (Andersen, 1995), some have argued that the SBM does not adequately emphasize the relationship between health beliefs and service use (Tanner, Cockerham, & Spaeth, 1983). Moreover, Anderson (1995) asserted that predisposing and enabling factors coupled with need factors, which include health beliefs, explain more of the variation in service use than health beliefs alone. For instance, a common critique of the health beliefs model is that the health beliefs model does not adequately account for the impact of contextual factors (e.g., lack of income, community violence, gender, race) on health service use (Tsao, Dobalian, & Zeltzer, 2006). The SBM, in contrast, places greater emphasis on contextual factors related to service use variation. Thus, the SBM was used in favour of the health beliefs model for this dissertation research.

Social behavioural model of health service use: Review of key literature. The SBM is one of the most well known and investigated models of adult health/mental health service access (Alexandre, Stephens, Laris, Dowling, & Rely, 2008; Andersen, 1995; Elhai & Ford, 2007; Goldsmith, 2002; Phillips, Morrison, Andersen, & Aday, 1998). However, the SBM has not been widely used to explore child and adolescent mental health service use. Further, while a number of correlational studies in Canada and the United States have examined demographic variables related to child and adolescent mental health service use (Ambruster & Fallon, 1994; Armbruster & Kazdin, 1994; Cheung & Dewa, 2007; Cohen & Hesselbart, 1993; Gasquet et al., 1997; Harpaz-Rotem, Leslie, & Rosenheck, 2004; Keeley & Weins, 2008; McKay et al., 2001; Offord et al., 1989; Offord et al., 1987; Padget et al., 1993; Schonert-Reichl & Mueller, 1996; Verhulst & Van Der Ende, 1997; Wu et al., 2001), few investigations have explicitly applied a theoretical framework. Moreover, only a small number of investigations have explored the process by which children and adolescents access mental health services or factors that contribute to ongoing use.
A small number of American studies have applied the SBM in an attempt to systematically explore child and adolescent mental health service access. These include studies of mental health access among homeless adolescents (Solorio, Milburn, Andersen, Tifskin, & Rodriguez, 2006), adolescents in foster care (McMillen et al., 2004), and uninsured/underinsured families and children (Padgett et al., 1993; Patrick, Padgett, Burns, Schlesinger, & Cohen, 1993; Pottick et al., 1995; Raghavan et al., 2006). The SBM has recently been used to elucidate predictors of adolescent mental health service use (Alexandre et al., 2008) and volume of use (Alexandre, 2008) among a large sample of American adolescents who participated in the 2005 National Survey of Drug Use and Health (Substance Abuse and Mental Health Services Administration, 2006). These studies will be briefly reviewed to identify some of the common variables explored in the SBM as it applies to child and adolescent mental health service access. The SBM has not been applied to explore Canadian child and adolescent mental health service access; therefore, this discussion will be limited to a review of American investigations.

Solorio and colleagues (2006) applied the SBM to determine factors related to service use among 688 ethnically diverse, homeless adolescents recruited from 30 shelters or clubhouses throughout Los Angeles County. Predisposing factors included time spent homeless, race/ethnicity, housing situation, substance abuse, and victimization. Enabling factors included the presence of a case manager and family social support. Need factors included the adolescent’s perceived need and evaluated need for mental health services. Evaluated need was determined the Brief Symptom Inventory (BSI) (Derogatis, 1975), a standard measure of emotional distress.

Thirty-two percent of adolescents perceived a need for mental health services. The majority of adolescents who perceived a need for mental health services did have clinically significant BSI scores. Among those who perceived need, only 47% who demonstrated clinically significant BSI score and 41% of adolescents without a clinically significant BSI score
entered services. The results of a multivariate logistic regression indicated that the presence of a case manager that discussed mental health concerns and having a clinically significant BSI score were the only significant variables associated with mental health service use.

Adolescents (n=33) who perceived need and had clinically significant BSI score, and had not sought services were queried about their non-attendance. Among that cohort, 57% reported that they either did not know where to access services and 47% were embarrassed about discussing personal problems. The barriers identified in this investigation imply the need for improvements in the accessibility of services including the physical location of services, knowledge of services shared by providers working with vulnerable youth, and the relevance of services to vulnerable youths’ needs. This study highlights the need for a greater understanding of barriers experienced by those adolescents who identify a need, regardless of evaluated need status. Additionally, expanding mental health services to offer support for vulnerable adolescents who perceive a need and have subclinical emotional distress may prevent the need for comprehensive mental health services later on.

Children and adolescents in foster care are especially susceptible to developing mental health problems (Bolger & Patterson, 2003) and represent a large portion of the consumer population receiving mental health services (Harmen, Childs, & Kelleher, 2000; Zima, Bussing, Yang & Berlin, 2000). Those in foster care who demonstrate the most significant mental health problems however, often do not receive mental health services (Burns et al., 2004). The studies that have examined service use in this population have primarily focused on demographic characteristics (e.g., gender, race, past abuse history) (Garland et al., 1995; Garland, Landsverk, & Lau, 2003; Leslie et al., 2000; Zima et al., 2002) which add some insight into the profile of children and adolescents who receive services, but do not explain why certain individuals are more likely to seek services.
In order to explore the potential mediators, McMillen and colleagues (2004) investigated mental health service use among a sample (n=406) of 17 year olds who were in foster care. A small number of variables were examined: predisposing factors were defined as race (white vs. non-white), attitude toward seeking mental health services, and type of foster care (e.g., kinship care, non-kinship care); enabling factors were the age at which the youth entered foster care and the youth’s geographic region; and need factors were defined as evaluated need for psychiatric services. Unlike Solorio and colleagues (2006) McMillen and colleagues (2004) did not account for perceived need factors; this coupled with the few variables which accounted for predisposing and enabling factors limited the depth of the results.

Nearly all participants (95%) received mental health services in their lifetime and 66% were currently receiving services. Of the youth who reported using mental health services, 77% had received residential treatment or group home mental health services. While the authors demonstrated that attitudes towards seeking services were not a significant predictor of outpatient therapy use, the authors did not report whether attitudes were associated with residential service use. McMillen and colleagues (2004) found that youths in kinship care were less likely to access services than those in foster care. Non-white youth tended to be underserved in some mental health clinics located in geographic areas where minorities were largely represented. Moreover, non-white youth were more likely to receive the more invasive forms of treatment (e.g., inpatient mental health service, residential services) than their white counterparts (OR=2.82, CI=1.55 to 5.14, p<.001). This finding may point to a shortage of foster care options for non-white youth or issues associated with certain agencies providing fewer referrals to outpatient mental health treatment options for non-white youth. McMillen and colleagues (2004) did not fully explore the impact of the youths’ attitudes toward mental health services. For instance, an exploration of the impact of receiving inpatient or residential services on the youths’
attitudes towards services would have provided a fuller understanding of factors which may impact future service use.

A number of studies have employed the SBM to examine the impact of health insurance coverage on service use in child mental health (e.g., Padgett et al., 1993; Patrick et al., 1993; Pottick et al., 1995; Raghavan et al., 2006). The above mentioned studies found that a lack of adequate health coverage is the most significant predictor of decreased service use. Although health insurance coverage is not an enabling factor associated with mental health service use in Canada, these investigations identified other important factors associated with service use which may be relevant to Canadians including ethnicity (Padgett et al., 1993; Raghavan et al., 2006), parents’ level of education (Padgett et al., 1993; Patrick et al., 1993; Raghavan et al., 2006), and agency setting (Padgett et al., 1993; Pottick et al., 1995). Though lack of health insurance coverage is a commonly reported barrier to service use, other barriers which have not been identified or that are difficult to operationalize may be more significant in predicting service attrition. For instance, Edlund and colleagues (2002) found no difference between Americans and Ontarians in the cumulative probability of dropout ($\chi^2=1.2$, df=1, $p<0.28$), even though Ontarians receive universal health coverage. Lack of health care coverage is undoubtedly a barrier, but other perceptual factors (e.g., stigma, past negative experiences with mental health providers) may be more significant barriers to service access and use. Moreover, one of the key strategic initiatives of the Mental Health Commission of Canada (2007) is a movement against stigma associated with mental health. Although beyond the scope of this dissertation, the exploration of stigma is an important area for future research.

In a recent investigation, Alexandre and colleagues (2008) found that although health insurance coverage was a predictor of mental health service use, need factors were more significant predictors of use. Using data from the National Survey of Drug Use and Health
(NSDUH) (Substance Abuse and Mental Health Services Administration, 2006), Alexandre and colleagues (2008) sought to determine predictors associated with mental health service access among a large sample (n=18,678) of adolescents aged 12 to 17. In this study, predisposing factors were age, gender, race, ethnicity, school enrolment, and city of residence. Enabling factors were defined as income and health insurance status and need factors were established as the respondent’s overall health status as well as their assessed level of psychopathology.

Alexandre and colleagues (2008) found that need factors were the most significant predictors of use of community mental health centres and day treatment programs. Although the odds ratios and confidence intervals were not reported, the authors stated that insurance status and income were associated with mental health service use in bivariate analyses, but that these factors decreased in statistical significance when they were adjusted for the need covariates. Among need variables, having more mental health symptoms predicted service use above health status and other predisposing variables. This finding is consistent with at least two other studies of adult mental health service use (Bland, Newman, & Orn, 1997; Leaf et al., 1988) which found that having more than one mental health diagnosis was the most significant predictor of mental health service use.

In a follow-up analysis, Alexandre (2008) used NSDUH data to determine the impact of predisposing and need factors on the volume of mental health services used. In analyzing community mental health service use, Alexandre (2008) found that adolescent girls (aged 12-17) had 1.38 (90% CI=0.34; 2.43) more visits than boys and users aged 14-15 had 1.37 (90% CI=-2.44; -0.29) fewer visits than users aged 12-13. Although adolescents born in the United States were 1.80 times (90% CI=1.26; 2.57) as likely to access community mental health centre services, immigrant status had no effect on the number of visits by service users. Thus, adolescents who were immigrants were less likely to access services, but among those
immigrants who entered services, immigration status did not have an impact on the amount of service used. Drug dependent users had 1.78 fewer visits (90% CI=-3.44; -0.11) than non drug dependent users. Those with drug dependence were 2.13 times (90% CI=1.69; 2.68) as likely however, to access community mental health centre services. The author suggested that either mental health centres where referring adolescents with comorbidity to agencies with specialty services (e.g., inpatient or residential treatment) or that adolescents may have dropped out of mental health centers because the services did not adequately address their comorbidity. This investigation indentified two alternative predictors of service access and use, immigration status and drug dependence. Further research is needed to identify whether mental health centers offering services which address comorbidity experience higher retention rates. Additionally, a greater focus on immigrant populations that use services may expand our understanding of barriers and promoters which could be targeted to increase service access.

As a whole, these investigations highlight individual enabling factors which influence adolescents to access help for their mental health problems. Gender, age, ethnicity and symptom severity are commonly studied variables related to mental health service access but, provide little guidance to understanding how access barriers and clinical practice can be improved to reach the populations in need. To a lesser extent, the literature addresses potential contextual factors associated with access and use. For instance, Solorio and colleagues (2006) conducted follow-up interviews with a subset of participants and found stigma and lack of knowledge about available services were common access barriers. McMillen (2004) reported that youth of color were more likely to receive invasive forms of mental health treatment which may have created future barriers to use among this group. Furthermore, Alexandre (2008) found that insurance status was less a predictor of service use than need factors (i.e., symptom severity and health status). Moreover, Alexandre (2008) found that immigration status was a barrier to access, but not
service use. Follow-up investigations of immigrants who use services may provide useful in efforts to create access and public awareness. Moreover, one of the Ontario Federation of Community Mental Health and Addiction Program’s (2009) key positions is to incorporate cultural competence into all levels of the mental health delivery system.

Although it is beyond the scope of this paper to comprehensively review cultural factors which may impede mental health service engagement, several investigators have suggested that cultural awareness is prerequisite to establishing a collaborative relationship with culturally diverse clients (Green, 1982; Nayar & Tse, 2006; Papadopoulos, Tilki, & Lees, 2001). Furthermore, gaining cultural sensitivity, or an awareness of what an individual does not know about another’s cultural background, is a fundamental step towards developing culturally competent practice (Nayar & Tse, 2006). Thus, it seems that one of the counsellor’s key goals, particularly during the initial phase of mental health services, is to understand the client’s culture and way of life from the client’s point of view.

Problems finding centrally located services, accessing services relevant to the adolescent’s difficulties and background, and the potential stigma associated with receiving mental health services are all important potential barriers that require further research. Most of the investigations of the SBM, as it applies to child/adolescent mental health service access, have focused on predisposing factors (e.g., demographic variables) and enabling factors (e.g., insurance status and geographic location). Past investigations provide little direction to clinicians who seek to improve mental health services among those adolescents who are more likely to dropout of services.

The impact of perceived need of mental health services, a key factor of the SBM, is an area that has not been well researched among adolescent populations. For instance, perceived need factors including the adolescent’s awareness of their problem, their perceived ability to
impact or overcome their problems, and the degree to which they believe mental health services will be useful may significantly predict service use. Furthermore, the impact of prior mental health services or the quality of the therapeutic relationship on either continued service use or future access has not been well researched.

Although the SBM provides a good framework for understanding mental health service use, Pescosolido and Boyer (1999) have criticized the model for its overemphasis on perceived need, suggesting that an individual’s decision to access services is a primary factor in service use. This perspective neglects other factors more central to service use and especially pertinent to adolescent mental health service use, including the influence of family members or schools which are the main sources of referral to mental health services (Teagle, 2002; Yeh et al., 2002). In most cases, adolescents do not enter services on their own volition which adds another dimension to understanding service use barriers. In order to understand the potential influence of volition, the SBM could incorporate aspects of self-determination theory (Ryan & Deci, 2000) which may add insight into motivational factors associated with service use.

**Self-determination theory**

Self-determination theory (SDT; Ryan & Deci, 2000) is a metatheory of human motivation and personality development. Although SDT has been used extensively in the fields of social and motivational psychology, few evaluations have explored its utility for understanding motivation in clinical settings (Neighbors, Walker, Roffman, Mbilinyi, & Edleson, 2008). Central to all psychotherapies, however, is the goal inspire a client’s self-motivation in the change process (Ryan, Lynch, Vansteenkiste, & Deci, 2010) because engagement in the change process likely leads to more positive and enduring results (Overholser, 2005; Ryan & Deci, 2008). Indeed, SDT is complimentary to Motivational Interviewing (MI; Miller & Rollnick, 2002) a therapeutic
approach which addresses an individual’s ambivalence and motivation to change (Markland, Ryan, Tobin, & Rollnick, 2005). SDT posits that three underlying needs contribute to self-motivation: competence, autonomy, and relatedness (Deci & Ryan, 2000). The fulfillment of these three needs creates an ideal environment from which growth and behavior change can occur.

*Competence.* Competence is the psychological need to feel confident in one’s ability to affect outcomes (Ryan & Deci, 2000). Competence is similar to Bandura’s (1977) conception of self-efficacy which is based on the premise that an individual’s beliefs about their ability to accomplish a task influence the decisions and actions towards that task (Bandura, 1986). Deci and Ryan (2000) argue however, that competence and self-efficacy are distinct because self-efficacy is based on an incentive theory in which people persist to attain environmental reinforcements regardless of whether the actions at which they persist lead to individual reinforcements (e.g., enjoyment, personal satisfaction). In contrast, Deci and Ryan (2000) propose that people have a need for competence and the experience of attaining competence alone is a reinforcement and source of satisfaction.

Despite these differences, both theories suggest that perceiving a task as achievable is central to an individual initiating and persisting at a given task. However, competence has not been systematically explored in the context of child and adolescent mental health service engagement or treatment. The concept of self-efficacy has been explored, to a small extent, in the treatment engagement literature and will be reviewed to bring to light its potential association with mental health service use.
Self-efficacy has been examined as a key factor associated with child and adolescent depression (Bandura, Pastorelli, Barbaranelli & Caprara, 1999), affect regulation (Bandura, Caprara, Barbaranelli, Gerbino, & Pastorelli, 2003), perceived family satisfaction (Caprara, Pastorelli, Regalia, Scabini & Bandura, 2005) and academic motivation (Bandura, 1997; Pajares & Schunk, 2001). Efficacy beliefs often affect an individual’s decision to engage in the process of changing harmful health habits such as smoking. For instance, those individuals who are most successful at changing smoking behaviours have stronger self-efficacy before they initiate change than those who relapse or do not engage in change (Carey & Carey, 1993). Self-efficacy can be enhanced by providing feedback or praise about performance, breaking long-term goals into smaller more manageable parts, and developing skills to manage emotions (e.g., progressive relaxation). Therefore, interventions which target self-efficacy may be applied in therapy to strengthen efficacy which may, subsequently improve treatment attendance.

Given the association among self-efficacy, psychosocial wellness, and initiation of behavior change (Bandura, 1997), self-efficacy seems a key area to target for treatment engagement in child and adolescent mental health services. Only one study however, has examined self-efficacy among adolescents in mental health settings. Garland and Zigler (1994) demonstrated that high self-efficacy was significantly related to positive help seeking attitudes ($F(2, 198)=11.49, p<.01$) in a group of adolescents ages 13-16 entering mental health treatment.

A small number of studies have examined the relationship between mental health service use and the self-efficacy of parents bringing their children to services. For instance, McCabe (2002) has demonstrated that Mexican-American parents who had low expectancies in their parental abilities were more likely to prematurely terminate child mental health treatment. Two additional studies of self-efficacy among parents have found conflicting results. In a study of
250 parents and caregivers of children receiving mental health services, Reich, Bickman, and Heflinger (2004) found that favourable attitudes towards seeking help for their child were negatively associated with higher levels self-efficacy. The authors suggested that parents with higher self-efficacy may have felt that receiving child mental health services was in conflict with their perceived competence and autonomy. Conversely, Janicke and Finney (2003) found that parents with both higher levels of stress and self-efficacy were more likely to seek services in a primary care setting for their child. It is possible that the differences in treatment setting account for the results of these studies. For instance, caregivers who receive treatment in primary care settings may feel less stigmatized than those in mental health settings. Additionally, a caregiver’s self-efficacy may be compromised if they are met by clinicians who primarily attribute their child’s difficulties to parenting practices. Few investigations however, have directly examined the connections between the strength of the therapeutic relationship and its impact on self-efficacy in child mental health services despite the availability of measures with strong psychometric properties.

Interestingly, this construct has been described as a key component of treatment engagement interventions (Helflinger, Bickman, Northrup, & Sonnichsen, 1997; McKay, McCadam, & Gonzales, 1996). However, it is uncertain whether interventions which improve self-efficacy lead to greater treatment involvement or attendance. For instance, Bickman, Heflinger, Northrup, Sonnichsen, and Shilling (2002) found that parents who were randomly assigned to receive empowerment training demonstrated improvements in self-efficacy, but that the intervention did not have an impact on caregiver involvement in the child’s treatment or service use.
The impact of the therapeutic relationship on self-efficacy is not well understood and it is unclear how individual variables impact this construct. For instance, individuals with avoidant attachment styles tend to perceive themselves as self-sufficient, a construct related to self-efficacy, and perceive others as untrustworthy (Ravitz, Maunder & McBride, 2008). Therefore, it is possible that adolescents with avoidant attachment styles may demonstrate high self-efficacy, yet may find the offer of support aversive or perceive support as a threat to their autonomy. Enhancing self-efficacy has been acknowledged as an important component of treatment engagement. However, it is difficult to determine which therapeutic strategies have an impact on self-efficacy in the context of treatment engagement, as only two engagement interventions have been manualized (McKay, Lynn, Hibbert, & LIFE Board Members, 2000; Nock, 2005) neither of which have measured this construct. Thus, future research on engagement interventions may consider the mechanism by which engagement influences self-efficacy and the impact of self-efficacy on treatment retention.

**Autonomy.** Autonomy is the need to feel that one’s actions are self-endorsed and come from one’s values rather than feeling coerced, controlled, or obliged (Ryan et al., 2010). When an individual’s actions are more autonomous (i.e., motivated by their values or personal rewards) they are more likely to persist and apply greater effort than if their actions are coerced or motivated by guilt (Ryan & Deci, 2000; Markland et al., 2005). For instance, higher levels of autonomous motivation are associated with greater academic engagement among children (Connell & Wellborn, 1991; Ryan & Connell, 1989; Ryan & LaGuardia, 1999) and psychological well-being among young adults (Sheldon & Kasser, 1995). Although few studies have examined adolescent autonomy in the context of therapeutic engagement, one investigation (Bastien & Adelman, 1984) found that adolescents who perceived that they had the choice of
remaining in an inpatient rehabilitation facility had a better treatment response than those adolescents who did not perceive having a personal choice.

Adolescents are thought to be the most difficult population to engage in therapy, due in part to their developmental task towards establishing greater autonomy and individuation from adult caregivers (Shirk, Caporino, & Karver, 2010). One of the ways adolescents establish autonomy is by moving away from reliance on parents and adult caregivers and moving towards social relationships with peers (Hops, Davis, Lewin, 1999). Moreover, the developmental task of establishing autonomy and individuation often results in adolescents questioning and resisting or opposing authority figures (Hanna & Hunt, 1999). It is not uncommon for adolescents to perceive therapy as an interaction which attempts to control them or limit their autonomy (Hanna & Hunt, 1999). However, adolescents are often ambivalent about the choices they make (Baer & Peterson, 2002) and have difficulty balancing the need for support and the need for autonomy (Sasson-Edgette, 1999). Attachment styles may influence the extent to which adolescents are accepting of support from others including parents and counsellors (Bolton Oetzel & Scherer, 2003). Adolescents with less secure attachment styles, who are most often referred to counselling, may be more difficult to engage because of their difficulties with connection and intimacy (Bolton Oetzel & Scherer, 2003).

Taking the adolescent’s need for autonomy into account, Shirk, Caporino and Karver (2010) recommend that counsellors should strive to understand the adolescent’s experience and context before developing therapeutic tasks. In addition, adolescents should be given the opportunity to set the therapeutic agenda. Moreover, Baer and Peterson (2002) suggest that therapeutic styles, such as motivational interviewing (Miller & Rollnick, 2002), which are
respectful, acknowledge choices and ambivalence, and are non-confrontational encourage the adolescent to develop personal motivation for change.

A recent study by Zuroff and colleagues (2007) suggests that autonomy may be a new common factor associated with treatment effectiveness. The study included adults with depression who received one of three interventions: cognitive behavioural therapy, interpersonal therapy, or pharmacotherapy with clinical management. Measures of depression severity were administered before and after therapy. Self-reports which assessed therapeutic alliance, autonomous motivation, and perceptions of the therapist’s support for their autonomy (i.e., autonomy support) were administered at session three. The participants’ perception of autonomy support predicted both therapeutic alliance and autonomous motivation. Moreover, among all three treatment groups autonomous motivation was a stronger predictor of remission ($F(1, 88)=10.84, p<.01, \beta=-.36, \text{sr}^2=.10$) than therapeutic alliance. Although the authors proposed that autonomous motivation may be a new common factor associated with outcomes, they cautioned that a large part of the variance in treatment outcome was not associated with therapeutic alliance and autonomy and that more research is needed to identify other common factors associated with change.

**Relatedness.** Relatedness is the need to feel connected with and important to other people (Deci & Ryan, 2000) and to have satisfying and supportive relationships (Baumeister, Brewer, Tice & Twenge, 2007). The construct of relatedness is based on Baumeister and Leary’s (1995) theory of “belongingness” in which posits that individuals have a fundamental motivation “to form at least a minimum quantity of lasting, positive, and significant relationships” (p. 497). Belongingness results when an individual feels that significant others are generally interested in their well-being, are empathic to their struggles, and can be counted on to provide support
The terms belongingness and relatedness are therefore used interchangeably.

In SDT, relatedness has received less attention than competence and autonomy because individuals often freely engage in activities that do not involve relating to others (Markland et al., 2005; Ryan & Deci, 2002). Relatedness serves a role in facilitating the internalization of an individual’s values (Deci & Ryan, 2000) however, individuals are more inclined to internalize values from those to whom they are related (Ryan & Deci, 2003). Therapists can establish relatedness by valuing their client’s feelings and beliefs and by expressing empathy, support and warmth (Markland et al., 2005; Ryan et al., 2010). When a client feels respected, understood, and cared for, they may be more likely to internalize the therapeutic process.

In establishing a therapeutic relationship with adolescents, belongingness may play a key role. As mentioned, developmentally, adolescents are in the process of achieving separation-individuation which occurs in parallel with the struggle to attain intimacy (Erikson, 1965; Johnson & Alford, 1987). Therefore, therapists who are sensitive to these developmental tasks often perform a careful balancing act by maintaining the adolescent’s need for both closeness and distance. According to Papouchis (1982), adolescents’ fear of closeness with adults may be a key factor related to poor therapeutic engagement. With this in mind, fostering adolescent relatedness within the therapeutic relationship could call for the therapist proceeding more slowly during the beginning phase of therapy. The beginning phase typically consists of a thorough assessment and requires a good deal of self-disclosure. In general, adolescents avoid self-disclosure with adults (Seiff-Krenke, 1999); consequently, conducting a detailed assessment before trust is established could complicate the process of establishing relatedness.
Stigma is a significant barrier to adolescents using mental health services (Boldero & Fallon, 1995; Yeh, McCabe, Hough, Dupuis, & Hazen, 2003) and may be associated with their need to belong and avoid social exclusion (Baumeister et al., 2007). Adolescents often choose to forgo mental health services because of the fear their peers will discover their mental health difficulties (Cavaleri, Hoagwood, & McKay, 2009; Gopalan et al., 2010). For instance, the Canadian Youth Mental Health and Illness Survey (Davidson & Manion, 1996) found that 63% of youth indicated that they would not seek mental health services because of embarrassment, fear, peer pressure, and stigma. Some of adolescents’ concerns about attending mental health services may not be unfounded. According to results from the United States National Stigma Study-Children (USNSS-C), one in five parents (n=1393) would not want their child associating or going to school with a child/adolescent with a mental health problem, especially if their child’s peer was struggling with attention deficit disorder or depression (Martin, Pescosolido, Olafsdottir, & McLeod, 2007). Although the USNSS-C focused exclusively on the perceptions of adults, it is reasonable to expect that the parents’ beliefs about mental health problems and those affected by them would be integrated by their children. Thus, adolescents who are faced with the potential of being socially excluded for receiving help for their difficulties may quite reasonably choose to decline services. Moreover, the consequences of social exclusion, or not belonging, may compound the difficulties associated with the mental health problem.

In order to foster relatedness in the therapeutic relationship, it is important to understand the adolescent’s perspective on their mental health problems and empathize with their ambivalence towards entering treatment. Many adolescents are not aware of how mental health services might be helpful or what therapy entails (Goldstein, Olfson, Martens, & Wolk, 2006; Bolton Oetzel & Scherer, 2003). A discussion of confidentiality, the purpose of therapy, and
what concerns, if any, the adolescent would like to discuss may lay the foundation for engagement and subsequent alliance.

The concept of belongingness has much in common with the bond component of the working alliance (Bordin, 1979). While both concepts are, in part, based on attachment theory (Bowlby, 1979) the working alliance is comprised of not only the quality of the relationship between the client and therapist, but also the mutually agreed upon tasks and goals of the therapeutic work. Bordin’s (1979) conception of the therapeutic alliance applies the concept of belongingness to therapeutic work.

**Bordin’s conceptualization of the working alliance**

Families and adolescents who overcome contextual obstacles to accessing mental health services often face barriers to ongoing service use. According to McKay and Bannon (2004) barriers to treatment have been broadly defined as either logistical (e.g., lack of time, community violence, long waitlist) or perceptual (e.g., strength of alliance, perceived need, treatment relevance). Kazdin, Holland and Crowley (1997) found that, although logistical barriers (e.g., stressors/demands such as time constraints, child care, transportation) were related to dropout, parental perceptual barriers (i.e., perceived relevance of treatment) predicted treatment dropout beyond the variation explained by logistic barriers. Additionally, reported barriers were not explained by demographics or parent or child characteristics, and perception of few barriers moderated the probability of dropout among those with high attrition risk factors (p<.001, for all).

Armbruster and Kazdin (1994) assert that in order to understand the factors that contribute to service use, research must go beyond the assessment of parent and youth
characteristics and attempt to assess potential processes underlying attrition and treatment attendance. Two important underlying factors include the client’s view of the relevance of treatment and relationship with their therapist, both of which are components of the working alliance (Bordin, 1979).

Prior to discussing working alliance, it is important to differentiate the construct of alliance from engagement. Engagement refers to the initial stage of relationship building that lays the foundation for the therapeutic alliance (French, Reardon, & Smith, 2003). Although there is not a clear demarcation for when engagement matures into a therapeutic alliance, according to Eaton, Ables and Gutfreund (1988) the strength of the alliance seems to be established by a client’s third session with little change over time. Nevertheless, investigations which evaluate therapeutic alliance do not differentiate between engagement and alliance as the two processes overlap.

In addition to being conceived as a therapeutic process (French, Reardon, & Smith, 2003), engagement is often described as an outcome (McKay & Bannon, 2004) in which engagement is measured by attendance rates and, less commonly, treatment compliance (Nock & Ferriter, 2005). The process of engagement is consequently linked to the outcome of engagement. For instance, a weak therapeutic relationship, established at intake or after the first session, is a predictor of early treatment termination in adult populations (Horvath, 2001; Mohl, Martinez, Ticknor, Huang, & Cordell, 1991; Tryon & Kane, 1993). Thus, the engagement is a critical process that is linked to the development of the working alliance.

According to Bordin (1976; 1979) and Luborsky (1976) the working alliance consists of three interlocking components: 1) agreed-upon treatment goals; 2) agreed upon tasks or methods to ameliorate the presenting problem; and (3) the development of a bond between therapist and
client. According to this conceptualization, goals are defined as the degree to which the client and therapist agree on the outcomes of therapy (Pinsof, 1994). If the therapist has an understanding of the client’s presenting problem which is too broad or narrow, the alliance may be ruptured (Germain & Glitterman, 1996). Similarly, clients’ unrealistic expectations for therapy have been associated with treatment dropout (Russell, Lang & Brett, 1987). Tasks in psychotherapy consist of two components; the degree of agreement on tasks and the level of anxiety the therapist and client experience when undertaking specific tasks. A strong alliance is one in which both the therapist and client perceive the tasks as relevant and effective towards meeting goals (Horvath & Greenberg, 1989). The bond in psychotherapy, or degree of attachment between the therapist and client, consists of the extent of mutual trust, acceptance, and confidence (Horvath & Greenberg, 1994), as well as mutual liking and client perceived support (Luborsky, 1976). This universally accepted definition of the working alliance has been operationalized to create standardized inventories which have been used extensively in therapeutic process and outcome research (Andrusyna, Tang, DeRubeis, & Luborsky, 2001; Horvath, 1994).

Research on the therapeutic relationship has consistently found that a positive therapeutic alliance is one of the strongest predictors of outcome in adult mental health (Horvath & Symonds, 1991; Krupnick et al., 1996; Martin, Garske, & Davis, 2000). In particular, two meta-analyses have asserted the importance of therapeutic alliance as a predictor of favourable mental health outcomes. First, in a meta-analysis of 24 studies, Horvath and Symonds (1991) found that therapeutic alliance quality was the strongest therapy process predictor of outcome, accounting for an average effect size of \( r = .26 \). Second, in a larger meta-analysis (n=79 studies), Martin, Garske, and Davis (2000) reported that therapeutic alliance accounted for a mean effect size of \( r = .22 \) in outcome. Both studies found no significant differences in therapeutic alliance
across treatment modalities. In addition, Krupnick and colleagues (1996) analyzed data from the Treatment of Depression Collaborative Research Project, a comparison trial of four treatments (i.e., cognitive-behavioural, interpersonal, and active and placebo pharmacotherapy) and found that the alliance was predictive of success regardless of treatment condition. More specifically, up to 21% of the outcome variance was attributed to alliance. The type of treatment received only accounted for up to 2% of the outcome variance.

Despite evidence that the therapeutic alliance is a consistent predictor of adult psychotherapy outcomes, there are comparatively few investigations of the role of alliance in psychotherapy with adolescents. To date, one meta-analysis of 23 mostly uncontrolled studies has investigated the impact of several therapeutic process variables (e.g., alliance, child motivation, child participation) on youth outcomes in psychotherapy, special education, and medical treatment (Shirk & Karver, 2003). The authors reported a mean effect size of .20, indicating that about 4% of the variance in outcome was accounted for by alliance, participation, and motivation. Shirk and Karver (2003) did not however, examine the impact of the reported alliance on outcomes or treatment attendance. Currently, only a small number of studies have analyzed the impact of the adolescent-therapist alliance on outcomes and treatment attendance.

Working alliance: Children and adolescents. Although evidence in the literature suggests that therapeutic alliance has an effect on adult outcomes (e.g., Brent & Kolko, 1998; Horvath & Symonds, 1991; Krupnick et al., 1996; Martin, Garske, & Davis, 2000), the role of alliance in child psychotherapy has not been adequately investigated. The small amount of child process literature on therapeutic alliance suggests that alliance is an important predictor of outcome.

One recent hierarchical linear modeling study sheds light on the relationships among working alliance, treatment attendance, and outcomes. In this study, Hawley (2003) found that the main predictor of working alliance, over a two-year post intake period, was the parent and
child’s expectation of therapeutic benefit. Although, parental working alliance was a predictor of treatment attendance and adherence, only child alliance was associated with symptom improvement. These results are similar to those found by Florsheim, Shotorbani, Guest-Warnick, Barratt, and Hwang (2000) who reported that a strong working alliance with delinquent adolescent boys in a community-based residential program was associated with symptom improvement.

More recently, Hawley and Garland (2008) sought to understand the impact of the working alliance on several outcome domains including symptoms, functioning and satisfaction. The participants included 78 caregivers and adolescents who were entering outpatient mental health services. Participants were interviewed at their third session of psychotherapy and again at 6 months following service entry. The average alliance ratings of both parents and adolescents were not significantly different and alliance reports were relatively stable between baseline and 6 months. The youth reported working alliance was significantly associated with decreased internalizing and externalizing symptoms, improved family functioning, increased self-esteem, and youth and parent satisfaction with therapy. Moreover, youth reported alliance accounted for 9.22% of the variance in symptom severity outcomes. Unfortunately, this study did not report whether alliance was associated with treatment attendance, although the authors acknowledged this was an important area for future research.

Adolescents are generally seen as particularly difficult to engage in the therapeutic process because they rarely enter services on their own volition and, as a result, are often less invested in changing their behavior at the outset of treatment (Kazdin et al., 1990; O’Malley, 1990). Although engaging the adolescent in the therapeutic process seems to be just as important to treatment outcomes as parental engagement. Unfortunately, most of the literature on strategies to establish therapeutic engagement, and subsequently alliance, focuses primarily on
building a relationship with the parent. Much work is needed to build practice guidelines for establishing therapeutic engagement with youths.

**Integrated theoretical framework**

This review highlights the key literature of three theoretical frameworks which will be used to both explore factors associated with child and adolescent mental health service use and inform the modification of a treatment engagement intervention for adolescents. This thesis research does not explore the process that occurs prior to an adolescent entering mental health services, and, therefore the SBM was not formally tested. Rather, the SBM was used to systematize many of the reported barriers and client characteristics associated with adolescent mental health service use.

While the SBM provides a comprehensive framework of individual and contextual factors related to service access, it does not adequately address intrapersonal or interpersonal factors which may be associated with service use. The proposed integrated model strengthens the SBM by incorporating SDT and the working alliance framework, two theories which may be associated with mental health service use (see Figure 2).

The proposed integrated theoretical model will aid in understanding and predicting initial mental health service use among adolescents. This integrated model will also provide a framework for underpinning the strategies used in engagement intervention under study and exploring potential moderators associated with treatment attendance.
The SBM has been augmented by SDT and the working alliance in several ways. First, this model proposes that perceived need is influenced by self-efficacy and autonomy beliefs. For instance, self-efficacy may impact the extent to which an adolescent recognizes their mental health problem and perceives a need for services, believes the problem is mutable, or perceives the problem as having an impact on themselves and others. Similarly, the extent to which the adolescent feels they can choose (i.e., autonomy) to make personal changes may impact their recognition of a mental health problem and their need for services. Second, this model proposes that if need is evaluated by a counsellor before services are initiated, the quality of the interaction between the adolescent and counsellor (i.e., the engagement process) may impact the extent to which the adolescent buys-in to the need for services. Third, once services are initiated, this integrated model suggests that the working alliance, autonomy, and self-efficacy will be associated with the extent of their service use. The experience that the adolescent has in mental
health services subsequently will impact their satisfaction with services, perceived and evaluated mental health status.

**Background Information**

**Barriers to child and adolescent mental health services.**

Most of the research on child and adolescent mental health service access and use has investigated demographic variables associated with use, demonstrating that, with the exception of socioeconomic and ethnoracial minority status, variables such as age, gender, and type/severity of emotional or behavioural problems are not consistent predictors of service access and dropout (Ambruster & Fallon, 1994; Armbruster & Kazdin, 1994; Cheung & Dewa, 2007; Cohen & Hesselbart, 1993; Gasquet et al., 1997; Harpaz-Rotem, Leslie, & Rosenheck, 2004; Keeley & Weins, 2008; McKay, Pennington, Lynn & McCadam, 2001; Offord et al., 1989; Offord et al., 1987; Padget et al., 1993; Schonert-Reichl & Mueller, 1996; Verhulst & Van Der Ende, 1997; Wu et al., 2001). It is unclear from the literature how these commonly studied demographic characteristics interact to effect attrition or why socioeconomic and ethnoracial minority status are associated with dropout.

During the last decade and a half, investigations have begun to emerge which explore potential barriers to access and continued participation in child and adolescent mental health services (Anderson et al., 2006; Chandra & Minkovitz, 2006; Kazdin & Wassell, 2000; Moli, Berriman, & Evans, 2008; Morrissey-Kane & Prinz, 1999; Owens et al., 2002; Sheffield, Fiorenza, & Sofronoff, 2004; Stevens et al., 2006). On the whole, this research has examined the perspectives of caregivers/parents and service providers to identify barriers to both initial service access and ongoing service participation. Moreover, the literature on mental health service
dropout fails to differentiate children (i.e., individuals under 13 years of age) from adolescents (e.g., individuals 13-19 years of age), frequently including all individuals under 18 as one group even though the two groups differ in their respective levels of social and emotional functioning. With this limitation in mind, the literature on common barriers associated with child and adolescent mental health service use is reviewed to provide a better understanding of dropout.

**Barriers to child and adolescent mental health service access.** Families and adolescents who could otherwise benefit from child and adolescent mental health services may not access them because of logistical and/or perceptual barriers (McKay & Bannon, 2004; Owens et al., 2002). Logistical barriers include enabling factors such as lack of financial resources (Lewit, Terman, & Berhman, 1997), inconvenient service locations (Catron & Weiss, 1994), long waitlists (Anderson et al., 2006), and poor service coordination (Owens et al, 2002). Perceptual barriers may include perceived need factors such as a lack of awareness or misperception of the severity or impact of mental health problems (Owens, et al. 2002), and predisposing factors such as stigma associated with acknowledging mental health problems or seeking services (Chandra & Minkovitz, 2006; Sheffield, Fiorenza, & Sofronoff, 2004) and past negative experiences with mental health providers (Flisher et al., 1997; Owens et al., 2002).

A limited amount of research has explored the impact of waitlists, poor service coordination, and location on service use. Waitlists are found to be a substantial barrier to service access (Anderson et al., 2006; Greeno et al., 2002) and when agencies offer services within three weeks of request, significantly more families enter services (Greeno et al., 2002). A recent qualitative study (Reid & Brown, 2008) of senior managers of children’s mental health centers in Ontario suggests that more families are accessing mental health services, however due to funding deficits, waitlists have been longer for those in need. As a result of higher demand and decreased funding in Ontario, Manion (2010) suggested that agencies have “become more
insular and protective of their share of existing resources” (p. 51) contributing to a fragmented mental health system which is difficult for families to navigate. Moreover, Shanley, Reid, and Evans (2008) interviewed 60 parents of children involved in mental health services in Ontario to determine how services were sought. In the year prior to the study, 83% of parents were in contact with more than one agency in an effort to obtain relevant services. Service access problems are not limited to children’s mental health services in Ontario. For instance, Solorio and colleagues (2006) found that over half of teens who perceived a need for mental health services in Los Angeles did not know where to go for help.

In addition to decreasing wait times for services and improving service coordination, providing mental health treatment in community settings (e.g., schools and community centers) may alleviate inaccessibility and the stigma associated with attending a mental health specialty centre. For instance, in a study of children and families from socioeconomically disadvantaged backgrounds, Catron and Weiss (1994) found that only 17% of individuals who completed intake at mental health specialty centres subsequently began services, compared to 98% of individuals who began services after completing intake at school-based mental health services. Similarly, in Ontario, the Community Parent Education Program, an intervention for children with behavioural problems, has demonstrated significant improvements in treatment attendance among ethnoracially diverse, low income families when interventions were offered in community settings rather than mental health specialty centres (Cunningham, Bremner, & Boyle, 1995; Cunningham, Bremner, & Secord, 1998).

As discussed, stigma is a significant barrier to mental health service access among Canadian youth (Davidson & Manion, 1996). While stigma is often associated with peer approval among adolescents, Chandra and Minkovitz (2006) found that among 8th grade boys, parental disapproval and perceived parental stigma was a barrier to using mental health services.
Chandra and Minkovitz (2006) recommend that school health programs explore teenage perceptions in order to address stigma and normalize the experience of psychological distress. In addition, providing mental health services in community settings rather than specialty centres may decrease the stigma attached to service access.

Past negative experiences with mental health providers is arguably the most significant perceptual barrier to future treatment access, particularly for economically disadvantaged individuals from ethnoracial minority groups (Belle, 1990). Moreover, Kerkorian, McKay and Bannon (2006) found that among a group of primarily African American parents (n=253), those who felt disrespected by their child’s prior mental health providers were six times more likely to doubt the effectiveness of future treatment. Furthermore, those who doubted the effectiveness of future treatment were more likely to identify more logistical barriers to treatment.

To reduce perceptual barriers providers need to become culturally sensitive and understand the needs and expectations of the populations they serve. Quality assurance measures alone are often insufficient. In general, policy changes to minimize logistical barriers, public education programs to increase awareness and address stigma, and quality improvement initiatives are needed to increase the acceptability and relevance of child and adolescent mental health services for a diverse range of individuals and families in need.

**Addressing barriers to child and adolescent mental health service use.** From a clinical perspective, once service is initiated the barriers which contribute to dropout or inconsistent treatment attendance are the most significant issues to address. A series of articles have demonstrated that when children/adolescents and their parents enter services both logistical (e.g., insufficient time, lack of transportation) and perceptual barriers contribute to dropout (Garcia & Weisz, 2002; Kazdin, Holland, & Crowley, 1997; MacNaughton & Rodrigue, 2001; McCabe, 2002). Perceptual barriers however (i.e., weak therapeutic alliance, low perceived need for
treatment, low perceived relevance of treatment) have been shown to be a greater predictor of treatment discontinuation than logistical barriers (Garcia & Weisz, 2002; Kazdin et al., 1997; Koren et al., 1997; MacNaughton & Rodrigue, 2001; Stevens et al., 2006). Since the foundation for a strong therapeutic alliance begins with the first therapeutic contact, effective treatment engagement is critical.

A small number of interventions have been developed to improve attendance rates and enhance engagement among families entering child and adolescent mental health services (McKay, McCadam, & Gonzales, 1996; Nock & Kazdin, 2005; Santiseban et al., 1996). In general, those engagement interventions focus on building a collaborative relationship with the parent, enhancing the parent’s self-efficacy and providing parents with the space to talk about their challenges. Additionally, the parent’s logistical barriers are discussed, and when possible, addressed before treatment begins. All of these strategies have significantly increased attendance at initial clinic appointments. Other important measures of engagement however, such as the child’s motivation for services and the degree to which the child follows service recommendations have not been fully explored. Thus far, engagement interventions focus primarily on engaging parents and addressing the barriers they face, rather than specifically engaging the adolescent.

**Engagement interventions in child and adolescent mental health services.**

Several intervention studies have been conducted to enhance retention in child mental health settings (McKay, McCadam, & Gonzales, 1996; McKay, Stoewe, McCadam, & Gonzales, 1998; Nock & Kazdin, 2005; Prinz & Miller, 1994; Santiseban et al., 1996). Santiseban and colleagues (1996) and Prinz and Miller (1994) each created interventions based on structural strategic therapy and social learning theory, respectively. Santiseban and colleagues (1996)
utilized Strategic Structural Systems Engagement (SSSE), an approach which uses joining and restructuring to overcome resistance among Hispanic families (n=193) throughout treatment. Families were randomized to receive SSSE (n=52) and family/group therapy or family/group therapy alone (n=84). Successful engagement was defined as attending intake and one in-office therapy visit over the course of four weeks. Compared to the control group, SSSE engaged significantly more families ($\chi^2 (1, N=193)=7.5$, p<.006). The overall effect size of the study was .64. The study focused on a largely Hispanic population and did not report treatment completion rates between groups. The degree to which therapists used joining and restructuring was assessed through chart review rather than observations of the engagement process which compromised the integrity of the treatment.

Prinz and Miller (1994) explored the effectiveness of enhanced family treatment (EFT) for children with behavioural problems and their families. EFT was identical to standard family treatment (SFT) with an additional component which allowed parents to talk about their personal issues (e.g., worries, health, employment pressure, feelings about therapy, family conflict, outside stressors). Seventy-two participants were randomly assigned to EFT and 75 participants received SFT. Participants who did not complete the treatment protocol were classified as dropouts; unfortunately, the authors did not report the length of the treatment protocol. Overall, Prinz and Miller found that EFT produced significantly fewer dropouts than SFT ($\chi^2 (1, N=147)=4.1$, p=.04) but, both groups attended a similar number of sessions SFT (mean=21.0) and EFT (mean=22.0).

McKay, McCadam, and Gonzales (1996) have developed a more concrete 60-minute engagement intervention, which they found was associated with greater continuing use of services in their primarily low-income, culturally diverse child mental health clinic (McKay,
Stoewe, McCadam, & Gonzales, 1998). As McKay and colleagues (1998) reported, the intervention included: “1) clarifying the helping process for the client; 2) the importance of establishing a collaborative relationship; 3) a focus on immediate, practical concerns; 4) an emphasis on identifying and ameliorating barriers to help seeking” (p. 11). This approach has been manualized and appears to be effective. Specifically, McKay and colleagues (1998) administered the engagement intervention to parents prior to intake either over the phone (N=35) or over the phone and in-person (combined) (N=35). Thirty-five parents received usual intake. Families who received the combined intervention attended significantly more sessions than the usual intake group (F=6.36, p<.05), but the telephone intervention was not significantly different than usual intake. Additionally, participants who dropped out of the study were not contacted to determine reasons for discontinuation. A need to understand the barriers experienced by those who dropout after intake requires exploration.

Only one study to date has examined the impact of an engagement strategy on both motivation and adherence in addition to treatment attendance. Nock and Kazdin (2005) conducted a randomized controlled trial (n=76) to determine if a Participant Engagement Intervention (PEI) would significantly impact motivation, adherence and attendance among caregivers of children with conduct problems. All caregivers and their children received problem-solving skills training and a cognitive intervention while 39 parents received the additional PEI. Based on principles of motivational interviewing (Miller & Rollnick, 2002), PEI addressed barriers to attending mental health services and treatment motivation. The PEI was administered over the course of the first few sessions in three brief doses (5-15 minutes).

The results indicated that 56.4% PEI families attended 8 sessions compared to 35.1% of control families, but this difference did not reach statistical significance ($\chi^2$ (1, N=76)=3.46,
p=.06). However, the PEI group reported more service barriers than the control group. Thus, after covarying reported service barriers (e.g., waiting lists, problems in scheduling, and language barriers), the PEI group was found to attend significantly more sessions ($\chi^2[1, N=56]=5.15 \ p<.05$). Based on therapist and parent reports, the PEI group demonstrated greater adherence to treatment ($t(18)=2.12, d=1.00, \ p < .05$) and higher motivation in perceived readiness to change ($F(1,75)=5.15, \ \beta=.26, \ p < .05$), and more willingness to participate ($F(1, 75)=5.58, \ \beta=.27, \ p < .05$).

Overall, the investigations on engagement interventions do not consistently report between-group differences that may be associated with higher attrition rates such as ethnoracial background, severity of child psychopathology, presence of parental psychopathology, and socioeconomic status. Cross-fertilization between studies on variables related to attrition, barriers to treatment, and treatment engagement will improve the design of experimental studies and inform engagement techniques tailored to the population. Thus, it is important to develop a model that can predict engagement and inform service providers of demographic characteristics and barriers associated with attrition.

All of the engagement approaches seem to emphasize collaboration and elicit a broader picture of the family system from the caregiver’s perspective, but few studies examine intervention outcomes beyond treatment attendance. Nock and Kazdin (2005) have extended the research by including parental motivation to change as an additional aspect of engagement. No investigations to date have expanded upon the relationship among motivation, adherence and treatment attendance in child and adolescent mental health services. Few investigations have clearly articulated strategies to engage families, with the exceptions of McKay and colleagues (1998) and Nock and Kazdin (2005).
Additionally, with the exception of the investigation by Nock and Kazdin (2005), all of the investigations have conceptualized engagement as an outcome as measured by treatment attendance. When considering adolescents, the use of attendance alone may not be an adequate measure of engagement as this age group is often compelled to therapy by their families or the community (e.g., school). The adolescent’s compliance with treatment recommendation and their perception of the therapeutic relationship has not been adequately explored.

All of the abovementioned engagement interventions have focused solely on parental engagement. Even though parents clearly play a key role in bringing their offspring to treatment, engaging an adolescent in the therapeutic process may be just as important to treatment outcomes as parental engagement. Developing knowledge of the factors related to adolescent barriers and addressing these factors via an engagement intervention are the key goals of this thesis research.
CHAPTER THREE: ADAPTED ADOLESCENT ENGAGEMENT INTERVENTION

Engagement Intervention Description

The engagement intervention is a 40 minute, pre-counselling interview which is intended to improve the likelihood that adolescents will attend services and to enhance the current knowledge of adolescent-defined barriers to services. The engagement intervention was adapted from an adult engagement intervention (see Swartz et al, 2007 for a comprehensive description) developed collaboratively by this author and colleagues at the University of Pittsburgh (Zuckoff et al., 2004) and is based on the principles of motivational interviewing (MI; Miller & Rollnick, 2002) and ethnographic interviewing (Schensul, Schensul & LeCompte, 1999). The engagement intervention is intended to promote the therapeutic relationship by building trust and encouraging adolescents to discuss their feelings about seeking treatment and to discuss psychological, practical, and cultural barriers that may hinder the therapeutic relationship.

MI is a client-centered, directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence (Miller & Rollnick, 2002) and is a well-established therapeutic approach. MI was originally developed as a brief intervention for alcohol and other substance use disorders (Connors, Walitzer, & Dermen, 2002; Stephens, Roffman, & Curtin, 2000). More recently, MI has been applied in a variety of other areas, including health promotion through changes in diet and exercise (Harland et al., 1999; Resnicow et al., 2001), adherence to psychotropic medication (Kemp, Kirov, Everitt, Hayward, & David, 1998), and changes in parental behaviours impacting children’s health such as passive smoking (Emmons et al., 2001). MI has been used effectively with adolescent populations (Flaherty, 2007) and is a
promising approach for engaging adolescents in treatment for substance abuse (Aubrey, 1998; Slesnick, Meyers, Meade, & Segelken, 1999) and anorexia nervosa (Gowers & Smyth, 2004).

MI is informed by both self-efficacy theory, self-determination theory, and the therapeutic process literature on therapeutic alliance (Markland et al., 2005; Miller & Rollnick, 2002). The engagement intervention seeks to increase adolescents’ self-efficacy through reflection and identification of past coping methods. In addition, the adolescent’s autonomy is supported by enabling the adolescent to have control over what they choose to share in the interview and by exploring the extent to which the adolescent anticipates participating in mental health services. The reflections are also used to communicate an understanding of the adolescent’s feelings/values and to demonstrate empathy and lay a foundation for the therapeutic alliance.

The engagement intervention was also informed by the principles of ethnographic interviewing, which is a method of qualitative inquiry rather than a therapeutic approach (Schensul et al., 1999). Ethnographic interviewing is a method of eliciting information designed to help the researcher understand the ideas, values, and patterns of behavior of others without bias (Schensul et al., 1999). Within the engagement intervention, ethnography is used to learn how an adolescent from a different culture or background perceives and organizes their experiences. Ethnographic interviewing provides a framework for the engagement interview in which the participant is encouraged to provide a detailed description of the barriers to treatment they experience which may not otherwise be expressed. Moreover, placing the adolescent in the “expert role” is intended to promote cultural sensitivity as the researcher seeks to understand how the adolescent’s cultural background affects their perception of their psychological health, methods of coping, and the acceptability of discussing their concerns with a counsellor.
The engagement intervention was originally developed and piloted with depressed mothers rearing children with psychiatric difficulties. Eighty-five percent of mothers who participated in the engagement intervention completed an 8-week treatment for depression (Swartz et al., 2006). While the intervention has not been piloted with adolescents, based on prior work of a motivational interviewing-based treatment engagement intervention in which 80% of adolescent girls (n=42) with Anorexia Nervosa completed at least three sessions of an outpatient treatment program (Gowers & Smyth, 2004), it was proposed that the adapted engagement intervention would similarly increase treatment attendance and engagement.

In this thesis research, the adult engagement intervention was modified to provide relevance to adolescent populations entering community mental health services in Toronto. The primary modification to the adult engagement intervention was the removal of a topical section designed to provide feedback and psychoeducation. This section was removed at the advice of clinical directors at Central Toronto Youth Services and Youthlink, who suggested that psychoeducation was not consistent with their treatment models. Instead, adolescents were asked more generally to describe their presenting issue and the impact it was having on their life. A second modification was that adolescents were asked to compare and contrast their perceptions of the presenting issue with others’ (e.g., parents, caregivers, friends) perceptions.

The adolescent engagement intervention (see Appendix 3) consists of four topic areas; the story, perception of problem, barriers to participation, and the summary. The “story” explores the adolescent’s feelings about coming to service and the circumstances that led to a referral. The “perception” section focuses on the adolescent’s view of the issue that brought them to services and whether their view is consistent with others’ perceptions. Within the perception section of the intervention, the researcher seeks to elicit an understanding of how the
adolescent’s background/culture effects their perception of the presenting issue. The “barriers” section explores logistic and perceptual barriers to receiving services. If barriers are identified, the adolescent is engaged in collaborative problem solving in an effort to reduce the impact of these barriers on initial treatment attendance. In particular, topics such as stigma, past mental health provider experiences, and potential cultural misunderstandings are reviewed.

As adolescents, particularly in this sample, come from a variety of ethnoracial backgrounds and differ in levels of acculturation the ethnographic component of this intervention is particularly relevant. Consistent with the principles of ethnographic interviewing, the researcher views the adolescent as the “expert” and emphasis is placed on understanding how the adolescent defines their challenges and goals. Although it was important for the individual delivering the engagement intervention to have an awareness of cultural barriers experienced among different ethnoracial groups prior to conducting the intervention, overgeneralizations may have occurred without an understanding the adolescent’s perspective of how their ethnoracial background effects their willingness to engage in services. The summary section of the engagement intervention aims to prepare the adolescent for the next phase of services and to elicit a commitment, even if provisional, to participate in services.
CHAPTER FOUR: METHODS

The purpose of this pilot study is to explore the effectiveness of an engagement intervention versus assessment only on initial attendance (i.e., the first three sessions of mental health services). The primary hypothesis was that the engagement intervention, compared to an assessment only group, would result in greater initial attendance. The secondary hypotheses were that the engagement intervention, as compared to assessment only, would result in higher levels of self-efficacy, working alliance, and/or autonomous motivation and lower levels of controlled motivation. In addition, it was hypothesized that, irrespective of condition, higher baseline levels of psychological distress, self-efficacy and/or autonomous motivation and lower levels of controlled motivation would predict greater initial treatment attendance. Finally, post hoc analyses were used to explore the extent to which demographic factors (i.e., age, gender, immigration status, race, residence in low income neighbourhoods), and self-reported barriers (i.e., mismatched treatment expectations and external demands) were associated with treatment attendance.

Participants and Setting

This study draws from a population of English-speaking adolescents between 13 and 19 years who were entering non-mandated outpatient mental health services at one of four centres (i.e., Youthlink, Central Toronto Youth Services (CTYS), Oolagen Community Services (OCS), and Delisle Youth Services (DYS)) in Toronto, Ontario. The mental health services offered to this population included individual and family therapy. Adolescents who were fluent in English and were willing to provide informed consent or assent were invited to participate in the study.
Study recruitment began in November 2008 at Youthlink and CTYS, November 2009 at DYS, and January 2010 at OCS and ended in June 2010 at all sites.

Over the course of the recruitment period, a total of 92 referrals were made to the study; Youthlink provided 68 referrals, OCS provided 11 referrals, CTYS provided 8 referrals, and DYS provided 5 referrals. At the conclusion of enrolment, Youthlink provided their clients’ attendance rates and gender composition. Between January 2008 and June 2010, Youthlink offered services to 513 adolescents of which 39.4% were boys and 60.6% were girls; 37.4% attended 0 sessions; 11.9% attended one session; 7.2% attended 2 sessions, and 43.7% attended 3 or more sessions. It is unknown how many adolescents within this cohort were legally mandated to receive services and the timeframe within which adolescents attended their first three sessions. Additionally, intake workers did not record how many of the adolescents were presented study details and refused to be contacted by a researcher.

The researcher contacted all of the individuals referred to the project but was unable to reach 31 individuals by telephone. One adolescent refused to participate and two parents refused to allow their child to participate in the study. Fifty-six adolescents were interested in and eligible for study participation and subsequently completed informed consent and study procedures. Study procedures occurred prior to the adolescent’s first session of psychotherapy. Five adolescents were eliminated from the final sample; four adolescents were not offered ongoing mental health services following intake and were withdrawn from the study after completing enrolment and initial study procedures. One adolescent was eliminated due to both random responding and because they were legally mandated to receive mental health services following study enrolment. Random responding was identified by inconsistent reporting on the reverse score items of the working alliance inventory and an item score total of less than 4 on the brief symptom inventory which indicated probable response distortion (Derogatis, 1993).
Overall the study attrition rate was low (n=1); efforts were made (e.g., reminder contacts, use of participant locators, remuneration) to ensure high response rates at follow-up.

The sample of 51 multi-ethnic adolescents included 34 (67%) girls and 17 (33%) boys aged 13-19 ($M=16.23$, $SD=1.78$); 62.7% were Caucasian, 15.1% multi-ethnic, 5.8% Chinese, 5.8% Black, 5.8% Filipino, 1.8% Latin American, and 1.8% Southeast Asian. Twenty four (47.0%) of the adolescents were either born in another country (n=2) or were second generation immigrants (i.e., one or both of their parents immigrated to Canada) (n=22). The majority of adolescents in this sample were referred by Youthlink (76.4%) and OCS (13.7%). Twenty-seven adolescents were included in the engagement intervention group and twenty-four were included in the assessment only group.

In lieu of obtaining socioeconomic status at the individual level, participants were linked by their residential postal code to their enumeration district (i.e., Ward) to represent their exposure to poverty. Exposure to poverty was represented by residence in a low income neighbourhood. Data for the incidence of low income families by enumeration district were obtained from the most recent Canadian Census (Statistics Canada, 2007b). According to the Canadian Census, 20.6% of families in Toronto are considered low income (Statistics Canada, 2007b). Low income is defined as the level at which families spend 20% or more of their before-tax income than the average family on food, shelter and clothing (Statistics Canada, 2005). Adolescents who lived in enumeration districts in which 20.6% or more of families were classified as low income were considered to reside in low income neighbourhoods. Thirty adolescents (58.8%) in the sample were considered to reside in low income neighbourhoods.
Procedures

This investigation is a randomized-controlled study conducted to determine the effectiveness of a one session adapted engagement intervention (Zuckoff et al., 2004) for enhancing adolescent attendance during their initial three sessions of mental health services. Eligible participants received one of two conditions: one 40-minute engagement intervention and assessments or a comparison condition including assessments only.

All procedures were approved by the Health Services Research Ethics Board of the University of Toronto. Adolescents were referred to this study by centre intake workers who provided study details to the adolescent or parent upon their initial centre contact and asked for their permission to have a researcher contact the parent or adolescent by telephone to discuss the study. Referrals were provided within one to two weeks prior to the adolescent’s first session of psychotherapy. The researcher contacted potential participants to provide study details and, subsequently completed informed consent procedures with willing adolescents. Participants were assured that their data, at an individual level, would not be shared with anyone outside of the study including their counsellor and parent(s)/guardian. Participants were informed, however, that their data would be anonymized and combined with other participants’ data and a summary of study results would be communicated to study participants, the agencies who participated in the study, and the research community. Participants were also informed that their counsellor would be aware of their decision to participate in this research and their counsellor would provide the researcher with the participant’s attendance data.

Following the completion of informed consent, adolescents were randomly assigned to either the engagement intervention group or the assessment only group. During the first year of the study, adolescents were stratified by gender and centre location (i.e., CTYS or Youthlink) and then randomly assigned to either the experimental or control group. However, fewer than
expected referrals were received from CTYS. Therefore, after the first year of the study, a decision was made to stratify by gender only and then randomly assign to the experimental or control group.

At baseline both groups completed a demographic information questionnaire and three self-report measures, while the engagement intervention group subsequently completed the 40-minute intervention. Within 6 weeks of completing baseline procedures, both groups completed the same self-report measures administered at baseline plus two additional self-reports (see Table 1). Adolescents in the engagement intervention group received $20 and adolescents in the assessment only group received $8 for completing baseline procedures; both groups received $20 for completing follow-up assessments. To ensure that all items were completed, self-reports were carefully scanned by the researcher following completion while in the presence of the participant. Participants were asked to respond to any missing items ensuring the absence of missing data.

Table 1. Data Collection

<table>
<thead>
<tr>
<th>Baseline</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic Information (i.e., age, gender, race, postal code, immigration status)</td>
<td>Attendance Rates</td>
</tr>
<tr>
<td>Autonomus and Controlled Motivations for Treatment Questionnaire (ACMTQ)</td>
<td>ACMTQ</td>
</tr>
<tr>
<td>General Self-Efficacy Scale (GSE)</td>
<td>GSE</td>
</tr>
<tr>
<td>Brief Symptom Inventory (BSI)</td>
<td>BSI</td>
</tr>
<tr>
<td></td>
<td>Working Alliance Inventory – Short Form</td>
</tr>
<tr>
<td></td>
<td>Adapted Barriers to Participation Scale</td>
</tr>
</tbody>
</table>
Measures

**Attendance rates.** Counsellors recorded whether participants attended 0 to 3 counselling sessions over a six week period. This recording timeframe was chosen because prior studies have suggested that the strength of the therapeutic alliance is established within the first three sessions of psychotherapy with little change overtime (Horvath, 1994; Horvath & Greenberg, 1989). Moreover, Gowers and Smyth (2004) used the same timeframe to explore the effectiveness of a one session assessment intervention among adolescents entering outpatient treatment. In light of the literature and in consultation with clinical directors at Youthlink and CTYS (Paul Bessin, personal communication, September 2007; Fred Mathews, personal communication, November 2007), 6 weeks was chosen as a reasonable timeframe for an adolescent to complete three sessions of counselling.

**Autonomous and Controlled Motivations for Treatment Questionnaire (ACMTQ).** The ACMTQ (Zuroff, Koestner, Moskowitz, McBride, & Ravitz, 2005) is a self-report measure adapted from the Treatment Self-Regulation Questionnaire (Williams et al., 1998), designed to measure autonomous and controlled treatment motivation: two constructs associated with self-determination theory. The ACMTQ consists of 12 items with two subscales, one to assess autonomous treatment motivation (6 items) and one to assess controlled treatment motivation (6 items). Scores range from 1-7 with higher scores indicating greater levels of autonomous or controlled motivation. Cronbach’s coefficient alpha was .85 for autonomous motivation and .84 for controlled motivation (Zuroff et al., 2005). A follow-up study (Zuroff et al., 2007) demonstrated a Chronbach’s alpha of .77 for both autonomous and controlled motivation among adults with depression.
The ACMTQ has been used exclusively with adults receiving outpatient mental health services for depression. In order to assess autonomous and controlled from the perspective of an adolescent entering mental health services, some of the items were reworded. Specific treatment terms (e.g., Interpersonal Therapy) were replaced with the term “counselling” and the term “depression” was replaced with the phrase “emotional and behavioural challenges.” In addition, the probe “I try to use what I have learned in counselling, because…” was modified to read, “I will try to use what I learn in counselling, because…” in order to assess autonomous and controlled motivation at baseline (i.e., before counselling was initiated). Although the Treatment Self-Regulation Questionnaire has demonstrated a high level of validity and internal consistency (Williams, Freedman, & Deci, 1998; Williams et al., 2002; Williams et al., 1998), the ACMTQ was chosen because it is a more specific measure of motivation for mental health services.

**Brief Symptom Inventory (BSI).** The BSI (Derogatis, 1975) is a self-report scale that consists of 53-items rated on a 5-point Likert scale. The BSI measures nine psychological symptom dimensions and three global measures of functioning. The scale has been used extensively to determine current psychological distress and severity in adolescents and adults. The BSI has moderate high scale-to-scale correlations with other measures of the same construct such as the Symptom Checklist-90 (correlations range .92 to .99), the Wiggins content scales, and the Tyron cluster scales from the Minnesota Multiphasic Personality Inventory (correlations range .30 to .72) (Derogatis, 1993). The BSI has demonstrated high internal consistency (alpha=0.71-0.85) and high convergent and discriminant validity (Cochran & Hale, 1985). The global severity index, a summary score of all items measuring psychological distress, had strong internal consistency reliability with a Cronbach’s alpha coefficient of 0.97 and test-retest reliability of 0.90 (Boulet & Boss, 1991).
Global severity scores range from 0 to 4 with higher scores representing greater psychological distress. The mean global severity index score among non-patient adolescents (n=2408) is 0.83 with a standard deviation of 0.59. Adolescent t-scores above 63 (i.e., raw scores above 1.60) have been used to indicate clinically significant psychological distress (Silver & Frohlinger-Graham, 2000).

**Barriers to Treatment Participation Scale (BTPS).** The BTPS is used to assess perceived barriers associated with attending child mental health treatment. The BTPS has traditionally been completed by parents and counsellors. The BTPS consists of 44 items rated on a 5-point scale and includes four subscales which measure four types of barriers: 1) stressors and obstacles that interfere with participating in and coming to treatment; 2) treatment demands and issues; 3) perceived relevance of treatment; and 4) relationship with the counsellor. The overall scale has high internal consistency (alpha=.86) and Cronbach’s alphas for the subscales are in the acceptable range (.61-.80). The BTPS has demonstrated incremental validity (i.e., the measure provides information regarding perceived barriers beyond other measures and constructs known to predict treatment participation) and convergent validity (i.e., the measure demonstrated a positive relationship between barriers and dropping out) (Kazdin, Holland, Crowley, & Brenton, 1997).

A recent exploratory factor analysis of the BTPS (Colonna-Pydyn, Gjesfjeld, & Grenno, 2007), found the scale to identify two factors: one measuring treatment expectations and the other measuring external demands. A confirmatory factor analysis was performed on the 10 highest loading items for each of the two factors. The treatment expectations factor demonstrated good internal consistency (i.e., alpha coefficient of 0.90) while the external demands factor demonstrated adequate internal consistency (i.e., alpha coefficient of 0.80). The
authors proposed a 20-item version of the BTPS based on the highest loading items on each of
the two factors.

Since the BTPS does not address barriers from a child or adolescent’s perspective, the
scale was modified to create a version relevant to adolescents. The 20-item BTPS proposed by
Colonna-Pydyn and colleagues (2007) was modified by substituting three items on the treatment
expectations scale (i.e., “my child had trouble understanding treatment”, “the therapist did not
seem confident that treatment would work for my child”, “the therapist did not seem confident in
my ability to carry out programs”) and three items on the external demands scale (i.e., “I was too
tired after work to come to a session”, “getting a baby-sitter so I could come to sessions”, and “I
had trouble with other children at home which made it hard to come to treatment”) with the next
highest loading items that were relevant to adolescents. Although the psychometric properties
of this modified measure are unknown, the modified scale was used to explore barriers
experienced by adolescents in this study.

**Generalised Self-Efficacy Scale (GSE).** The GSE measures the construct of perceived
self-efficacy; one’s belief that they can perform new or challenging tasks or cope with adversity
(Bandura, 1997). Perceived self-efficacy is related to subsequent behavior and is relevant for
understanding behavior change (Schwarzer, 1992) and is closely associated with the construct of
hope (Snyder, 2002). The GSE (Schwarzer & Jerusalem, 1995) is a 10-item self-report
questionnaire designed for the general adult population and adolescents. Each item is scored on
a 4 point Likert scale. The responses to all 10 items yield a total composite score ranging from
10 to 40 with higher scores indicating greater perceived self-efficacy.

Based on a sample of 19,120 participants from 25 nations, the GSE demonstrated good
reliability with Cronbach’s alpha’s ranging from .76-.90 (Scholz, Gutierrez-Dona, Sud &
Schwarzer, 2002). The test-retest reliability of the GSE is acceptable (Pearson’s $r=0.82$) (Leganger, Kraft, & Røysamb, 2000). Criterion validity of the GSE has been documented in which positive coefficients were found with positive affect and optimism and negative coefficients were found with internalizing conditions (i.e., depression and anxiety) and negative affect (Leganger, Kraft, & Røysamb, 2000; Luszcynska, Gutierrez-Dona, & Schwarzer, 2005).

T-norms derived from a sample of German adolescents ($N=3,494$) found the weighted mean to be 29.60 with a weighted variance of 4.0 (Luszcynska, Gutierrez-Dona, & Schwarzer, 2005).

**Working Alliance Inventory Scale-Short Form (WAI-S).** The WAI-S (Tracey & Kokotovic, 1989) is a self-reported inventory designed to assess the working alliance construct proposed by Bordin (1979). Items for the short version WAI-S were obtained from a factor analysis of the WAI (Horvath & Greenberg, 1989) in which the four highest loading items from each of the three WAI subscales (i.e., Bond, Tasks, and Goals) were selected. The WAI and the WAI-S were found to be highly correlated (Busseri & Tyler, 2003).

The 12-item is scored on a 7-point Likert scale. Summary scores can range from 12 to 84 where higher scores reflect more positive ratings of working alliance. Based on an internal validation sample of 124 adult clients, the WAI-S-C demonstrated good internal consistency (alpha=.93) (Tracey & Kokotovic, 1989). Test-retest reliability was found to be 0.83 (Horvath, 1994). The construct validity of the WAI is supported by the results of a multimethod-multitrait procedure which tested the discriminant and convergent validity of the measure (Tracey & Kototovic, 1989).

Of all the measures of therapeutic alliance, the WAI has received the most empirical support (Martin, Garske, & Davis, 2000). Fewer studies have examined the WAI-S-C in child and adolescent populations. Recently, Hawley and Garland (2008) found the WAI-S-C to show
good internal consistency within a sample of adolescents, parents and therapists with coefficient alphas ranging from 0.93-0.95. Moreover, Hintikka, Laukkanen, Marttunen, and Lehtonen (2006) have demonstrated the utility of using the WAI-S-C to determine the impact of the therapeutic relationship on treatment outcome among adolescent psychiatric inpatients.

Data Analysis

Adolescents who received the engagement intervention (n=27) and assessments only (n=24) were compared at baseline on demographic characteristics and clinical characteristics by using chi square and two sample independent t-tests, where appropriate.

Data analysis was conducted using SPSS 18.0 in which total scores were entered for each variable. The data were scanned visually to identify missing items and unusual values. Preliminary analyses of the data involved exploring the distributions of scores for study variables in order to identify possible outliers and determine whether the properties of the distributions met assumptions of statistical tests used for further analyses. The relationships between predictive variables and the outcome (i.e., initial treatment attendance) were explored by means of point biserial correlations, Spearman’s correlations, and cross tabulations. Two sample independent t-tests were used to determine whether the engagement intervention group demonstrated higher levels of attendance, alliance, self-efficacy, and autonomous motivation and lower levels of controlled motivation when compared to the assessment only group; conventional alpha levels (p<.05) were used to determine statistically significant differences. Effect sizes, appropriate to each type of analysis, were also calculated. The BSI was primarily used to determine that participants’ emotional and behavioural severity did not differ significantly between groups. However, post hoc analyses were conducted to determine if baseline BSI scores were associated with initial treatment attendance.
**Sample size rationale.** To determine the minimum sample size in order detect a clinically significant outcome differences at the 0.05 significance level with 80% power for an estimated large effect size for each outcome variable, sample size calculations were conducted for each outcome variable. The sample size was based on power analyses described by Cohen (1988). For the purposes of this unfunded study, only sample sizes to detect large effects were calculated.

The main objective of this research is to determine whether a difference in treatment attendance occurs between groups using a T-test for two independent samples. Previous research (Aubrey, 1998) was used to determine the sample size required to detect clinically significant outcome difference at the 0.05 significance level with 80% power. Aubrey (1998) investigated the effect of a one-session, pre-treatment intervention on treatment attendance among adolescents entering mental health treatment. Both the intervention used by Aubrey (1998) and the intervention used in this investigation are primarily informed by the techniques and principles of motivational interviewing (Miller & Rollnick, 2002). Adolescents either received the intervention ($n=25$) or intake as usual ($n=19$). Adolescents who received the intervention attended more sessions ($M=17.36, SD=17.57$) than those who received intake as usual ($M=6.43, SD=6.21$). The minimum sample size with 80% power and $p<0.05$ based on these results is 21 participants per group.

ANCOVAs were used in favour of a t-test to explore differences in self-efficacy, autonomous/controlled treatment motivation at follow-up between groups while adjusting for baseline differences in these factors. ANCOVA requires a smaller sample size than the t-test because the ANCOVA reduces the error term and increases statistical power (Borm, Fransen, Lemmens, 2007). Therefore, sample size calculations for t-tests were conducted because this was a more conservative estimate of sample size.
A t-test for repeated measures was used to detect differences in GSE. Gendron, Royer, Bertrand, & Potvin (2004) examined self-efficacy of young adolescents (12-14) with behavioural problems using the GSE scale. This data ($M= 27.90, SD= 4.30$) was used to calculate sample size expecting a difference in means of 25% (.70). Based on this estimate a sample of 7 participants per group would be required to detect change given 80% power and $p<0.05$.

Zuroff and colleagues (2007) examined the autonomous and controlled motivation scores of adults with depression receiving outpatient mental health treatment. Autonomous motivation scores ($M=5.71, SD=.83$) and controlled motivation scores ($M= 2.83, SD=1.29$) were used to calculate sample size expecting a difference in means of 25% for autonomous motivation and 30% for controlled motivation. Based on this estimate a sample of 6 participants per group would be required to detect change in autonomous motivation and 24 participants per group would be required to detect a change in controlled motivation given 80% power and $p<0.05$.

A t-test for two independent samples was conducted to detect significant differences in WAI scores between groups. Hintikka, Laukkanen, Marttunen, and Lehtonen (2006), reported WAI scores ($M= 4.86, SD=1.03$) at discharge among adolescents who psychiatric inpatients. This data was used to calculate sample size expecting a difference in means of 20% (.97) between groups. Based on this estimate, a sample of 18 participants per group would be required to detect change given 80% power and $p<.05$. 
CHAPTER FIVE: RESULTS

This chapter begins with a comparison of groups during baseline on demographic factors (i.e., age, gender, ethnoracial status, neighbourhood income level, immigrant status, and mental health centre location), clinical characteristics (i.e., psychological distress measured by the Brief Symptom Inventory (BSI) and generalised self-efficacy measured by the Generalised Self-Efficacy Scale (GSE)), and motivation for mental health services (i.e., autonomous/controlled motivation measured by the two Autonomous and Controlled Motivation for Treatment subscales). The analysis first entailed an exploration of the extent to which demographic factors and baseline clinical characteristics and motivation for mental health services are associated with initial treatment attendance (i.e., attendance of 0-3 sessions during the first six weeks of counselling). Secondly, data analysis entailed an exploration of the differences between the experimental and control group on the primary outcome variable (i.e., treatment attendance), secondary outcome variables (i.e., generalized self-efficacy, autonomous/controlled motivation), and the working alliance. Finally, data analysis involved an exploration of the extent to which the secondary outcome/demographic variables, working alliance (measured by the Working Alliance Inventory (WAI)) and barriers (measured by the adapted Barriers to Treatment Participation Scale (BTPS)) were related to initial treatment attendance.

Exploratory Data Analysis

Following data entry using SPSS 18.0 for windows, univariate statistics were used to assess the normality of the data and to describe the characteristics of the sample. Data for were assessed graphically and numerically to detect outliers and box plots were used to evaluate skewness and kurtosis. In addition, skewness and kurtosis statistics were calculated for each
measure. To determine normal distribution among measures, the absolute values of skewness and kurtosis divided by the standard error of skewness and standard error of kurtosis, respectively needed to be greater than $Z=\pm 3.29$ ($p<.001$, two tailed test) (Tabachnick & Fidell, 2007). Based on this parameter, none of the variables demonstrated a significant degree of skewness and kurtosis.

**Comparability of Groups at Baseline**

In order to determine whether the experimental and control groups were comparable, baseline variables (i.e., demographic/clinical characteristics and motivation for mental health services) were examined using independent samples t-tests, two way chi square tests, and 2 x 4 Fisher’s exact probability tests. None of the examined variables reached the level of statistical significance (i.e., $p<0.05$); however controlled motivation approached significance ($p=.06$). All other characteristics were statistically comparable, thus p-values were not provided in the following text (for exact p-values please refer to Tables 2 and 3).

**Socio-demographic characteristics.**

**Age and Gender.** The mean age of the experimental group was 16.2 ($SD=1.6$) and the mean age of the control group was 16.3 ($SD=2.0$). The experimental group included 17 females (63%) and 10 males (37%) while the control group included 17 females (70.9%) and 7 males (29.1%).

**Race/ethnicity.** Race/ethnicity was dichotomized into Caucasian versus visible minority categories. Visible minorities are defined as “persons, other than Aboriginal people, who are non-Caucasian in race or non-white in colour” (Canadian Employment Equity Act, 1995, c.44, guideline 4). The experimental and control groups had a statistically similar number of visible minorities ($n= 9$ (33.3%) versus $n=10$ (41.7%), respectively).
**Immigrant status.** In the experimental group, 62.9% (n=17) of adolescents and their parents were born in Canada, 11.1% (n=3) of adolescents had one parent who was born in another country, 22.2% (n=6) of adolescents came from families in which both parents were born in another country, and one adolescent (3.7%) was born in another country. In the control group, 41.7% (n=10) of adolescents and their parents were born in Canada, 20.8% (n=5) of adolescents had one parent who was born in another country, 33.3% (n=8) of adolescents came from families in which both parents were born in another country, and one adolescent (4.1%) was born in another country. The difference between groups on immigration status was not statistically significant.

According to the Human Resources and Skills Development of Canada (2008), there are two definitions of what constitutes a second generation immigrant. The first defines a second generation immigrant as a Canadian resident who has one (or both) parent(s) whom immigrated to Canada from another country. The second definition requires that both parents were born in another country for an individual to be considered a second-generation immigrant. For the purposes of this dissertation research, the first definition was used to categorize adolescents with one or both parents from another country as second generation immigrants. Therefore, adolescents in this dissertation research were dictomized into immigrant/second generation immigrant and non-immigrant categories for the purpose of analyzing associations with treatment attendance.

**Neighbourhood income level.** Two-thirds (n=18 (66.6%)) of adolescents in the experimental group and 12 (50.0%) adolescents in the control group lived in low income neighbourhoods; a difference which was not statistically significant.

**Centre location.** Of the adolescents in the experimental group, 20 (75%) received services at Youthlink, 4 (14.8%) received services at Oolagen Community Services (OCS), 2
(7.4%) received services at Central Toronto Youth Services (CTYS), and 1 (3.7%) received services at Delisle Youth Services (DYS). Of adolescents in the control group, 18 (75%) received services at Youthlink, 3 (12.2%) received services at OCS, 1 (4.3%) received services at CTYS, and 2 (8.3%) attended services at DYS. There was no significant difference between the two groups in terms of the location at which participants received mental health services.

Table 2. **Baseline Demographic characteristics of the study sample**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Intervention group (n=27)</th>
<th>Control group (n=24)</th>
<th>Total (n=51)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DEMOGRAPHIC CHARACTERISTICS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean age</td>
<td>16.2 (SD=1.6)</td>
<td>16.3 (SD=2.0)</td>
<td>16.2 (1.8)</td>
<td>0.75</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td>0.55</td>
</tr>
<tr>
<td>Male</td>
<td>37.0 (10)</td>
<td>29.1 (7)</td>
<td>33.3 (17)</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>63.0 (17)</td>
<td>70.9 (17)</td>
<td>66.6 (34)</td>
<td></td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td></td>
<td></td>
<td></td>
<td>0.54</td>
</tr>
<tr>
<td>Caucasian</td>
<td>66.6 (18)</td>
<td>58.3 (14)</td>
<td>64.0 (32)</td>
<td></td>
</tr>
<tr>
<td>Immigrant Status</td>
<td></td>
<td></td>
<td></td>
<td>0.46a</td>
</tr>
<tr>
<td>Immigrant</td>
<td>3.7 (1)</td>
<td>4.1 (1)</td>
<td>3.9 (2)</td>
<td></td>
</tr>
<tr>
<td>Parents Immigrants</td>
<td>22.2 (6)</td>
<td>33.3 (8)</td>
<td>27.5 (14)</td>
<td></td>
</tr>
<tr>
<td>One Parent Immigrant</td>
<td>11.1 (3)</td>
<td>20.8 (5)</td>
<td>15.7 (8)</td>
<td></td>
</tr>
<tr>
<td>Child &amp; Parents Canadian Born</td>
<td>62.9 (17)</td>
<td>41.7 (10)</td>
<td>52.9 (27)</td>
<td></td>
</tr>
<tr>
<td>Low Income Neighbourhood</td>
<td></td>
<td></td>
<td></td>
<td>0.23</td>
</tr>
<tr>
<td>Above Toronto Average</td>
<td>66.6 (18)</td>
<td>50.0 (12)</td>
<td>58.8 (30)</td>
<td></td>
</tr>
<tr>
<td>Centre Location</td>
<td></td>
<td></td>
<td></td>
<td>0.86a</td>
</tr>
<tr>
<td>Youthlink</td>
<td>74.0 (20)</td>
<td>75.0 (18)</td>
<td>74.5 (38)</td>
<td></td>
</tr>
<tr>
<td>Oolagen</td>
<td>14.8 (4)</td>
<td>12.2 (3)</td>
<td>13.7 (7)</td>
<td></td>
</tr>
<tr>
<td>CTYS</td>
<td>7.4 (2)</td>
<td>4.3 (1)</td>
<td>7.8 (3)</td>
<td></td>
</tr>
<tr>
<td>Delisle</td>
<td>3.7 (1)</td>
<td>8.3 (2)</td>
<td>5.9 (3)</td>
<td></td>
</tr>
</tbody>
</table>

*aFisher’s Exact p-value.*
Clinical characteristics.

Psychological distress. Psychological distress was measured by the Brief Symptom Inventory (BSI) raw score. The experimental group had a mean score of 1.52 ($SD=0.76$) and the control group had a mean score of 1.43 ($SD=0.68$). Psychological distress scores were not significantly different between groups. Adolescent raw scores above 1.60 have been used to indicate clinically significant psychological distress (Silver & Frohlinger-Graham, 2000). Therefore, BSI scores were also dichotomized into a measure of clinically significant/non-significant psychological distress using the cut score of 1.60. Twelve participants in the experimental group and 7 participants in the control group met criteria for clinically significant distress, a difference that was not significantly different between groups ($\chi^2(1, N=51)=1.27$, $p=.26$).

Generalised self-efficacy. The experimental group had a mean GSE raw score of 27.48 ($SD=5.60$) and the control group had a mean GSE raw score of 26.96 ($SD=4.57$). GSE scores were not significantly different between groups.

Mental Health Service Motivation

Autonomous treatment motivation. The experimental group had a mean autonomous motivation summary score of 5.07 ($SD=1.14$) and the control group had a mean autonomous motivation summary score of 5.06 ($SD=1.22$). Autonomous motivation scores were not significantly different between groups.

Controlled treatment motivation. The experimental group had a mean controlled motivation summary score of 3.56 ($SD=0.98$) and the control group had a mean controlled motivation summary score of 4.11 ($SD=1.00$). The difference between groups on controlled motivation approached significance ($p<0.06$).
Table 3. *Baseline clinical characteristics and mental health service motivation of the study sample.*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Intervention group (n=27) Mean (SD)</th>
<th>Control group (n=24) Mean (SD)</th>
<th>Total (n=51) Mean (SD)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological Severity</td>
<td>1.52 (0.76)</td>
<td>1.43 (0.68)</td>
<td>1.48 (0.72)</td>
<td>0.66</td>
</tr>
<tr>
<td>Generalized Self-Efficacy</td>
<td>27.48 (5.60)</td>
<td>26.96 (4.57)</td>
<td>27.23 (5.10)</td>
<td>0.72</td>
</tr>
<tr>
<td>Autonomous Motivation</td>
<td>5.07 (1.14)</td>
<td>5.06 (1.22)</td>
<td>5.06 (1.17)</td>
<td>0.98</td>
</tr>
<tr>
<td>Controlled Motivation</td>
<td>3.56 (0.98)</td>
<td>4.11 (1.00)</td>
<td>3.82 (1.02)</td>
<td>0.06</td>
</tr>
</tbody>
</table>

Data Analysis between Intervention and Comparison Groups at Baseline and Follow-up

Investigation of the Significance of Baseline Autonomous Treatment Motivation, Controlled Treatment Motivation, Generalized Self-Efficacy, Psychological Distress and Demographic Variables on Treatment Attendance

Since the dependent variable (i.e., treatment attendance) was continuous, parametric statistics were used to test for significant relationships with this variable. Independent samples t-tests were conducted between each categorical variable (i.e., gender, race/ethnicity, immigration status, and neighbourhood income level) and the dependent variable, treatment attendance. There were no significant relationships between attendance and the categorical variables (see Table 4.). An independent samples t-test was also conducted to determine if there was a
difference between adolescents with clinically significant psychological distress (i.e., cut point above 1.60) compared to those below the cut point on treatment attendance. There was not a significant difference in attendance between adolescents with and without clinically significant psychological distress ($t(45.82)=-1.37$, $p=.18$).

Bivariate statistics were used to determine associations and correlations between all variables and the dependent variable, treatment attendance. Point-biserial correlations were used for dichotomous variables and Pearson correlations were used for continuous variables included in the analysis (see Tables 5 and 6). Additionally, correlation matrices were evaluated to determine if there was multicollinearity between any of the variables and the dependent variable, treatment attendance. It was hypothesized that, irrespective of condition, higher baseline levels of psychological distress, self-efficacy and/or autonomous motivation and lower levels of controlled motivation would predict greater initial treatment attendance. However, none of these variables were significantly associated with treatment attendance, thus these hypotheses were rejected. Adolescents’ age was the only variable significantly correlated with treatment attendance, $r(48)=-.33$, $p<.05$. A linear regression analysis revealed that age was a significant predictor of treatment attendance accounting for approximately 9% of the variance in attendance, $R^2=.09$, $F(1,49)=5.67$, $\beta = -.32$, $p=.02$; the negative standardized coefficient (i.e., $\beta = -.32$) indicates that adolescents who were older attended fewer initial treatment sessions.

**Data Analysis between Intervention and Comparison Groups at Baseline and Follow-up**

**Investigation of the significance of group (i.e., intervention and comparison) effect on treatment attendance.** It was hypothesized that the engagement intervention would have a large effect on treatment attendance in comparison to an assessment only condition. Although the difference between the control and experimental group on controlled treatment motivation
approached significance ($p=.06$), controlled treatment motivation was not significantly correlated with treatment attendance. Therefore, an ANCOVA was not performed to account for baseline differences in controlled treatment motivation.

Table 4

*Tests for Association between Categorical Variables and Attendance for Participants.*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Attendance</th>
<th>$t$</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td>-1.72</td>
<td>49</td>
</tr>
<tr>
<td>Male</td>
<td>1.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.32)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1.82</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.06)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Race/Ethnicity</strong></td>
<td></td>
<td>1.55</td>
<td>49</td>
</tr>
<tr>
<td>Visible Minority</td>
<td>1.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.17)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>2.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.09)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Immigration Status</strong></td>
<td></td>
<td>1.30</td>
<td>49</td>
</tr>
<tr>
<td>Immigrant/Second Generation Immigrant</td>
<td>1.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.17)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Immigrant/Second Generation Immigrant</td>
<td>2.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.09)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Neighbourhood Income</strong></td>
<td></td>
<td>-1.08</td>
<td>49</td>
</tr>
<tr>
<td>Above Toronto Average</td>
<td>1.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.15)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below Toronto Average</td>
<td>2.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.17)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* $^* = p < .05$. Standard Deviations appear in parentheses below means.
Table 5

Adolescents’ Baseline Reports of Psychological Distress, Generalised Self-Efficacy, Autonomous/Controlled Motivation, and Attendance: Correlations and Descriptive Statistics (n=51).

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Attendance</td>
<td>–</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Psychological distress</td>
<td>.08</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Generalised Self Efficacy</td>
<td>-.11</td>
<td>-.38*</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Autonomous Motivation</td>
<td>.22</td>
<td>.02</td>
<td>.06</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>5. Controlled Motivation</td>
<td>.02</td>
<td>.04</td>
<td>-.01</td>
<td>-.07</td>
<td>–</td>
</tr>
</tbody>
</table>

\( M \)
| 1.84 | 1.43 | 27.24 | 5.07 | 3.83 |

\( SD \)
| 1.14 | .68  | 5.10  | 1.17 | 1.02 |

\( Range \)
| 0-3  | .08-3.25 | 2.16-6.67 | 1.67-6.16 | 15.00-37.00 |

\*p < .05.

Table 6

Demographic Characteristics and Attendance: Correlations and Descriptive Statistics (n=51).

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Attendance</td>
<td>–</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Age</td>
<td>-.33*</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Gender (^a)</td>
<td>.03</td>
<td>.01</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Race/Ethnicity (^b)</td>
<td>-.22</td>
<td>.19</td>
<td>-.03</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Immigration (^c)</td>
<td>-.18</td>
<td>.15</td>
<td>.08</td>
<td>.49**</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>6. Neighbourhood Income (^d)</td>
<td>.15</td>
<td>.12</td>
<td>.09</td>
<td>-.32*</td>
<td>-.15</td>
<td>–</td>
</tr>
</tbody>
</table>

\( M \)
| 1.84 | 16.23 | .33       | .37    | .47  | .41  |

\( SD \)
| 1.34 | 1.78  | .48       | .49    | .51  | .50  |

\( Range \)
| 0–3  | 13–19 | 0–1      | 0–1   | 0–1  | 0–1  |

\(^a\)Adolescent gender: 0 = female, 1 = male. \(^b\)Race/ethnicity: 0 = Caucasian, 1 = visible minority. \(^c\)Immigration status: 0 = non-immigrant, 1 = immigrant or parent(s) immigrant(s). \(^d\)Neighbourhood Income: 0 = Toronto metro average or above, 1 = below Toronto metro average. \*p < .05. \**p < .01.
An independent samples t-test was conducted to determine whether the independent variable study condition (i.e., experimental versus comparison group) predicted initial treatment attendance. The 27 participants in the experimental and control groups attended an average of 2.11 (SD=1.01) and 1.54 (SD=1.22) initial treatment sessions, respectively. The t-test approached significance, $t(49)=1.83, p=.07$, with a standardized effect size index of $d=.51$. According to Cohen (1977) the $d$ effect size of 0.2 or less is considered small, 0.5 is considered medium, and 0.8 or more is considered a large effect. Based on these parameters, an effect size of $d=.51$ is medium.

While the adolescents in the experimental group attended more initial treatment than the control group, the effect size was medium and not statistically significant, thus the hypothesis that engagement intervention would have a large effect on treatment attendance in comparison to an assessment only condition was rejected.

**Investigation of the significance of group (i.e., intervention and comparison) effect on autonomous motivation, controlled motivation, and generalized self-efficacy.** There were no statistically significant differences between the groups on autonomous motivation, controlled motivation, and generalized self-efficacy taken at baseline (Table 3). The secondary hypotheses were that the engagement intervention, as compared to assessment only, would result in higher levels of self-efficacy and/or autonomous treatment motivation and lower levels of controlled treatment motivation. ANCOVAs were conducted in order to evaluate each of the secondary hypotheses. Paired samples t-tests were subsequently used to explore changes in self-efficacy and autonomous/controlled treatment motivation within the treatment and control group.

**Autonomous motivation.** An ANCOVA was conducted to evaluate the hypothesis that adolescents who received the engagement intervention would have significantly higher levels of autonomous motivation at follow-up when compared to an assessment only group, controlling
for baseline autonomous motivation. The dependent variable was autonomous motivation measured at follow-up and the covariate was autonomous motivation measured at baseline. At follow-up, the 26 participants in the experimental group had an average autonomous motivation score of 5.02 (SD = 1.21); the 24 participants in the control group had an average autonomous motivation score of 4.57 (SD = 1.41).

A preliminary analysis evaluating the homogeneity-of-slopes assumption indicated that the relationship between the covariate and the dependent variable did not differ significantly as a function of the independent variable, $F(1,46) = .05, p = .82, \eta^2_p = .001$. The ANCOVA approached significance, $F(1,47) = 3.15, p = .08, \eta^2_p = .06$. According to Cohen (1977) $\eta^2$ effect sizes of 0.01 or less are considered to be small, 0.06 are medium, and 0.14 or more are large. Partial eta squared ($\eta^2_p$) and eta squared ($\eta^2$) differ by very little when the total sample size is approximately 50 or more (Stevens, 2002). Therefore, the effect size between the study condition and autonomous motivation was medium, as assessed by $\eta^2_p$, with the study condition accounting for 6% of the variance in follow-up autonomous motivation, holding constant baseline autonomous motivation. Thus, the hypothesis that adolescents who received the engagement intervention would have significantly higher levels of autonomous motivation at follow-up when compared to an assessment only group was rejected.

A follow-up Pearson correlation was computed between autonomous motivation at follow-up and treatment attendance and a significant relationship was found between these two variables ($r(48) = .35, p = .01$).

Paired samples t-tests were conducted to evaluate whether significant changes occurred in autonomous motivation over time within the experimental and control groups. The results indicated that while the experimental group did not demonstrate a significant change in
autonomous motivation, \( t(25)=1.11, p=.91 \), the control group demonstrated a significant decrease in autonomous motivation at follow-up, \( t(23)=2.18, p=.03 \), with the standardized effect size index indicating a small effect \((d=.44)\).

**Controlled motivation.** An ANCOVA was conducted to evaluate the hypothesis that adolescents who received the engagement intervention would have significantly lower levels of controlled motivation at follow-up when compared to an assessment only group. The dependent variable was controlled motivation measured at follow-up and the covariate was controlled motivation measured at baseline. The 26 participants in the experimental group had an average controlled motivation score of 3.03 \((SD=1.30)\); the 24 participants in the control group had an average controlled motivation score of 3.44 \((SD=1.27)\).

A preliminary analysis evaluating the homogeneity-of-slopes assumption indicated that the relationship between the covariate and the dependent variable did not differ significantly as a function of the independent variable, \( F(1,46)=2.56, p=.12, \eta^2_p=.05 \). The ANCOVA was not significant, \( F(1,47)=3.15, p=.88, \eta^2_p=.001 \). Therefore, the hypothesis that adolescents who received the engagement intervention would have significantly lower levels of controlled motivation at follow-up when compared to an assessment only group was rejected.

Paired samples t-tests were conducted to evaluate whether significant changes occurred in controlled motivation over time within the experimental and control groups. The results indicated that both the experimental and control groups demonstrated a significant decrease in controlled motivation \((t(25)=2.80, p=.01\) and \(t(23)=2.40, p=.03\), respectively). However, the experimental group demonstrated a medium standardized effect size \((d=.55)\) while the control group demonstrated a small standardized effect size \((d=.49)\).
**Generalised self-efficacy.** An ANCOVA was conducted to evaluate the hypothesis that adolescents who received the engagement intervention would have significantly higher levels of generalised self-efficacy at follow-up when compared to an assessment only group. The dependent variable was generalized self-efficacy measured at follow-up and the covariate was generalized self efficacy measured at baseline. The 26 participants in the experimental group had an average generalised self-efficacy score of 28.96 ($SD = 3.50$); the 24 participants in the control group had an average generalised self-efficacy score of 27.95 ($SD = 3.81$).

A preliminary analysis evaluating the homogeneity-of-slopes assumption indicated that the relationship between the covariate and the dependent variable did not differ significantly as a function of the independent variable, $F(1,46)=1.00, p=.32, \eta^2_p = .02$. The ANCOVA was not significant, $F(1,47)=1.02, p=.31, \eta^2_p = .02$. The strength of the relationship between the study condition and generalized self efficacy was small, as assessed by $\eta^2_p$, with the study condition accounting for 2% of the variance in follow-up controlled motivation, holding constant baseline controlled motivation. Therefore, the hypothesis that adolescents who received the engagement intervention would have significantly higher levels of generalised self-efficacy at follow-up when compared to an assessment only group was rejected.

Paired samples t-tests were conducted to evaluate whether significant changes occurred in generalised self-efficacy over time within the experimental and control groups. The results indicated that neither the experimental nor the control group demonstrated a significant change in generalised self-efficacy at follow-up ($t(25)=-1.68, p=.11$ and $t(23)=-1.28, p=.21$, respectively).

**Investigation of the significance of group (i.e., intervention and comparison) effect on working alliance and the association between working alliance and attendance.** Since
WAI was collected only if participants completed at least one counselling session, this analysis was limited to evaluating participants who attended one or more counselling session(s). An independent samples t-test was conducted to evaluate the hypothesis that adolescents in the intervention group would report greater working alliance than adolescents in the control group. The test was not significant, \( t(40)=1.04, p=.29 \). Participants \((n=24)\) in the engagement intervention group \((M=5.48, SD=1.27)\) reported higher working alliance than participants \((n=18)\) in the control group \((M=5.04, SD=1.48)\), and the effect size was small \((d=.29)\).

It was hypothesized that higher self-reported working alliance would be associated with greater initial treatment attendance. A linear regression analysis revealed that working alliance was significantly related to initial treatment attendance \( F(1,40)=8.07, \beta=.26, p<.01 \), accounting for 14% of the variance in attendance.

**Investigation of the Association between Barriers and Attendance and the Effect of Barriers on Attendance Controlling for Age**

Post hoc analyses were used to explore the effect of group on self-reported barriers and the extent to which barriers identified by the BTPS were associated with treatment attendance. Participants who completed at least one counselling session were included in this analysis. Since the BTPS was shortened and adapted to explore barriers experienced by adolescents, the internal consistency of the measure was calculated. Samples over 100 are generally recommended for factor analysis to test dimensionality (MacCallum, Widaman, Zhang & Hong, 1999); therefore this test was not conducted. The reliability scores for the BTPS full scale and subscales were above \( \alpha=.80 \) indicating robust internal consistency (see Table 7).
Linear regression analyses were conducted to explore the relationship between self-reported barriers and initial treatment attendance. Total self-reported barriers were significantly related to initial treatment attendance, $F(1,40)=9.30, \beta=-.475, p=.004, R^2=17\%$. Thus, total reported barriers accounted for approximately 17% of the variance in treatment attendance.

Total self-reported barriers were significantly related to initial treatment attendance. Both subscales, demand barriers ($\beta=-.524, p=.005$) and expectation barriers ($\beta=-.376, p=.007$), were significant predictors of initial treatment attendance ($R^2=16$ and $R^2=15$, respectively).

Within the total barriers scale, the six items with the highest average ratings included: 1) Counselling took time away from spending time with my friends or family ($M=2.29; SD=1.42$); 2) I lost interest in coming to appointment ($M=2.26, SD=1.43$); 3) During the course of counselling I experienced a lot of stress in my life which interfered with me coming to counselling ($M=2.12, SD=1.35$); 4) Counselling did not seem to be working ($M=2.12, SD=1.42$); 5) Counselling was in conflict with another of my activities ($M=2.10, SD=1.19$); and 6) Scheduling appointment times for counselling ($M=2.10, SD=1.03$).

A hierarchical multiple regression analysis was conducted to evaluate whether the age of adolescents who attended at least one session of counselling predicted subsequent treatment attendance over and above total reported barriers. Age accounted for a significant proportion of the initial treatment attendance variance after controlling for the effects of total reported barriers,

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>$M$</th>
<th>Range</th>
<th>$SD$</th>
<th>Inter Q</th>
<th>$\alpha$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adapted BTPS Full Scale</td>
<td>1.89</td>
<td>1.00-3.85</td>
<td>.80</td>
<td>1.55</td>
<td>.94</td>
</tr>
<tr>
<td>Demands Subscale</td>
<td>1.88</td>
<td>1.00-4.10</td>
<td>.72</td>
<td>1.85</td>
<td>.83</td>
</tr>
<tr>
<td>Expectations Subscale</td>
<td>1.87</td>
<td>1.00-3.60</td>
<td>.97</td>
<td>1.45</td>
<td>.93</td>
</tr>
</tbody>
</table>
$R^2$ change=.11, $F(1, 39)=8.28, p=.02$. Thus, age accounted for 11% of the variance in subsequent treatment attendance over and above total reported barriers.
Chapter Six: Discussion

The main purpose of this randomized-controlled pilot study was to investigate the effect of an engagement intervention versus assessments only on initial attendance (i.e., the first three sessions of mental health services). The primary hypothesis was that the engagement intervention, compared to assessments only, would have a large effect on initial treatment attendance (i.e., first three counselling sessions). An independent samples t-test was conducted to determine whether the independent variable, study condition (i.e., engagement intervention versus assessments only). The secondary purpose of this study was to explore the impact of the engagement intervention, compared to assessments only, on secondary variables (i.e., self-efficacy, working alliance, autonomous treatment motivation (i.e., motivation associated with personal beliefs), and controlled treatment motivation (e.g., motivation associated with guilt and other’s demands) at follow-up. The secondary hypotheses were that the engagement intervention, as compared to assessments only, would result in a large effect and significantly higher levels of self-efficacy, working alliance, and/or autonomous treatment motivation and lower levels of controlled treatment motivation at follow-up. ANCOVAs were conducted to determine whether the independent variable, study condition, predicted differences in the secondary outcomes at follow-up controlling for the covariate baseline levels of the secondary variables.

This dissertation research also explored the impact self-efficacy, working alliance, autonomous/controlled treatment motivation on initial treatment attendance. It was hypothesized that, irrespective of condition (i.e., experimental/control group), higher baseline self-efficacy, working alliance, and/or autonomous motivation and lower levels of controlled
motivation would be associated greater initial treatment attendance. The extent to which demographic factors (e.g., age, gender, race, residence in low income neighbourhoods), psychological distress, and self-reported barriers (e.g., mismatched treatment expectations and external demands) were associated with treatment attendance was explored by means of Point-biserial and Pearson correlations and linear regression procedures.

**Key Findings**

The findings suggest that adolescents who received the engagement intervention attended more initial treatment sessions on average than the control group, but the results only approached significance (p=.07). Additionally, the differences between the groups from baseline to follow-up were not significant in terms of controlled treatment motivation and self-efficacy and only approached significance for autonomous treatment motivation (p=.08), with the engagement intervention group demonstrating higher autonomous motivation at follow-up. Although the hypotheses that the engagement intervention would have a large effect on treatment attendance, controlled/autonomous motivation, and self-efficacy were not supported, the effect sizes for initial treatment attendance and autonomous motivation were medium and thus merit future research.

**Sociodemographic Characteristics of the Sample**

Almost 60% of adolescents who participated in the study lived in neighbourhoods with a greater number of low income families than the Toronto average. Nearly half of the participants were visible minorities and/or immigrants or second generation immigrants. According to research on mental health service access, nearly half of the participants in this sample would have been at high risk for not accessing and/or dropping out of mental health services (Alexandre, 2008; Alexandre et al., 2008; Cummings & Druss, 2011; Garland et al., 2005;
Kazdin & Mazurick, 1994; Lee et al., 2009; Measham, et al., 2001; Miller, Southham-Gerow, & Allin, 2008; Nock & Kazdin, 2001; Pepler & Lessa, 1993).

This study hypothesized that visible minority, immigrant/second generation immigrant, and low income neighbourhood status would be associated with lower initial treatment attendance however, the results of this investigation indicate that these factors were not associated with initial attendance. According to Alexandre (2008) the demographic factors that are associated with mental health service access (i.e., initiation of services) may not be the same factors that are associated with service use (i.e., continuation of services after initiation). For instance, although Alexandre (2008) found that immigrants were less likely to access mental health services, immigration status had no effect on the number of mental health service visits attended once service was initiated. In this dissertation research, it is possible immigration status was not associated with initial treatment attendance because immigrants found mental health services more acceptable; particularly, if the adolescents that entered services were more acculturated than adolescents who did not seek services. Among adults living in the United States, those who are recent immigrants tend to access mental health services less and view services less acceptable than those who have resided in the country longer or who were not immigrants (Abe-Kim et al., 2007; Leaf, Bruce, Tischler, & Holzer, 1987; U.S. Department of Health and Human Services, 2001; Young, 1998). Unfortunately, this dissertation research did not explore adolescents’ levels of acculturation, and although level of acculturation has been inferred from race in other investigations, the sample size in this investigation was not large enough to make this inference.

Another potential reason that immigration status and ethnoracial background were not significant predictors of treatment attendance may have been because agency counsellors were sufficiently culturally sensitive (i.e., aware of cultural variables that may affect treatment) and
culturally competent (i.e., able to translate their sensitivity into language that demonstrated empathy and the importance of the adolescent’s values) (Pariagua, 1996). The counsellors who delivered mental health services to adolescents in this study belong to a multicultural society, in one of the most culturally diverse cities in the world (United Nations Educational, Scientific, and Cultural Organization, 2004), and practice with a population which represents Toronto’s multicultural patchwork. The counsellors also worked at agencies whose mission statements emphasize a commitment to diversity. In addition, Youthlink has been identified by the Ministry of Children and Youth Services as a model “Local Diversity Initiative,” having made significant progress towards becoming culturally competent (Ministry of Child and Youth Services, 2008). Although Youthlink’s diversity model has been articulated, as with a number of culturally tailored therapeutic models (e.g., Bernal et al., 1995; Castro & Alarcon, 2002; Sue, 1998; Sue & Zane, 1987) the efficacy of the Youthlink model has not been evaluated. Therefore, it is difficult to determine if counsellors’ cultural competence/sensitivity was associated treatment attendance among adolescents who were visible minorities and/or immigrants and second generation immigrants.

Adolescents’ level of psychological distress and gender were not significant predictors of treatment attendance in this dissertation research. Moreover, there was not a significant difference in initial treatment attendance between adolescents with clinically significant psychological distress when compared to those adolescents without clinically significant psychological distress. Severity of psychological distress and impairment and gender appear to be inconsistent predictors of child and adolescent mental health service use and dropout (McKay & Bannon, 2004). In terms of gender, some investigations have found that boys tend to access and use mental health services more than girls (Burns et al., 1995; Realmuto, Bernstien, Maglothin, & Pandey, 1992; Zahner & Daskalakis, 1997) while others have found that gender
was not associated with service use (Leslie et al., 2004; McMillen et al., 2004; Olfson, Gameroff, Marcus, Waslick, 2003). While a number of studies have demonstrated an association between greater psychological severity among children and dropout (Kazdin, 1993; Kazdin & Mazurick, 1994; Kazdin, Mazurick & Siegel, 1994; Webster-Stratton, 1990), others have found that higher psychological severity was associated with greater service utilization (Alexandre, 2008; Harpaz-Rotem, Leslie & Rosenheck, 2004; Verhulst & Van Der Ende, 1997). Although, it is unclear whether psychological severity is predictive of dropout or if other factors such as ethnoracial background or socioeconomic status explain the effect between psychological severity and attrition. Additionally, most studies that have examined the impact of gender and psychological severity on mental health service use have combined children and adolescents. Thus, it is unclear whether gender and psychological severity are more consistent predictors of mental health service use among adolescents.

Age was the only demographic variable that emerged as a significant predictor of treatment attendance, with older adolescents attending fewer treatment sessions. While some studies have demonstrated that older adolescents are less likely to use mental health services and dropout prematurely (Cohen & Hesselbart, 1993; Dishion & Patterson, 1992; Goldston, Reboussin, Kancler, 2003; Harpaz-Rotem, Leslie, & Rosenheck, 2004; Piacentini et al., 1995), other research suggests that older adolescents are more likely than younger adolescents to continue mental health services (Baruch, Gerber, & Fearon, 1998; Baruch, Vrouva, & Fearon, 2009; Gasquet, Ledoux, Chavance, & Choquet, 1997; Schonert-Reichl & Mueller, 1996). Although the relationship between age and mental health service use is unclear, Logan and King (2001) suggest that older adolescents exhibit higher dropout because they are less under the influence of their parents to continue services and are more likely to rely on their peers for support in favour of formal mental health services. It is possible that among adolescents in this
dissertation research, those who were older exercised more personal control over the decision to attend services. Moreover, older adolescents may drop out of services because of stigma or a fear that their friends will find out they are attending mental health services (Gopalan et al., 2010, Solorio et al, 2006). In addition, Garland and Zigler (1994) found that individuals in high school (ages 14-18) were more likely than those in middle school (ages 10-13) to have negative attitudes towards mental health services. Although Garland and Zigler’s sample is not directly comparable to the age group studied in this thesis research, it is possible that older adolescents in this dissertation research had more negative attitudes towards attending services which contributed to treatment dropout. However, age was not associated with the barriers accounted for in the barriers to treatment participation scale (BTPS) or working alliance in this dissertation sample.

**Main Analysis**

In order to determine whether the engagement intervention group and the control group were comparable at baseline, a number of variables were examined to establish the similarity between the groups and identify potential differences. The groups were comparable on demographic variables, autonomous motivation, controlled motivation, and self-efficacy at baseline. The primary hypothesis was that the engagement intervention, compared to assessment only, would result in greater initial attendance. Although the experimental group attended more initial treatment sessions, the difference between the two groups only approached significance (p=.07). Therefore, the primary hypothesis was rejected and a subsequent analysis to explore potential mediators associated with treatment attendance in the experimental group was not performed.
Based on a prior investigation of a pre-treatment engagement intervention for teens entering mental health treatment (Aubrey, 1998), it was expected that the engagement intervention under study would yield a similar large effect in treatment attendance. However, the engagement intervention explored in this dissertation research yielded a medium effect ($d=.51$) on treatment attendance, suggesting that the sample size may have been too small to detect statistical significance. The medium effect size is encouraging and will assist in guiding future research on the evaluation of this intervention.

The engagement intervention under study is an adapted version of an adult engagement intervention developed for women who had been referred for depression treatment (Zuckoff et al., 2004). A pilot study demonstrated that 96% of women who received the engagement intervention ($n=25$) attended at least one initial treatment session while 36% of women who received referral to treatment as usual ($n=28$) attended at least one session (Grote et al., 2007). It was hypothesized that the adapted adolescent engagement intervention would be associated with results similar to those reported by Grote and colleagues (2007) however, the variations in the delivery of the interventions and the targeted populations may have partially accounted for the difference in outcomes. First, the engagement intervention for depressed women was administered face-to-face by a researcher who subsequently became the either the participant’s therapist or a member of the participant’s treatment team. Although some studies have found tele-counselling to be as effective as face-to-face counselling (Mohr, Vella, Hart, Heckman, & Simon, 2008; Simon, Ludman, Tutty, Operskalski, & Von Korff, 2004), it is unclear if having an in person meeting contributed to the success of the adult engagement intervention. In addition, having the client’s therapist or treatment team member deliver the adult engagement intervention may have contributed to a greater sense of continuity. With the adolescent engagement intervention, the researcher was ethically required to clearly delineate the engagement
intervention from adolescents’ initial treatment. The researcher did not share details revealed during the intervention with the adolescents’ counsellors, even though those details may have benefitted future therapy sessions. Secondly, the researchers who delivered the adult engagement intervention were invested, from both a results and clinical perspective, in ensuring that clients completed treatment. This investment may have affected Grote and colleagues’ (2007) subsequent efforts (e.g., reminder calls, rescheduling appointments, meeting outside of office hours, therapy sessions via telephone) to follow-through with and engage clients. Within this dissertation research, it is unclear if agency counsellors had the same flexibility or followed up with adolescents in the same way as Grote and colleagues (2007). Thirdly, the engagement intervention was administered to adolescents whose decision to seek therapy was likely not their own and who often have less of an awareness of their psychological difficulties when compared to adults (Armbruster & Kazdin, 1994; Bolton Oetzel & Scherer, 2003; Ollendick & Vasey, 1999; Owens et al., 2002; Shirk & Saiz, 1992); these factors added an extra layer of complexity to the engagement process.

Since parents often make the decision to seek mental health services for their children, most treatment engagement interventions have been developed to establish a parental alliance and address parental barriers. While parental engagement interventions have shown much promise in retaining families in mental health treatment (McKay et al., 1996; McKay, Stoewe, McCadam, & Gonzales, 1998; Nock & Kazdin, 2005; Prinz & Miller, 1994; Santiseban et al., 1996), this thesis research suggests that a pre-treatment engagement intervention specifically for adolescents may also improve initial treatment retention.
Secondary Analyses

It was hypothesized that higher baseline levels of autonomous treatment motivation (i.e., participating in therapy because it is aligned with one’s values/goals) and generalised self-efficacy and lower baseline levels of controlled motivation (i.e., participating in therapy because of external pressures or guilt) would be associated with greater treatment attendance. Since autonomous and controlled motivation have been associated with treatment outcomes, the impact of the engagement intervention on autonomous/controlled motivation over time was also explored.

Self-determination theory proposes that high autonomous and low controlled motivation is related to greater persistence and willing adherence. Previous research has demonstrated that higher autonomous treatment motivation was associated with greater treatment involvement and attendance among adults in substance abuse treatment (Ryan, Plant, O’Malley, 1995; Zeldman, Ryan, & Fiscella, 2004). Moreover, low autonomous motivation coupled with high controlled motivation has been associated with poor treatment attendance and therapeutic outcomes (Zeldman et al., 2004). In this pilot study however, neither baseline autonomous nor controlled motivation was significantly associated with attendance. It is possible that autonomous/controlled motivation are less significant predictors of treatment attendance for adolescents whose parent(s) may insist that their child continue treatment (at least during the beginning of treatment) regardless of their child’s level of motivation.

Generalised self-efficacy is based on the premise that an individual’s beliefs about their ability to accomplish a task will influence their decision to engage in and persist at a task. Self-efficacy has been described as a key component of treatment engagement interventions (Helflinger et al., 1997; McKay, McCadam, & Gonzales, 1996). Although this construct has not been well researched in the context of adolescent treatment engagement, it was hypothesized that
higher levels of self-efficacy would be associated with greater treatment attendance. However, self-efficacy was not significantly associated with treatment attendance in this investigation. Although Garland and Zigler (1994) found that higher adolescent self-efficacy was associated with more positive help seeking attitudes, it was unclear from their investigation whether positive help-seeking attitudes were associated with treatment attendance. Furthermore, studies on parental self-efficacy have found that self-efficacy has not been a consistent predictor of help seeking. For instance, McCabe (2002) found that low parental self-efficacy was associated with child mental health treatment dropout while Reich, Bickman, and Heflinger (2004) found that higher parental self-efficacy was negatively associated with positive help seeking attitudes. Further research is needed to explore the extent to which adolescent self-efficacy is associated with help seeking.

ANCOVA analyses were conducted to explore the significance of the engagement intervention versus the control group on autonomous/controlled motivation for treatment and generalized self-efficacy. No significant differences were found between groups on controlled treatment motivation and generalized self-efficacy when adjusting for baseline scores. However, the intervention group approached a significant difference in autonomous treatment motivation in comparison to the control group when adjusting for baseline differences.

Follow-up paired t-tests were conducted to explore whether significant changes occurred in autonomous/controlled treatment motivation and self-efficacy within groups from baseline to follow-up. The results indicated that the experimental group did not demonstrate a significant change in autonomous motivation, but controlled motivation significantly decreased from baseline to follow-up. The control group demonstrated a significant decrease in both autonomous motivation and controlled motivation at follow-up. Neither group demonstrated a change in generalized self-efficacy over time.
Autonomous motivation has been suggested as a common factor associated with psychotherapy outcome (Markland et al., 2005; Ryan et al., 2010, Zuroff et al., 2007). Autonomous motivation for treatment has been associated with self-reports of positive mood, treatment satisfaction, and intended treatment persistence among adult outpatients (Pelletier, Tuson, & Haddad, 1997). Furthermore, Zeldman, Ryan, and Fiscella (2004) found that adults receiving methadone maintenance treatment reported better session outcomes when their motivational orientation was more internal (i.e., autonomous) than external (i.e., controlled). Zuroff and colleagues (2007) demonstrated that autonomous treatment motivation was a stronger predictor than working alliance of remission among depressed adults receiving outpatient mental health services (Zuroff et al., 2007). However, in a recent follow-up study, McBride and colleagues (2010) found that among adults with highly recurring depression receiving interpersonal therapy, working alliance rather than autonomous motivation was a predictor of remission. But, both autonomous motivation and working alliance were associated with remission among adults with less recurrent depression (i.e., less than 2 episodes). Moreover, across both groups adults who had high controlled motivation scores (+1 SD) were almost half as likely to achieve remission compared to those with levels of controlled motivation close to the mean.

Thus, even though the experimental group did not demonstrate a significant change in autonomous motivation scores, the decrease in autonomous motivation among the control group is concerning, particularly in light of prior research that suggests an association between autonomous motivation and therapeutic persistence and remission. In this dissertation research, autonomous treatment motivation at follow-up was found to be positively associated with treatment attendance ($r(48)=.35$, $p=.01$), indicating a trend towards adolescents with higher autonomous treatment motivation attending a greater number of initial treatment sessions. It is
possible that the engagement intervention aided in the maintenance of autonomous treatment motivation throughout the initial treatment phase. Maintenance autonomous motivation may have been associated with greater remission beyond the initial treatment phase; particularly, among adolescents with less severe mental health symptoms/difficulties. Although this investigation did not explore outcomes beyond the initial attendance phase, it would have been valuable to investigate whether controlled/autonomous motivation impacted long-term treatment participation, psychological distress, and functional improvements.

Although self-efficacy may be enhanced by brief psychological interventions (Miller & Rollnick, 2002), individual characteristics such as chronic psychological distress may hinder early improvements in self-efficacy. For instance, low perceived social self-efficacy has been associated with concurrent depression among young adolescents (Bandura et al., 1999). Among participants in this investigation, self-efficacy and psychological distress were significantly negatively correlated $r(48)=-.38, p<.05$, which suggests that adolescents with higher levels of psychological distress reported lower levels of self-efficacy. Adolescents with more significant psychological distress may doubt their ability to complete therapeutic tasks. Moreover, individuals with lower self-efficacy (i.e., expectancy) are less likely to experience an early response from therapy (Westra, Dozois, & Marcus, 2007). For adolescents with low self-efficacy one of the goals of therapy may be to enhance their belief (i.e., expectancy) that they are capable of making changes that will lead to positive outcomes before initiating behavioural tasks. Therefore, in this investigation changes in self-efficacy, especially among adolescents with higher levels of psychological distress, may not have occurred in the initial stage of treatment which could have accounted for the insignificant change in self-efficacy at follow-up.
Working Alliance

It was hypothesized that adolescents who received the engagement intervention would report significantly higher levels of working alliance at follow-up than the comparison group. However, the two groups did not demonstrate significantly different levels of working alliance, thus the hypothesis was rejected. However, working alliance was found to account for 14% of the variance in treatment attendance and the small effect ($d = .29$) suggests that working alliance may have been a potential mediator which explained differences in treatment attendance between the experimental and control groups.

Beyond the potential impact of the engagement intervention, the alliance established with the adolescent’s therapist was strongly associated with treatment attendance. Prior research by Hawley and Weisz (2005) found that although youth alliance was associated with symptom improvement only parental alliance was a predictor of treatment participation including attendance. Although parental alliance seems an important component of treatment retention (Garcia & Weisz, 2005; Hawley & Garland, 2008; Hawley & Weisz, 2005; Kazdin, Marciano, & Whitely, 2005), investigations of the unique contributions of adolescent alliance are needed; especially if the quality of the therapeutic relationship between the child/adolescent and therapist is associated with greater collaboration on therapeutic tasks (Shirk & Saiz, 1992). This investigation provides some evidence suggesting that the adolescent alliance is indeed, a significant predictor of attendance.

Although it is beyond the scope of this research, individual variables, such as attachment style may have impacted the extent to which an adolescent was able to form a therapeutic alliance. The process literature on adult psychotherapy has shown that the strength of the therapeutic alliance is associated with the client’s ability to form attachments with others. For instance, Constantino and colleagues (2010) found that depressed adults with affiliative
interpersonal impacts (i.e., consistent with a more secure attachment style) reported better alliances than those with less affiliative impacts. In addition, Kivilinghan, Patton, and Foote (1998) demonstrated that one third of the variation in adult client ratings of alliance were accounted for by attachment variables. The quality of the attachment between the adolescent and parent may also predict the strength of the therapeutic alliance. For example, among adults in psychotherapy, those who had early supportive parental bonds were more likely to have stronger counsellor reported working alliances (Mallinckrodt, 1991). Conversely, adults who have experienced hostile early relationships with caregivers have been shown to have trouble developing affiliative relationships in counselling (Constantino, Castonguay, Zack, & DeGeorge, 2010; Goldman & Anderson, 2007). The quality of early attachment relationships with caregivers shape an individual’s expectations and patterns of relating to others (Bretherton & Munholland, 1999) including the counsellor. Therefore it is possible that adolescents with less secure parental attachments may expect to have negative relationships with other adults, including therapists, and be less likely to form a therapeutic bond or report a strong alliance during the initial phase of treatment. For adolescents with less secure attachment styles, the trust required to form an alliance may not germinate until the middle or later stages of therapy. Thus, it is important that future studies include measurements of the adolescent attachment style and therapeutic alliance beyond the initial treatment phase.

**Barriers to Treatment Participation**

Post hoc analyses were used to explore the extent to which self-reported barriers and age were associated with treatment attendance. Self-reported barriers consisted of external demand barriers (i.e., scheduling appointments or other activities/obligations interfered with attendance) and treatment expectation barriers (i.e., the adolescent’s perceptions of the treatment process are
not consistent with the actual treatment process). Self-reported barriers were found to be a significant predictor of treatment attendance, accounting for 17% of the variance in treatment attendance. When the adolescents’ age was factored into the regression equation the results indicated that self-reported barriers accounted for a significant proportion of the variance over and above age. Self-reported barriers seem to be an important predictor of treatment attendance among adolescents who attended at least one session of therapy regardless of age.

To the researcher’s knowledge, there are no published studies that have utilized and/or adapted the Barriers to Treatment Participation Scale (BTPS) to explore adolescents’ perspectives of mental health treatment barriers. The barriers to treatment model, from which the BTPS was based, proposes that parents’ perceived barriers (e.g., stressors and obstacles that compete with treatment, perceived relevance of treatment, and relationship with the therapist) may increase the likelihood of early termination from their child’s psychotherapy (Kazdin et al., 1995; Kazdin et al., 1997; Nock & Kazdin, 2001). A previous study by Kazdin and colleagues (1997) investigating parental barriers using the BTPS found that, although external demand barriers to child mental health services (e.g., time constraints, child care, transportation) predicted dropout, parental expectations of the relevance of therapy was a stronger predictor of dropout. Additionally, self-reported barriers were not explained by demographic, parent or child characteristics that were also associated with dropout. Among families who were at high risk for treatment attrition (e.g., families who received public assistance, were minorities, had higher life stress, etc.) their perception of fewer barriers was a protective factor against dropout. For adolescents in this dissertation research both demand barriers (stressors and obstacles) and expectation barriers (treatment expectations and relevance), accounted for similar variances in treatment attendance (16% versus 15%).
Within BTPS, four of the top six items with the highest average ratings were demand barriers and the remaining two items were expectation barriers. Among demand barriers, some adolescents reported that counselling was in conflict with other activities or spending time with friends or family, personal stress interfered with treatment attendance, and scheduling appointments was difficult. Within the expectations scale, some adolescents indicated that they lost interest in coming to sessions and/or felt that counselling was not working. Prior research suggests that the majority of adolescents who experience psychological distress chose to receive support from family and friends rather than formal mental health services (Boldero & Fallon, 1995; Rickford & Braithwaite, 1994; Sheffield, Fiorenza, & Sofronoff, 2004). Among participants in this thesis research, it may be speculated that some adolescents found that maintaining their social network/activities were more effective strategies for coping with personal distress than attending counselling, particularly if scheduling counselling appointments was less convenient than seeking informal support. It is also possible that some adolescents may have felt that counselling was not worth their investment if they did not see the results they were expecting. Much more research is needed to explore adolescent-defined barriers associated with mental health service use, both within mental health specialty-based and school-based programs. It seems that the adapted version of the BTPS may be a useful measure towards understanding these barriers. Moreover, additional work to explore and address logistical and perceptual issues (e.g., stigma, service location and coordination, wait-lists) which contribute to mental health service access and subsequent use is warranted.

**Limitations of the Research**

The main limitation of this research was that not all adolescents who attended mental health services at Youthlink, Oolagen, CTYS, and Delisile were included in this investigation.
Agency intake workers agreed to present adolescents entering services with the option of participating in this study. It is not known however, how many adolescents were not provided with this information. Additionally, it is unclear how many adolescents who were provided with study information refused to be contacted by a researcher. It cannot be determined whether adolescents who did not participate in the study were different in clinically important ways (e.g., lower treatment motivation, higher psychological distress) than those who agreed to participate. Thus, a selection bias was present which limits the generalizability of the results.

Another limitation was that the intervention effect may not have been detected because of insufficient power due to a small sample size. The original sample size calculations were based on sufficient power to detect large effect sizes and the small and medium effects found in this study did not reach statistical significance. Insufficient power also limited the ability to detect mechanisms (i.e., autonomous/controlled motivation and self-efficacy) through which the intervention may have affected initial treatment attendance. Future research using a larger sample size may detect a large effect of the intervention on treatment attendance.

Although a randomized controlled design was utilized in this study, the engagement intervention group was compared to an assessment only group rather than an alternative pre-treatment intervention or attention placebo. Thus, it is not possible to evaluate whether the difference, which approached significance, in initial treatment attendance was a result of the engagement intervention specifically, or due to the opportunity to talk with an individual prior to the beginning of therapy. Since this was, essentially, a treatment development study which adapted an existing engagement intervention, the therapeutic factors specific to the intervention were evolving during the course of the research. Future research may be used to pinpoint those specific therapeutic factors and design a comparative control intervention.
A fourth limitation of this study was that the intervention was conducted by a single researcher who had a personal investment in the study’s findings. Therefore, the extent to which the findings can be attributed to the intervention or generalized to other counsellors is unclear. Although four MSW students were trained to deliver the intervention, since the agencies provided a very small number of referrals during the first year of the study, the investigator conducted all of the engagement interventions. Furthermore, given the limited budget for this work, fidelity ratings of the intervention were not conducted. Therefore, it is difficult to determine whether this adapted intervention was delivered consistently and used strategies similar to the adult engagement intervention. However, the researcher who delivered the engagement intervention received extensive training in and co-developed the adult engagement intervention (Swartz et al., 2007). Moreover, the researcher undertook additional training on motivational interviewing for adolescents from Dr. Gary Rose, a member of the Motivational Interviewing Network of Trainers.

Although the researcher who delivered the engagement intervention had prior clinical experience with youths with complex mental health problems, the researcher had limited experience with individuals from diverse ethnocultural backgrounds and/or individuals who were immigrants. Thus, the researcher’s level of cultural sensitivity may have affected the study outcomes as lack of cultural sensitivity is associated with mental health service dropout (Gelso & Fretz, 2001). In an effort to ensure that she was delivering the engagement intervention in a culturally sensitive manner, the researcher: 1) consulted with a cultural and community psychiatrist (i.e., Dr. Priya Watson), and two counsellors (i.e., Maria-Luisa Elias Moreno and Christina Yager) with experience working with refugee and the LGBT communities, respectively; 2) completed course work on cross-cultural counselling; and 3) consulted with the clinical directors and agency counsellors, both prior to the initiation and throughout the course of
the research. Additionally, the engagement intervention was designed, in part, to probe for: 1) potential cultural barriers to receiving services (e.g., ethnoracial mismatch, cultural misunderstandings); 2) the adolescent’s understanding (versus their caregiver’s understanding) of the presenting issues; 3) their hopes and expectations from counselling; and 4) past methods of coping with the presenting issue including use of culturally embedded practices (e.g., meditation, use of traditional healers, etc.).

An aim of this study was to explore some of the barriers associated with adolescent mental health treatment attendance. Several barriers were not accounted for in the quantitative analyses. Specifically, this study did not enquire about adolescents’ socioeconomic status. The clinical directors in two of the participating agencies advised that collecting socioeconomic status information may have caused adolescents to feel uncomfortable and stigmatized. Therefore, in lieu of obtaining socioeconomic status at the individual level, this research explored adolescents’ exposure to low income neighbourhoods. However, some adolescents living in low income neighbourhoods may have had greater material resources or social support than adolescents not living in low income neighbourhoods. Thus, it is difficult to accurately assess the extent to which socioeconomic status at the individual level was a contributing factor to the study outcomes.

Even though being in foster care or belonging to a single parent family has been associated with treatment attrition in other studies, participants were also not asked to describe their family composition. Agency counsellors suggested that questions about family background may be too intrusive, especially for adolescents who were experiencing distress related to custody and access issues or had a recent foster care placement. Collaborating with the agency clinical directors and counsellors was an essential part of this research. According to Hess and Mullen (1995), research findings are more relevant to agencies when clinical directors and
counsellors participate in all of the stages of research. Agency counsellors brought their clinical wisdom to the intervention development process which helped ensure the engagement intervention was ethical and pertinent to the adolescents receiving services and generalizable to the counsellors’ practice. Counsellors are more likely to implement a new intervention when the intervention fits well with their previous views and practices (Palinkas et al., 2008); thus, it is hoped that the collaborative nature of this research will assist in dissemination efforts.

Three other barriers, stigma, ethnoracial differences, and past negative mental health service experiences, were not explored. A quantitative analysis of stigma was not conducted due to a lack of psychometrically-validated measures appropriate for comprehensively examining stigma associated with service use among adolescents in this investigation. Although the adolescents’ ethnoracial backgrounds were provided at baseline, due to the small sample size, the impact of specific ethnoracial backgrounds on the study outcomes were not explored. These barriers were, however, discussed with participants who participated in the engagement intervention. One of the key strategic initiatives of the Mental Health Commission of Canada (2007) is a movement against stigma associated with mental health. The commission has recently assembled a youth advisory council to begin to “identify, understand and promote effective strategies to address and defeat self-stigma experienced by children and youth.” Although beyond the scope of this dissertation research, an exploration of stigma and cultural differences which impact service use are important areas to direct future research.

**Implications for Future Research**

The primary study aim was to evaluate the efficacy of a pre-treatment engagement intervention on treatment attendance among adolescents entering mental health services. The medium effect size in treatment attendance between groups however, suggests that future study
is needed to determine whether the engagement intervention has merit. According to the results of this investigation, a sample size of 130 (65 per group) would be required to predict a significant difference in attendance if the effect size is large (.80). Future research may include the dissemination of the engagement intervention into agency practice whereby the effectiveness of the intervention delivered by agency intake workers and counsellors could be assessed using a larger sample.

An exploration of the potential mediators associated with the engagement intervention and treatment attendance requires further exploration. Although generalized self-efficacy and autonomous/controlled motivation were not associated with initial treatment attendance, future research may focus on the impact of these variables on treatment attendance and psychological severity beyond the initial treatment phase.

This investigation found that both the adolescents’ perception of the working alliance and treatment barriers impacted treatment attendance. Higher levels of working alliance were associated with greater treatment attendance while higher reported barriers were associated with less treatment attendance. Previous studies have primarily focused on parental reports of alliance and barriers and how these variables are associated with treatment attendance and child psychotherapy outcomes. This study demonstrates that adolescent perceptions of alliance and barriers are also important predictors of treatment attendance. Further research is necessary to determine the most salient barriers adolescents experience entering mental health services, the impact of adolescent barriers on treatment attendance and participation, and strategies for addressing adolescent barriers. Moreover, further consideration should be given to the unique impact of the adolescent working alliance on treatment participation and attendance.
Implications for Social Work Practice

The results demonstrate that the relationship established with the adolescent and the barriers they experience early in treatment play an important role in their initial treatment attendance. Approaches must go beyond engaging parents and consider separate interventions to establish an alliance and explore barriers with adolescents. With this recommendation in mind, the engagement intervention may be a promising approach to incorporate into practice.

The engagement intervention was developed with an eye towards dissemination into “real world” practice. Early adaptations of the engagement intervention were conducted in consultation with the clinical directors and counsellors to ensure that the approach would be a good fit with agency culture and the clients they served. Furthermore, the engagement intervention was designed to minimize the potential burden associated with adoption and use: it is brief (40 minutes) and can be administered over the telephone. To the researcher’s knowledge this is the first pre-treatment adolescent engagement strategy that has been evaluated in the context of “real world” community mental health centres.

The engagement intervention is partially informed by motivational interviewing which has been effectively integrated with other interventions such as child problem-solving skills training (Nock & Kazdin, 2005) and cognitive behavioural therapy (Nock & Kazdin, 2005; Westra & Dozois, 2006). Although the engagement intervention is designed to be delivered pre-treatment, components of the intervention could be carried into the initial treatment sessions. For instance, an adolescent’s autonomy could be supported by the counsellor demonstrating an understanding of the adolescent’s perceptions and feelings, respecting the adolescent’s personal choices, and providing an explanation when the adolescent’s preference is not possible (Reeve, Bolt, & Carr, 1999). In addition, counsellors could help enhance adolescents’ self-efficacy by recognizing their strengths, past successful attempts to manage the presenting issue, and
expressing hope in their ability to reach their goals (Miller & Rollnick, 2002). A discussion of barriers could also extend into the beginning stage of therapy to identify potential issues before dropout occurs.

**Concluding Note**

In this dissertation research, adolescents who received the engagement intervention attended more initial counselling sessions but the difference was not statistically significant. At follow-up, adolescents who received the engagement intervention did not report a change in autonomous treatment motivation, while the assessment only group reported a significant decrease in autonomous treatment motivation. No between group differences were found for controlled motivation or generalised self-efficacy at follow-up. Self-reported working alliance and barriers to treatment participation were significantly associated with initial treatment attendance. Although a number of demographic variables were explored, only age was found to be significantly negatively associated with initial treatment attendance. A replication of this study with a larger sample size and longer follow-up is needed to determine the effectiveness of the engagement intervention.
REFERENCES


interpersonal therapy for depression. *Psychotherapy, Theory, Research, Practice, and Training, 47*(3), 418-424.


Parents’/caregivers’ characterizations of previous experiences with mental health 
services for their children and perceptions of barriers to future use. *American Journal of 
Orthopsychiatry, 76*(2), 161-166.

Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the 

consequences of psychiatric disorders, II: Teenage parenthood. *American Journal of 
Psychiatry, 154*(10), 1405-1411.

psychiatric disorders, I: Educational attainment. *The American Journal of Psychiatry, 
152*(7), 1026–1032.

Kessler, R.C., McGonagle, K.A., Zhao, S., Nelson, C.B., Hughes, M., Eshleman, S., Wittchen, 
psychiatric disorders in the United States. Results from the National Comorbidity Survey. 
*Archives of General Psychiatry, 51*, 8-19.


on the counselor experience-working alliance relationship. *Journal of Counseling 
Psychology, 45*, 274-278.

Oxford University Press.


APPENDICIES

Appendix 1

University of Toronto Health Sciences Research Ethics Board Approval Letter

UNIVERSITY OF
TORONTO

OFFICE OF THE VICE PRESIDENT, RESEARCH

PROTOCOL REFERENCE #23374

Dr. Faye Mishna
Factor-Inwentash Faculty of Social Work
246 Bloor Street West
University of Toronto
Toronto, ON M5S 1A1

Ms. Heather Spielvogel
Factor-Inwentash Faculty of Social Work
246 Bloor Street West
University of Toronto
Toronto, ON M5S 1A1

November 26, 2010

Dear Dr. Mishna and Ms. Spielvogel:

Re: Your research protocol entitled, “Understanding and Addressing Barriers: Engaging Adolescents in Mental Health Services” by Dr. F. Mishna (supervisor), Ms. H. Spielvogel (PhD candidate)

ETHICS APPROVAL

Original Approval Date: November 28, 2008
Expiry Date: November 27, 2011
Continuing Review Level: 3
Renewal: 2 of 4

We are writing to advise you that you have been granted annual renewal of ethics approval to the above-referenced research study through the REB’s delegated process. Please note that all protocols involving ongoing data collection or interaction with human participants are subject to re-evaluation after 5 years. Ongoing projects must be renewed prior to the expiry date.

Please ensure that you submit an Annual Renewal Form or a Study Completion Report 15 to 30 days prior to the expiry date of your study. Note that annual renewals for studies cannot be accepted more than 30 days prior to the date of expiry as per our guidelines.

Any changes to the approved protocol or consent materials must be reviewed and approved through the amendment process prior to its implementation. Any adverse or unanticipated events should be reported to the Office of Research Ethics as soon as possible. If your research has funding attached, please contact the relevant Research Funding Officer in Research Services to ensure that your funds are released.

Best wishes for the successful completion of your project.

Yours sincerely,

Marianna Richardson
Research Ethics Coordinator

OFFICE OF RESEARCH ETHICS
McMurtrie Building, 12 Queen’s Park Crescent West, 2nd Floor, Toronto, ON M5S 1S8 Canada
Tel: +1 416 946-3273  Fax: +1 416 946-3763  ethicsreview@utoronto.ca  http://www.research.utoronto.ca/lor-researchers-administrators/ethics/
Appendix 2

Example of Consent Form

University of Toronto
Factor-Inwentash Faculty of Social Work

Study Information Sheet for Teenagers over 16
Experimental Group: Delisle Youth Services

Understanding and Addressing Barriers: Adolescent Mental Health Service Engagement

Principal Investigator

Heather Spielvogle, MSW

Doctoral Candidate

Factor- Inwentash Faculty of Social Work
University of Toronto
Phone: 416-978-6314 E-mail: heather.spielvogle@utoronto.ca

Faculty Supervisor

Dr. Faye Mishna
Associate Professor
Associate Dean of Research
Factor-Inwentash Faculty of Social Work
University of Toronto
Phone: 416-978-1385

WHY AM I INVITED TO PARTICIPATE IN THIS RESEARCH?
You are being invited to participate in this research study because you will be starting services at Delisle Youth Services.

WHY IS THIS STUDY BEING DONE?
This study looks at reasons that might make it hard for you to come to meetings at Delisle Youth Services. For some teenagers coming to meetings is difficult because talking about your feelings can be uncomfortable or coming to services takes time away from your other interests.

We want to talk to you and ask you to complete questionnaires so we can understand what it is like for you to enter services and what makes it hard to come back. We want to help you feel
more comfortable about meeting with a counsellor. Also, we want to help counsellors know what teenagers go through when they come to services.

It is important for you to know that we are researchers from the University of Toronto and are not a part of Delisle Youth Services. If you participate in the study, any information you share with us will be confidential unless you tell us that you are in danger. It is important for you to know that it is totally your choice to participate in this study or not. Whether or not you choose to participate in this study, the services you receive at Delisle Youth Services will not be affected.

HOW MANY PEOPLE WILL TAKE PART IN THE STUDY?
A total of 60 teenagers, between the age of 13 and 19, will take part in the study over a period of 6 weeks. Teens are randomly assigned (i.e., determined by chance) to participate in one of two study groups. One group of thirty teens will be asked to participate in an interview and complete questionnaires. An additional thirty will be asked to complete questionnaires only. If you agree to take part in the study, we will ask you to participate in the interview and complete questionnaires.

WHAT WILL I DO IN THE STUDY?
If you agree to participate in this study, you will have the chance to talk to a researcher about what makes it hard for you to attend meetings with a counsellor. We will also ask you to complete some questionnaires.

In the interview, we will ask you about the feelings you have about coming to Delisle Youth Services. If you have gone to counsellors in the past, we will ask you what you liked or did not like about it. We will also ask you, in more detail, about the types of things that might either keep you from coming back to Delisle Youth Services or from telling your counsellor what is going on in your life. Finally, we want to know what kind of things you want help with from your counsellor. We will also tell you a little bit about what it might be like to meet with a counsellor.

The questionnaires will ask you about how you feel about yourself, how you make decisions, your relationship with your counsellor, things that might keep you from coming back to meet your counsellor, and how you feel in general. We will ask you to do the questionnaires twice: right after you agree to participate in the study and then again six weeks later.

We want to know if our research impacts teenagers’ attendance rates at Delisle Youth Services. In order to determine this, six weeks after you agree to participate your counsellor will let us know the number of times you attended services. The record of your attendance is for research purposes only.

We will ask you if we can audio record the interview. If don’t want to be recorded, we will takes notes from the conversation.

HOW MANY INTERVIEWS?
We will ask you to participate in one interview which will take about 45 minutes to complete. We will also ask you to fill out questionnaires twice; when you enter the study and within 6
weeks of entering the study. The questionnaires should take about 30-45 minutes to complete each time.

WILL I RECEIVE ANY MONEY IN EXCHANGE FOR MY TIME?
You will receive $20 for taking part in the interview and filling out the questionnaires. You will receive $20 after you fill out the questionnaires six weeks later. You will receive this compensation unless you chose to stop doing the study or if we cannot connect with you six weeks later. We will try to contact you and leave messages so that you can complete the questionnaires and receive compensation.

HOW LONG WILL I BE IN THE STUDY?
Although the study will take place over about 12 months, you will be asked to take part for about 6 weeks. You may stop being in the study at any time. If you do decide to leave the study it will not in any way affect any services that you or your family receives from Delisle Youth Services.

If you decide to stop being in the study, we will continue to use your questionnaires and recorded interview for research purposes. However, if you stop participating, we will not contact you and will delete your name, telephone number, and address from our records.

WHAT ARE THE RISKS OF THE STUDY?
This study has a few risks. You might be a bit upset by questions we ask in the interview or on the questionnaires. The purpose of the interview is to help you feel more comfortable about coming to see a counsellor but, some of the questions may cause uncomfortable feelings. It is okay for you tell the researcher that you do not want to answer certain questions.

If you tell us that an adult has hurt you physically or emotionally, if anybody has touched you in a way that has made you feel uncomfortable, or if we think that someone is not taking care of you, we are required by law to report this to a Children’s Aid Society. Finally, if you tell us that you are upset or might hurt yourself or another person, we will notify your counsellor at Delisle Youth Services right away.

ARE THERE GOOD THINGS IN THE STUDY?
Taking part in the interview may help you feel more comfortable about coming to see your counsellor Delisle Youth Services. The information you give us will be used to make services better for other teenagers who come to Delisle Youth Services in the future.

WHO WILL KNOW YOU ARE IN THE STUDY?
The researchers listed on the first page and the research assistant who speaks to you will know you have participated in the study. Also, your counsellor at Delisle Youth Services will know that you are participating in the study but, they will not know anything about what you say to the researcher or in the questionnaires – that will be kept strictly private.

If we present information that discusses this study, you will not be personally identified.

The researchers will keep all of your personal information private. All questionnaires will be kept in a locked filing cabinet and the audio recorded interview will be stored on a secure server
(a locked part of the computer system) at the Faculty of Social Work, University of Toronto. Only the researchers will have access to this information. Code numbers are used on all questionnaires and interview information.

Your name and anything that might reveal who you are (like your birth date) will not be included on the audio recordings, notes, and questionnaires. The researchers will remove any information that might identify you before we look more closely at what you and the researchers discussed in the interview. Questionnaires and audio recordings will be destroyed after we look at them more closely and this will happen by November 15, 2012.

WILL YOU BE INFORMED OF THE STUDY RESULTS?
If you want to look at the findings of this study, let the researcher know and the principal investigator will mail you a summary after the study has been completed. Additionally, a summary will be given to Delisle Youth Services so they can put it in a newsletter or their website.

WHAT ARE THE COSTS?
You don’t have to pay anything to participate in this study.

DO YOU HAVE TO PARTICIPATE?
Taking part in this study is your choice. You may decide not to take part or may decide to leave the study at any time, and that is completely okay.

If you decide to participate but feel uncomfortable answering certain questions, it is okay tell the researcher you do not want to answer a question or ask the researcher to stop the study completely.

WHO DO I CALL IF I HAVE QUESTIONS?
For questions about the study contact Dr. Faye Mishna at 416-978-1385. If you have any questions about your rights as a participant in this study, please call Zaid Gabriel Research Ethics Officer, Health Sciences zaid.gabriel @utoronto.ca or 416-946-5806. This person is not involved with the research project in any way and calling him will not affect your participation in the study.

Thank you for considering taking part in this study.

Sincerely,

Heather Spielvogle, MSW
Doctoral Candidate
Factor-Inwentash Faculty of Social Work
University of Toronto
University of Toronto
Factor-Inwentash Faculty of Social Work

Consent Form for Teenagers over 16
Experimental Group: Delisle Youth Services

Understanding and Addressing Barriers: Adolescent Mental Health Service Engagement

Principal Investigator
Heather Spielvogle, MSW
Doctoral Candidate
Factor Inwentash Faculty of Social Work
University of Toronto
Phone: 416-978-6314

Co-Investigator
Faye Mishna, Ph.D.
Associate Professor
Associate Dean of Research
Factor-Inwentash Faculty of Social Work
University of Toronto
Phone: 416-978-1385

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand all of the information we gave you.

The above named project has been explained to me in detail and I have been given the opportunity to ask questions about being a participant in this study.

- I understand that I will complete an interview and/or questionnaires with the principal investigator or a research assistant who has worked with teenagers. The interview and questionnaires will be used to understand what makes it easy or difficult for teenagers to participate in services. This interview will be audio-recorded. If I refuse audio recording, notes will be taken to record key points of the interview.
• I understand that I will complete questionnaires and an interview at the beginning of the study and complete questionnaires within 6 weeks of the beginning of the study.

• I understand that for the protection of confidentiality of all participants, all questionnaires are in a locked office in a filing cabinet at the Faculty of Social Work, University of Toronto, and that all questionnaire information will be number coded and transferred to a secure server (a locked part of the computer).

• I understand that for the protection of confidentiality of all participants, audio recordings will be stored on a secure server located in the Faculty of Social Work, University of Toronto. To provide further protection, audio files will be written out following collection and any information which would identify me will be removed. Only the researchers and research assistants working on the study will have access to these files.

• I understand that all stored information (audio recordings, notes, and questionnaires) will be destroyed within five years of collection (by November 15, 2012).

• I understand that all information will be kept confidential and that I will not be able to be identified in any publication or presentation of the results.

• I understand that I am free to withdraw from the study at any time and that this will not affect any current or future care that I or any member of my family may receive from Delisle Youth Services.

• My signature on this form means that I have been given a copy of the information and consent forms and that I agree to take part in this study.

Participant Name: ___________________________ Date: ________

Participant Signature: ___________________________

Witness Name: ___________________________ Date: ________

Witness Signature: ___________________________
Appendix 3

Adolescent Engagement Outline

Section I: Story
A. Social context of the presenting issue; view of teen’s problem; parent/friend’s view of presenting issue
   1. “You don’t need to go into a lot of detail because you will be discussing this with your counsellor, but in a sentence or two can you tell what brought you to services at (agency name)”
      a. If teen responds “my parent brought me” we will assume that the teen is in the pre-contemplation or the contemplation stage of change. We will ask more about their perception of the issue contrasted with others’ perception.
         i. Questions will include: “What does your parent think is going on?” “How do you see the situation?” “Of the concerns your parent(s) mentioned, what parts fit or don’t fit with your view?” “What parts do you agree with most?” “how do people from your background understand the challenges you are experiencing?”
         ii. If teen is willing to consider that their issue may be interfering with their relationships or goal attainment, we will complete the decision matrix as described below.
      b. If teen responds, “issue X is why I am coming to counselling” we will assume that the teen is in the contemplation or preparation stage of change and will proceed with the second section of the interview “Impact of the Presenting Issue”

Section II: Impact of the Presenting Issue
B. This section explores changes which have occurred due to the presenting issue, values, and future goals. It also uses the decision matrix to understand and resolve ambivalence which may interfere with progression into the “action” phase of change.
   1. “In what ways is x effecting your life (i.e., the things that are important to you)” “what differences have other people noticed?” “what was your life like before x issue?” “If x issue disappeared how would your life be different?” “how have you managed to cope with issue x; what have you tried that has been helpful/unhelpful?” “are their ways or methods you, your family, and others from your cultural background cope with similar challenges (i.e., traditional healers or meditation?”
   2. Complete Decision Matrix:
      a. What are the benefits of staying the same?
      b. What are the drawbacks of changing?
      c. What are the drawbacks of staying the same?
      d. What are the benefits of changing?
   3. Summary: Show you’ve heard, crystallize the teen’s dilemma, highlight their concerns and wishes

Part III: Practical, Psychological, and Cultural Barriers to Seeking Counselling
Practical barriers are usually discussed first.
   A. Practical Barriers: “What might make it hard for you to come, even if you wanted and intended to?” Transportation? Scheduling? An afterschool job or activities? Friends?
B. Psychological: “Beyond these practical concerns, what else might keep you from coming?”
   a. Attitudes & beliefs about counselling
      i. Do you think that counselling can help; why or why not?
      ii. In what ways could counselling help?
      iii. Have past experiences with counselling been helpful/not helpful. And in what ways?
      iv. What do you hope to get from counselling?
      v. What would not be helpful?
      vi. Do you think you can tell your counsellor about what you would like or not like about counselling?
      vii. How would you talk about those concerns?
   C. Cultural:
      a. Exploration of Stigma.
         i. Some teens don’t want to come to counselling because they think it is uncool. Do you feel this way? If so, what do you find is uncool about coming here. What do you think about other teens who come here? If one of your friends told you they were going to see a counsellor how would you feel about them? What does your family think about counselling?
      b. Counsellor race/gender.
         i. How would you feel about seeing a counsellor who was from a different ethnic/racial background or of a different gender?
         ii. What would you like your counsellor to know about your cultural background?
         iii. How might you communicate with a counsellor who was different from you?
         iv. How would you know that your counsellor understood your point of view?
         v. What is your understanding of what a counsellor does?

Part IV: Elicit Commitment
A. Summarize the teen’s “Story,” ambivalence, change talk, barriers and solutions
B. Outline next steps (i.e., meeting with counsellor to begin exploring issue)
C. Elicit Commitment: “How does this sound to you?” “Is this what you want to do?”
D. Instilling Hope: Affirm participation; Recall session positives; Express optimism:
   “Counselling has helped other teens overcome their challenges.” “You already know a lot about what you need from counselling.” “You’ve taken the first step and the counsellor can work with you to help you reach your goals.”

### Appendix 4

**Demographic Information Sheet**

<table>
<thead>
<tr>
<th>Study ID #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>Date of Birth (month/day/year)</td>
</tr>
<tr>
<td>Postal Code of Residence:</td>
</tr>
</tbody>
</table>

**Racial Background:**

- [ ] Aboriginal
- [ ] White
- [ ] Chinese
- [ ] South Asian (e.g., East Indian, Pakistani, Sri Lankan, etc.)
- [ ] Black
- [ ] Filipino
- [ ] Latin America
- [ ] Filipino
- [ ] Latin American
- [ ] Southeast Asian (e.g., Vietnamese, Cambodian, Malaysian, Laotian, etc.)
- [ ] Arab
- [ ] West Asian (e.g., Iranian, Afghan, etc.)
- [ ] Korea
- [ ] Japanese
- [ ] Other (Please Specify): ____________

**When did your family come to Canada?**
### Appendix 6

#### Session Attendance Form

<table>
<thead>
<tr>
<th>Client’s Name:</th>
<th>Session One</th>
<th>Session Two</th>
<th>Session Three</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Date Scheduled</td>
<td><em><strong>/</strong></em>/____</td>
<td><em><strong>/</strong></em>/____</td>
<td><em><strong>/</strong></em>/____</td>
</tr>
<tr>
<td>2. Did client attend scheduled appointment? (circle one)</td>
<td>Yes No</td>
<td>Yes No</td>
<td>Yes No</td>
</tr>
<tr>
<td>3. If you answered “no” to above, did the client no show or call to cancel? (circle one)</td>
<td>No show</td>
<td>No show</td>
<td>No show</td>
</tr>
<tr>
<td></td>
<td>Called to cancel</td>
<td>Called to cancel</td>
<td>Called to cancel</td>
</tr>
<tr>
<td>3a. If the client “no showed”, did the counsellor attempt to contact the client?</td>
<td>Yes No</td>
<td>Yes No</td>
<td>Yes No</td>
</tr>
<tr>
<td></td>
<td>If yes, was the counsellor able to reach the client?</td>
<td>Yes No</td>
<td>Yes No</td>
</tr>
<tr>
<td></td>
<td>Yes No</td>
<td>Yes No</td>
<td>Yes No</td>
</tr>
<tr>
<td>4. Was the appointment rescheduled? (circle one)</td>
<td>Yes No</td>
<td>Yes No</td>
<td>Yes No</td>
</tr>
<tr>
<td></td>
<td>If yes, date of appointment:</td>
<td><em><strong>/</strong></em>/____</td>
<td><em><strong>/</strong></em>/____</td>
</tr>
<tr>
<td>5. Did the client terminate? (circle one)</td>
<td>Yes No</td>
<td>Yes No</td>
<td>Yes No</td>
</tr>
<tr>
<td>6. Was the client terminated by CTYS/Youthlink? (circle one)</td>
<td>Yes No</td>
<td>Yes No</td>
<td>Yes No</td>
</tr>
</tbody>
</table>

If termination occurred, please check all applicable.

Other reasons (list):

___ Teen’s emotional/behavioural issue improved
___ Issues with teen’s social environment improved
___ Teen was unwilling to engage in services
___ Teen required services not offered at CTYS/Youthlink
___ Teen was unable to be contacted