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CHILDREN'S MENTAL HEALTH SERVICES: INVESTIGATING FACTORS RELATED TO HELP-SEEKING AND AGENCY INVOLVEMENT PATTERNS

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CHILDREN'S MENTAL HEALTH SERVICES: INVESTIGATING FACTORS

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Abstract

In order to better understand what happens once a parent contacts a children's mental health centre for help with their child's psychosocial problems, the current study examined predisposing, need, and enabling/inhibiting factors associated with (1) a pattern of contacting multiple agencies/professionals (high-volume) versus one agency and (2) a simultaneous (overlapping) versus sequential pattern of involvement with multiple agencies/professionals. The strongest predictor of a high-volume help-seeking pattern was parent history of mental health service use. Other significant predictors were lower parental depression and residing in an area with ten or more child serving agencies. The simultaneous agency involvement pattern was associated with more severe child internalizing problems. Both models were validated using bootstrap resampling. Further analyses explored system-level (i.e., service availability) and individual-level (i.e., uptake) correlates of these patterns in the context of Ontario's children's mental health system. Implications for service delivery in the children's mental health system are discussed.

Keywords: Help-seeking, service utilization, patterns, child, mental health, system, Ontario

Acknowledgments

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Chapter 1: Predictors of Help Seeking and Service Utilization for

Psychosocial Problems in Children

Although around 20% of children have a diagnosable mental health disorder, only about 4% of the child population has received treatment from a mental health professional (Costello, Pescosolido, Angold, & Burns, 1998). An understanding of how and why families access and use an array of mental health agencies and professionals for their child's psychosocial problems in Ontario has implications for children's mental health care policy issues such as service availability and accessibility.

Studies of help seeking in children's mental health have been predominantly concerned with addressing the gap between the known prevalence of psychosocial problems in children and the use of mental health services. There are many stages, however, between identifying a problem and receiving services. According to Logan and King's (2002) six-step pathway model to mental health services for adolescents, the first three "contemplation" stages involve: 1) parents gaining awareness of adolescent distress; 2) recognizing the problem merits attention and 3) considering options for helping the adolescent; The following three "action" stages involve: 4) parents developing an intention to seek mental health services; 5) attempting to seek appropriate mental health services and 6) obtaining mental health services (Logan & King, 2002). These same stages have been applied to help-seeking for children's mental health problems (Zwaanswijk, Van der, Verhaak, Bensing, & Verhulst, 2005).

While most studies have examined the gap between rates of psychopathology and service use, few studies have examined the gap between attempting to seek appropriate services and obtaining services. After a family makes initial contact with a service

provider, they may be placed on a waitlist, start treatment with that provider, change providers, or discontinue services. Help-seeking can be defined as the initial contact with a service provider, while involvement can be defined as being placed on a waitlist or starting services with a provider (i.e., being on an agency's roster). Whereas in medical health care the family doctor acts as a gatekeeper to specialized services, in children's mental health care in Ontario there is no such gatekeeper and families can seek services across several agencies or professionals within the mental health sector (e.g., a psychiatrist, or a private psychologist, social worker or counselor) without controlled or coordinated access.

The purpose of the two current studies was to better understand families who are in the midst of seeking help for their child's psychosocial problems within the mental health sector and how and why they become involved with multiple agencies/professionals over time.

The first chapter of this thesis reviews theoretical help-seeking models and empirical studies that have used variables from these models to predict children's mental health service use. The second chapter describes the first of the two current studies that examined which variables, derived from the service utilization literature, predicted different help-seeking and agency involvement[1] patterns. The goal of this study was to understand how family demographic, illness, and enabling factors (family resources and community characteristics) were related to (1) how a family seeks help and (2) how a family is involved with multiple agencies/professionals over time. The third chapter describes the second study in which additional analyses explored system characteristics

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[1] Agency involvement will be used throughout to mean any involvement (i.e., placement on a waitlist or receipt of services) with either an agency that provides mental health services or a professional (e.g., psychologist, psychiatrist, social worker).

influencing the availability of services (e.g., waiting time, services offered) and individual characteristics influencing the acceptability and uptake of services (e.g., services wanted, services rejected), and how these system-level and individual-level characteristics influence different help-seeking and agency involvement patterns. These analyses in the second study were an attempt to understand why a family may follow different help-seeking and agency involvement patterns within the context of Ontario's mental health system's policies and resources. The final chapter summarizes and synthesizes the findings of the two studies and discusses the implications of these findings for Ontario's children mental health system.

Given that there are no theoretical models for investigating patterns of help seeking and agency involvement among families who have already contacted an agency, previous help-seeking models were used as the framework to explain the individual, family, and community factors that may affect the help-seeking and agency involvement patterns that a family follows. The following is an overview of previous help-seeking models.

Help-Seeking Models

The lineage of help-seeking models originated with attempts to understand what factors influence adults' help seeking for physical illnesses. The early literature on help-seeking behaviour revealed that symptoms are a necessary, but not sufficient cause for seeking health care services (Mechanic, 1982). Studies from the 1960s found that symptoms alone explain only a fraction of the variance of help seeking from formal health services. Factors such as gender, age, socioeconomic status, ethnicity, life events,

and friend's attitudes towards help-seeking were identified as influential in help-seeking·

behavior (Mechanic, 1982).

Andersen's Sociobehavioral Model of Health Services Use (SBM), developed in

the 1960s, initially modeled health service use as a function of predisposing

characteristics (demographic variables, social structure, and health beliefs), enabling

resources (family resources and community characteristics), and need (perceived and

evaluated illness) (Aday & Andersen, 1974; Andersen & Newman, 1973; Andersen,

1995). Costello and colleagues adapted Andersen's model and combined it with

Pescosolido's (1992) Network-Episode Model (NEM), to develop a comprehensive

Revised Network-Episode Model for understanding child and adolescent access to mental

health care (Costello et al., 1998). Children's mental health care is seen as a unique case

of health care, with treatment provided across multiple service sectors, and access to this

system controlled by an "agent" acting for the child, usually a parent. Costello et al.

(1998) include family characteristics as well as community and school network

characteristics that are relevant to youth in their model. Like the SBM, the Revised NEM

is a conceptual framework and does not dictate the exact variables and methods to be

used when applying the model (Phillips, Morrison, Andersen, & Aday, 1998). The

Revised NEM includes 76 variables, and as such, could not logistically be tested as an

entire model. Most studies use a subset of these variables to predict service use versus

non-use.

The study described in the second chapter of this thesis investigates how

predictors of service utilization (e.g., predisposing, need and enabling factors) are related

to help-seeking and agency involvement patterns among families seeking children's

mental health services. The analyses described in the second chapter used variables from the Revised NEM that were identified in previous studies and available for secondary analysis from a larger project from which the data were obtained (described in chapter 2). Andersen's core SBM factors, which were used to organize these variables, are appropriate in the investigation of help-seeking and agency involvement patterns given their predominance in the children's mental health utilization literature. Examining SBM factors that range from individual-level factors (i.e., predisposing) to system-level factors (i.e., barriers) helped to characterize families with different help-seeking and agency involvement patterns and allowed for a comparison of similar factors across previous studies. As mentioned, the SBM and Revised NEM are not mathematical models and do not dictate the precise variables or methods to be used. They are the most widely used models of health and mental health service utilization.

Empirical Studies of Isolated Stages of Help-Seeking

Studies examining help-seeking for children's health or mental health problems have analyzed different outcomes including: (a) problem recognition (Zwaanswijk, Verhaak, Bensing, Van der Ende, & Verhulst, 2003), (b) any service utilization across the mental health, health, or education sectors (Offord et al., 1987; John, Offord, Boyle, & Racine, 1995; Zahner & Daskalakis, 1997), or (c) formal (i.e., specialized mental health care) versus informal (i.e., family, friends, co-workers) help-seeking (McMiller & Weisz, 1996). Despite using different outcome measures, studies on help-seeking tend to use similar predictor variables, namely, predisposing, illness profile, and enabling/inhibiting factors (Srebnik, Cauce, & Baydar, 1996). Studies that examined predictors of service use in mental health, health, or school settings are summarized in Table 1. Although these

studies do not necessarily label their predictor variables according to the SBM factors, Table 1 uses SBM factors for ease of comparison.

Predisposing Factors

In a review of the help-seeking literature, Zwaanswijk and colleagues (2003) examined studies using problem recognition by parents and problem recognition by a general medical practitioner as the dependent variables, with child, parent and family, and sociodemographic characteristics as the independent variables. Problem recognition by the general practitioner was greater for boys, older children, and children from single parent families (Zwaanswijk et al., 2003).

Although there is no variable that consistently predicts service use across all previous studies, the most commonly investigated variables that were also collected in the larger project used in this thesis were compared across studies (see Table 1). Specifically, child gender, child age, parental education, family income, and urban/rural residence were examined in study 1 (see chapter 2).

Illness Profile Factors

Illness profile factors such as higher levels of problem or symptom severity and more physical health problems have consistently been associated with mental health service use in community-based samples of children and adolescents (see Table 1). In terms of parental illness factors, both parental history of psychiatric problems and parental mental health service use have been found to predict child service use. Study 1 examined child internalizing and externalizing problems, functional impairment, parental depression, and parent treatment history.

Enabling/Inhibiting Factors

Examining system variables (i.e., enabling/inhibiting factors) can be particularly informative as factors such as client demographics are immutable while system variables may be more amenable to change and have the potential to impact all families who seek help (Aday et al., 1974; Mowbray, Lewandowski, Bybee, & Oyserman, 2004)

More perceived barriers to service utilization (e.g., any substantial barrier to obtaining care) have been associated with decreased odds of specialty mental health service use (Farmer, Stangl, Burns, Costello, & Angold, 1999). In a general population (i.e., community-based sample as opposed to clinical sample) study of children's mental health service use, higher parental burden, or the impact that a child's problems have on a family, was found to predict use of specialty mental health services (Angold et al., 1998; Farmer et al., 1999). Farmer et al. (1999) characterized family impact as a key enabling factor. In Zwaanswijk et al's (2003) review of the literature, perceived parental burden rather than level of child psychopathology was found to be a more consistent predictor of problem recognition and help seeking. Study 1 thus conceptualized the impact of the child's problems on the family as an enabling factor.

In study 1, the number of agencies in the city in which the referring mental health agency is located was also examined as an enabling factor. Other studies have examined system capacity (i.e., resources influencing availability of services) as a function of number of professionals (Blais, Breton, Fournier, St-Georges, & Berthiaume, 2003), or availability of professionals in an area (Nelson & Park, 2006). To my knowledge, however, the number of agencies in an area has not been examined as a predictor in service utilization studies.

Table 1: Studies Reviewed on Predictors of Service Utilization for Child and Adolescent Psychosocial Problems

Study	Source of sample	Child age range	Time frame	Outcome variable	Predisposing Factors				Illness factors	Barriers/ Facilitators
					Child age	Child gender	Income	Family characteristics		
Alegria et al. (2004)	Sample from Service Use, Need, and Outcomes study in Puerto Rico (N=1885 dyads of parents/children)	4-18 years	Lifetime	Mental health or school service use	*ns*	Male> Female .	---	Health insurance> No insurance	Impairment; Parent identifying mental health problem	Parental concern
Angold et al. (1998)	Representative sample of 1015 parents/children from school population in North Carolina	9, 11, and 13-years	Lifetime	(1) Specialist mental health service use and (2) school service use	*ns*	*ns*	*ns*	Single parenthood *ns*; parental unemployment *ns*; Large sibship *ns*; Negative life events *ns*; Rurality of residence *ns*	(1) Total symptom score (2) Total symptom score; high depression or anxiety negatively associated with school service use	Perceived parental burden
Brannan & Heflinger (2005)	676 Medicaid enrolled children in 2 states	5-17 years	13 months	Child behavioural health services utilization	*ns*	*ns*	*ns*	Caregiver education *ns*; Urban> rural	Externalizing behaviour; Social function	Caregiver strain
Burns et al. (1997)	Representative sample of 1002 children from school population in North Carolina	9, 11, and 13-years at baseline	2 years	Parent report of professional mental health service use	*ns*	*ns*	---	---	SED (Dx + impairment)> no diagnosis; Moderate (Dx or imp.)> Low need (no Dx or impairment)	---

Note: --- = factor not examined in study, SED= serious emotional disturbance, *ns* = factor is not significant.

Study	Source of sample	Child age range	Time frame	Outcome variable	Predisposing Factors				Illness factors	Barriers/ Facilitators
					Child age	Child gender	Income	Family characteristics		
Cohen & Hesselbart (1993)	Longitudinal sample of 760 parents/youth in upstate New York	12-21 years	Previous year	Any MH service use; Consultation; Treatment	Young> Over 17 years	*ns*	High> Middle	Urban> Rural	Any Dx	---
Haines, McMunn, Nazroo & Kelly (2002)	Epidemiological sample of 5913 children from the Health Survey for England	4-15 years	Lifetime	(1) General consultation (2) Specialist consultation for children with high SDQ score	*ns*	Male> Female	Lower household income	Family structure *ns*; Residential area *ns*	Children's mental health using Strength & Difficulties questionnaire (SDQ)	---
Farmer, Stangl, Burns, Costello & Angold (1999)	Representative sample of 1007 children from school population in North Carolina	9, 11, and 13- years	12 months	(1) Any service use (2) Intensity of service use (3) Persistence of service use	*ns*	(2) Male> Female for intensity	(3) Poverty for persistence	(1) Parent psychiatric problems for Any use (2) Higher maternal education for Intensity	(1,2) Higher symptoms for Any use and Intensity; Impairment *ns*	Child illness impact on family
John, Offord, Boyle, & Racine (1995)	Ontario Child Health Study representative sample of 1587 children	6-16 years	Prior 6 months	Use of specialized MH/SS	*ns*	*ns*	*ns*	Higher maternal education	Chronic medical illness; Psychiatric disorder x school performance; Parents treated for nerves *ns*	---

Note: --- = factor not examined in study, *ns* = factor is not significant.

Study	Source of sample	Child age range	Time frame	Outcome variable	Predisposing Factors				Illness factors	Barriers/ Facilitators
					Child age	Child gender	Income	Family characteristics		
Lavigne et al. (1998)	510 preschool children enrolled with primary care physicians	2-5 years at baseline	12-40 months	Parent report whether child has seen MH professional	Older> Younger	ns	ns	High family conflict	Presence of psychiatric diagnosis	Negative life events ns
Mowbray et al. (2004)	506 children of 252 mothers diagnosed with serious mental illness in US	4-16 years	5 years	(1) Child lifetime service use; (2) Child service use in past 12 months	(1) Age 10 and under> Older than age 10	(1) Male> Female	ns	Maternal education ns;	CBCL internalizing; CBCL externalizing Maternal psychiatric history	(1) Negative life events
Offord et al. (1987)	Ontario Child Health Study representative sample of 1869 children	4-16 years	Previous 6 months	MH/SS utilization	ns	ns	---	Urban-rural difference ns	Higher rates of psychiatric disorders	---
Pavuluri, Luk, & McGee (1996)	272 preschool children from 8 preschool centres in New Zealand	30-60 months	Past year	Seeking help from any source	---	---	Low income	Parental separation	Higher BCL total symptoms; Externalizing; Internalizing; Hyperactivity	Multiple adversities
Pumariega et al. (1998)	Sample of 2528 junior and high school students in 2 regions of Texas	Grades 7-12	Lifetime	Youth estimate of # of counseling visits to any professional	ns	Female> Male	---	Higher maternal education; Father absent> father present	Youth self-report score CBCL	High income region> low income region

Note: --- = factor not examined in study, ns = factor is not significant.

Study	Source of sample	Child age range	Time frame	Outcome variable	Predisposing Factors				Illness factors	Barriers/ Facilitators
					Child age	Child gender	Income	Family characteristics		
Kataoka, Zhang, & Wells (2002)	3 representative household surveys in US (N= 48736)	3-17 years	12 months	Report of any MH service use	Older> preschool	Male> Female	ns	---	MH Indicator score	---
Sayal (2004)	Community-based sample of 1168 children registered with 5 primary care practices in UK	5-11 years at baseline	4-years	Children referred for MH services	---	---	---	---	Emotional, Conduct, Hyperactivity, Peer, Prosocial, and Difficulties scales of SDQ	Impact on the child and burden for the family scales of SDQ
Verhulst & Van der Ende (1997)	General population sample of 2227 children in Netherlands	4-18 years	Previous 12 months	Referral to specialized mental health service	ns	ns	Occupational level ns	Educational level ns	CBCL score; Parental psychopathology; Family member in care	---
Wu et al. (1999)	Multisite community sample in US and Puerto Rico (N= 1285)	9-17 years	Lifetime	Parent and child report of any service use	Age 15+> age 9-11	ns	ns	Maternal education ns	Any disorder or impairment; Maternal use of MH services;	Police contact
Zahner & Daskalakis (1997)	School pop. in 2 areas in Connecticut (N=2519)	6-11 years	Lifetime	Service use in MH, general health, school	Older> younger	Male> Female	---	Single mother; Maternal education level ns	CBCL score	Maternal distress ns

Note: --- = factor not examined in study, *ns* = factor is not significant.

Examining Help-Seeking and Agency Involvement Patterns across Agencies

Unlike help seeking in medical health services, which can be described in a sequential manner, help seeking in the children's mental health system is not as simple to delineate. In general, family physicians act as gatekeepers to specialist services and provide families with ongoing care (Chan & Austin, 2003). In children's mental health, on the other hand, parents may recognize a problem, decide to seek help for the problem, and then actively try to access services with or without the involvement of their family physician. Since children's mental health care is delivered across up to five different sectors (i.e., general medicine, specialty mental health, education, child welfare, and juvenile justice), parents may enter the "system"[2] from any one of these sectors (Farmer, Burns, Phillips, Angold, & Costello, 2003). Thus, entry into the "system" is not as straightforward as with medical services. Moreover, within the specialty mental health sector, parents may contact any one of a number of child-serving agencies or professionals. Thus, navigating through the "system" to obtain services is an elaborate process that may look more like "a labyrinth or tangled web than a pathway" (Boydell et al., 2006, p. 187). Once contact has been established with an agency, many parents may not follow through to treatment with that agency because they have found help elsewhere (Lowman, DeLange, Roberts, & Brady, 1984). This gap between seeking and obtaining services has not been studied to the same extent as the gap between rates of service use and rates of psychopathology.

An understanding of what happens between seeking and obtaining services within the mental health sector is a necessary step in improving accessibility and availability of

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[2] Ontario's public children's mental health services do not work as a "system" but rather as a "patchwork of services" (Children's Mental Health Ontario, 2006, p. 3).

services for families who are already in the midst of seeking help. The current studies examined help seeking and agency involvement patterns exclusively in the mental health sector in order to better understand the parent's role in seeking mental health care, and specifically how parents contact and become involved with an array of agencies and professionals. Unlike in other sectors (e.g., child welfare, education, or juvenile justice), in which parents may not initiate contact, parents tend to initiate contact with agencies and professionals in the mental health sector. One of the goals of these studies was to understand how the availability resources in the mental health sector, which may differ from resource availability across other sectors, shapes different patterns of help seeking and agency involvement.

The Current Studies

Understanding different help-seeking and agency involvement patterns within the children's mental health sector is helpful in identifying how families navigate through an array of agencies/professionals over time. Thus, families who were already in the midst of seeking services for their child's psychosocial problems were studied. These families all contacted at least one children's mental health agency, and many contacted multiple agencies and professionals in the previous year. Unlike most previous studies, the current studies (based on a larger project described in chapter 2) included telephone contacts, which more fully captured "help-seeking" versus only pathways in which an assessment or treatment were received. The current studies dichotomized families who have already contacted an agency [i.e., they have reached the 'attempting to seek services' stage of Logan and King's (2002) pathway] into those who contacted only one agency versus those who contacted more than one agency/professional in the previous year. This

outcome variable was created to try to understand the differences between families who · follow a simple pattern of contacting one agency and those who follow a more persistent pattern of contacting multiple agencies/professionals.

What differentiates families who contacted only one agency versus families who contacted multiple agencies or professionals? Perhaps families with more severe child psychosocial problems seek services across different agencies because they require a number of specialized services only available across different agencies or professionals. Or perhaps parents who are more burdened by their child's problems or who have more agencies in their area are more likely to seek services across different agencies. Disentangling these predisposing, illness, and enabling/inhibiting factors can help us to better characterize families who are more persistent in seeking help for their child.

Among families who contacted more than one agency, patterns of agency involvement over time may have been either sequential, with discrete episodes of involvement, or simultaneous, with overlapping involvement across agencies/professionals. A sequential pattern of involvement is more similar to what would be seen in medical care, with discrete episodes of involvement across different providers within the system. This pattern seems to be more intentional than an overlapping pattern in which families seek services from one agency/professional before concluding services with another agency/professional. Patterns of frequent help seeking and overlapping agency involvement may also reflect unmet need and a family's difficulty in accessing mental health care for their children. Simultaneous-involvement patterns can strain the children's mental health care system, which is often characterized as an already strained system burdened by high costs and restricted services

(Federal/Provincial/Territorial Advisory Committee on the Mental Health and Well-Being of Children and Youth, 2000). Thus, understanding factors that shape (1) a pattern of persistent help seeking and (2) a pattern of simultaneous involvement is a necessary first step in improving the accessibility and efficiency of children's mental health services in Ontario.

Goals and Objectives

1. To characterize families who follow a pattern of (a) high help-seeking volume and (b) simultaneous agency involvement.

a. *Help-seeking volume.* To determine the predisposing, illness, and enabling/inhibiting factors that characterize families who have contact with multiple agencies/professionals within the mental health sector in the previous 12 months.

Professionals and agencies include children's mental health centers, a psychiatrist, a hospital outpatient department or clinic dealing with mental health issues, and a private psychologist, social worker or counselor. Contact includes telephone calls to an agency or professional, as well as attending assessment or treatment sessions.

b. *Agency involvement.* To determine the predisposing factors, illness profile factors, and barriers/facilitators associated with overlapping agency/professional involvement in the previous 12 months.

Simultaneous agency involvement was defined as overlapping involvement with more than one agency/professional, which could include waiting for or receiving services in the previous 12 months.

This first goal of determining predictors of high-volume help seeking and simultaneous agency involvement will be covered in the second chapter.

2. To determine if (a) a high versus low help-seeking volume and (b) a simultaneous versus sequential pattern of agency involvement are system-driven or individual-driven. System-driven variables such as referrals and waitlists are attributable to the system; Individual-driven variables such as rejecting services offered are attributable to the individual. This objective investigates correlates of different help-seeking or agency involvement patterns that are related to service availability and uptake (i.e., referrals, waitlists, and services offered and rejected).

a. *Help-seeking volume*

System-driven reasons:

     i) Is the high-volume group receiving more referrals?

     ii) Is the high-volume group being offered fewer services?

     iii) Is the high-volume group waiting longer, on average, for services?

Individual-driven reasons:

Is the high-volume group rejecting more services from agencies that offered?

Number of other sectors contacted:

Did the high-volume group contact a greater number of other service sectors (e.g., education, medical)? This analysis did not explore another reason for different help-seeking patterns, but investigated whether a persistent help-seeking pattern within the mental health sector was related to persistent help seeking across other sectors.

b. *Agency involvement*

System-driven reasons:

     i) Is placement on a waitlist related to simultaneous agency involvement?

ii) Among those with a simultaneous involvement pattern is placement on a

waitlist related to involvement with a private provider?

Individual-driven reasons:

i) Is the simultaneous group contacting more service providers for different

problems than the sequential group?

ii) Is the simultaneous group contacting more service providers for different

services than the sequential group?

The second goal of determining possible system-level (i.e., service availability)

and individual-level (i.e., uptake) correlates of help-seeking and agency involvement

patterns will be covered in the third chapter. The final chapter will include summaries

and conclusions related to these studies.

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Chapter 2: Factors Associated with Help-seeking and Agency Involvement Patterns in

Children's Mental Health Over One Year

Although about 20% of children have a mental health problem, only about 4% of

the child population receives treatment (Costello, Pescosolido, Angold, & Burns, 1998).

While differences between users and non-users of mental health services have been

examined, the help-seeking pathway that families follow once they contact a service

provider has not been well studied. Rogler and Cortes defined a help-seeking pathway as

"the sequence of contacts with individuals and organizations prompted by the distressed

person's efforts, and those of his or her significant others, to seek help" (1993, p.555).

They articulated the importance of this area of research as follows:

> There are compelling reasons for continuing the development and use of the
> pathway concept after treatment in a mental health facility has been sought and is
> being provided on an inpatient or outpatient basis. The mental health practitioners
> and their associated personnel become part of the pathway's network, but their
> insertion into the network is, at least at first, likely to be tenuous and uncertain. An
> abundance of research demonstrates substantial discontinuity between first contact
> and incorporation into a reliable treatment program. (Rogler & Cortes, 1993,
> p.558)

Few studies have examined patterns of help seeking after mental health services

have been sought. Over 20 years ago, Lowman and colleagues studied families ($N =$

2358) who contacted a child and family community mental health center and compared

users (i.e., received treatment) with "teasers" (i.e., inquiry but no follow through to

treatment) (Lowman, DeLange, Roberts, & Brady, 1984). Compared to families who

received treatment, "teasers" had older children with more behavioural and fewer

personality problems, children who expressed problems earlier, and were older parents.

When asked about reasons for not following through with treatment, the most common

was finding help elsewhere. Lowman et al. suggest, "since many inquiry group members do seek help elsewhere, it would be useful to know if 'therapy shoppers' can be identified before too much staff time has been consumed" (1984, p.261).

Models of health care utilization and extensions of these models to children's mental health care provide a framework for conceptualizing help seeking. Andersen's Sociobehavioral Model of Health Services Use (SBM) views health service use as a function of (a) predisposing characteristics (demographic variables, social structure, and health beliefs), (b) enabling resources (family resources and community characteristics), and (c) need (perceived and evaluated illness) (Andersen, 1995). Costello and colleagues combined the SBM with Pescosolido's (1992) Network-Episode Model (NEM) to develop a comprehensive Revised NEM for understanding child and adolescent access to mental health care (Costello et al., 1998). The current study focused on a subset of the 76 variables in the Revised NEM, under the three categories from the SBM, selected from the literature on predicting children's mental health service utilization.

Predisposing factors associated with any service use across the mental health, general medical, or education sectors in previous studies with children were selected. Males and older children have been more likely to receive services (Farmer, Stangl, Burns, Costello, & Angold, 1999; Kataoka, Zhang, & Wells, 2002; Lavigne et al., 1998; Mowbray, Lewandowski, Bybee, & Oyserman, 2004; Zahner & Daskalakis, 1997). Higher maternal education has been related to a higher likelihood of service use in some studies (John, Offord, Boyle, & Racine, 1995; Farmer et al., 1999; Pumariega, Glover, Holzer, & Nguyen, 1998) but not others (Wu et al., 1999; Zahner et al., 1997). Family income has inconsistent relations with service use. For example, Cohen and Hesselbart

(1993) found high or low family income, versus middle-income predicted service use, while Farmer et al. (1999) found that poverty predicted service use; other studies found no relation with family income (Kataoka et al., 2002; Lavigne et al., 1998; Wu et al., 1999). Similarly, urban versus rural residence has had mixed relations with service use (Cohen & Hesselbart, 1993; Offord et al., 1987). The above factors were selected in the current study given their use in the service utilization literature.

The illness profile factors of greater problems (both mental and physical) have consistently been associated with higher use of children's mental health services (Burns et al., 1997; Cohen et al., 1993; Farmer et al., 1999; Pavuluri, Luk, & McGee, 1996; Sayal, 2004; Verhulst & Van der Ende, 1997; Zahner et al., 1997). Parental history of psychiatric problems and mental health service use also predicts child service use (Farmer et al., 1999; Mowbray et al., 2004; Wu et al., 1999). Thus, both child illness and parent illness factors were selected for use in the current study.

The enabling/inhibiting variables of perceived barriers (Angold et al., 1998; Farmer et al., 1999) and higher parental burden (or impact of child problems on the family), which have been associated with increased odds of service use (Angold et al., 1998; Farmer et al., 1999), were also used in the present study.

It is necessary to distinguish help seeking, used here to mean making contact with a provider, and agency/professional involvement, which we defined as accepting a service offered by a provider (either a waitlist or immediate services). No study has examined help-seeking and agency involvement patterns across different children's mental health agencies or professionals (i.e., a psychiatrist, a hospital outpatient department or clinic dealing with mental health issues, or a private psychologist, social

worker or counselor), or how predisposing, illness, and enabling/inhibiting factors relate to these patterns.

The current study examined factors associated with a pattern of multiple contacts with different mental health agencies/professionals versus contact with a single agency using a sample of families that had already contacted at least one agency in the previous year. These two patterns were chosen to better understand any individual-level or system-level differences among parents who persisted at seeking help, and parents who sought help at one agency. To better understand families who contacted multiple agencies, factors that predicted an overlapping (simultaneous) agency involvement pattern versus a sequential pattern were examined. These two patterns were chosen to reflect agency involvement over time, with a simultaneous pattern reflecting more intense involvement over time than a sequential pattern. Agency involvement, which includes wait for and use of services, was chosen over service utilization, which includes only use of services to reflect (1) the large number of families waiting for services in Ontario's children's mental health system (Children's Mental Health Ontario, 2006) and (2) the use of an agency's resources in having a family on their roster versus a one-time contact (e.g., telephone inquiry).

It was hypothesized that the following factors would predict both (1) contact with multiple agencies/professionals (high-volume) versus one agency and (2) simultaneous versus sequential involvement in the previous 12 months: Predisposing factors (i.e., male gender, older child age, higher parental education, higher income, and urban residency); Illness factors (i.e., higher externalizing and internalizing problems and functional impairment, higher parental depressive symptoms and parent treatment history); and

Enabling/inhibiting factors (i.e., higher impact of illness on the family and a variable that has not been examined previously, having a higher number of agencies in area where families reside). A lower number of barriers (e.g., travel time, child care costs) was expected to predict simultaneous agency involvement. Barriers were only examined for agency involvement because all barriers were related to obtaining services, not contacting an agency.

Method

Secondary data analyses of a prospective, correlational study of 300 families' experiences in seeking help for their children's psychosocial problems were conducted (Reid et al., 2006). Families were recruited from 16 Children's Mental Health Centers (CMHCs) across Ontario. Intake workers asked families if they wanted to be part of the research study immediately after the standard intake procedures were completed. Parents with a 4-17 year old child, who were legal guardians of the child, were included. Families were excluded if (1) they did not have a phone, (2) they were in a shelter or hospitalized, (3) their child had a developmental delay or physical disability, (4) they did not speak English, or (5) they did not contact the agency themselves (e.g., third party referral or adolescent self-referral). Interested parents were mailed a letter of information and a consent form. They were then contacted by telephone to schedule an interview. Families were dropped from recruitment if they were unable to be contacted after four attempts (in the morning, afternoon, evening, and weekend) within a two-week period, and at least 10 times over four to six weeks with no contact. If a parent who agreed to participate was not present for five scheduled interviews, the family was dropped from the study (Traugott, 1987).

The final sample of 300 children included 198 boys (66%) with a mean age of 10 years (SD = 3.4). The majority of parents were female (92%); 82% were the child's birth mother. Most parents were White (93%), and 5% were a visible minority (i.e., South Asian, Black, Native, and Latin-American); 2% chose not to report their racial status. This was an under representation of minority groups compared to the Ontario population, which consists of 19% minorities (Statistics Canada, 2002). The mean family income of $30,000 - $40,000 was comparable to the Ontario average of $35,185 (Statistics Canada, 2002). Parents' educational attainment was: high school diploma (28%), some postsecondary (22%) and postsecondary certificate (29.3%). This is comparable to the Ontario population where 33.7% of the population has some postsecondary education (Statistics Canada, 2002).

Procedures and Measures

A Computer-Assisted Telephone Interview was used to ask parents about their experiences in seeking help for their child's psychosocial problems. Parents first completed a measure of the child's psychosocial adjustment [Brief Child and Family Phone Interview (BCFPI: Cunningham, Pettingill, & Boyle, 2002)]. Child internalizing, externalizing, functional impairment, impact of illness on the family were collected using the BCFPI. Parents were then asked about all contacts with mental health agencies/professionals in the previous 12 months. Questions regarding each agency that a parent contacted were based on existing measures of mental health service use [e.g., Child and Adolescent Services Assessment (CASA; Ascher, Farmer, Burns, & Angold, 1996); Service Assessment for Children and Adolescents (SACA; Stiffman et al., 2000)]. Responses for open-ended questions were coded into categories based on existing

measures or derived from a pilot study (Shanley, Reid, & Evans, 2006). Parents reported their own treatment history and ratings on current depressive symptoms and any barriers to getting help in general as well as demographic factors such as race, education and income.

Interviewers participated in two day-long sessions to review the procedures for conducting the parent interview. Every other month, interviewers coded a recorded interview in order to assess inter-rater reliability for all items involving coding (i.e., numeric ratings on standardized questionnaires were excluded). Percent exact agreement for each interviewer was assessed for each question compared to coding by the original interviewer. Average agreement across items was always greater than 86% for each interview with almost all interviewers having over 90% agreement. All staff completed a standardized training protocol for the BCFPI, which included instruction from the principal author, C.E. Cunningham, and a validation interview.

Variables and Coding

Outcome Variables

Help-seeking volume. Parents were asked about all contacts with a psychiatrist, mental health clinic, a private psychologist, social worker or counselor, as well as specific mental health agencies within their community for their child's psychosocial problems in the previous 12 months. The sample was dichotomized into families who contacted one agency in the past 12 months (low-volume) and those who contacted two or more agencies/professionals in the past 12 months (high-volume).

These two patterns were chosen for both a statistical and theoretical reason. Statistically, the frequencies of the number of agencies contacted was skewed, with 47%

of families contacting only one agency, and 53% of families contacting two or more agencies (only 20% contacted more than two agencies; see Appendix E for a frequency distribution). Theoretically, the number of agencies was dichotomized to better understand any individual-level or system-level differences among parents who sought help at one agency (an expected number if a family is seeking help), and parents who persisted at seeking help across more than one agency.

Figure 2.1 shows a low-volume pattern for a parent [identification number (ID) 76]. Figure 2.2 shows a high-volume pattern for a parent (ID 58) who contacted four agencies/professionals.
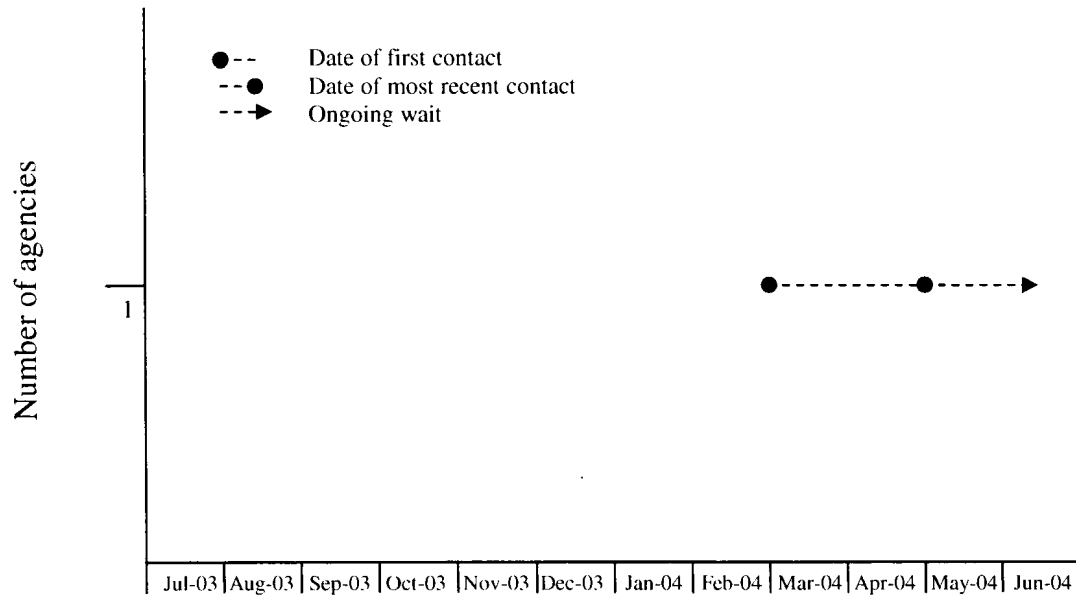
Figure 2.1. Example of a participant with Low-volume Help-seeking Pattern (ID 76). This parent

was interviewed in June 2004 and reported contacting only one agency in the previous year. The

reported date of first contact was in early March 2004, and the most recent date of contact in early

May 2004. The parent was waiting for services since early March 2004 until at least June 2004

when the interview was conducted.

31
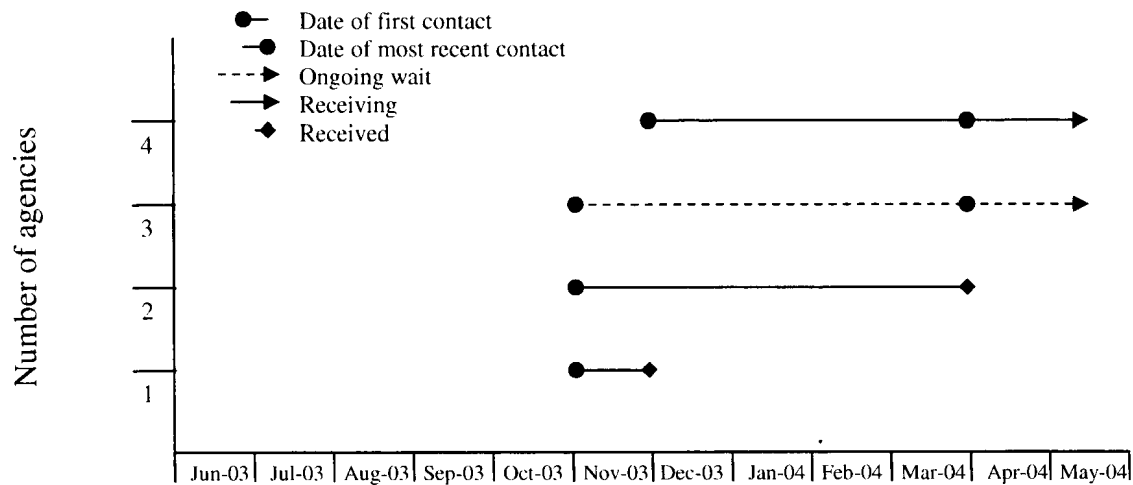
Figure 2.2. Example of a High-volume Help-seeking Pattern (ID 58). This parent, interviewed in

May 2004, reported contacting three agencies/professionals in early November 2003. The parent

received treatment from one professional (agency 1) but stopped in early December because it

was too expensive. Treatment was completed with another professional in early April (agency 2).

The parent was waiting for five months at the referring agency (agency 3) for individual

counseling and family therapy at the time of the interview. Finally, the parent was receiving

treatment at the time of the interview from an agency contacted first in early December 2003 and

then again in March (agency 4).

Agency involvement pattern. Among those families who contacted two or more

agencies/professionals, a dichotomous variable was created for each agency/professional

contacted indicating either involvement (waiting for services or received services) or no

involvement. Simultaneous involvement was defined as any overlapping involvement

with more than one agency/professional in the previous 12 months. Figure 2.3 shows a

simultaneous pattern for a parent who contacted nine agencies/professionals.

Number of agencies

9
8
7
6
5
4
3
2
1

● Date of first contact
●● Date of most recent contact
--- Waited
--→ Ongoing wait
→ Received
→ Receiving

Dec-03 | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 | Jan-05
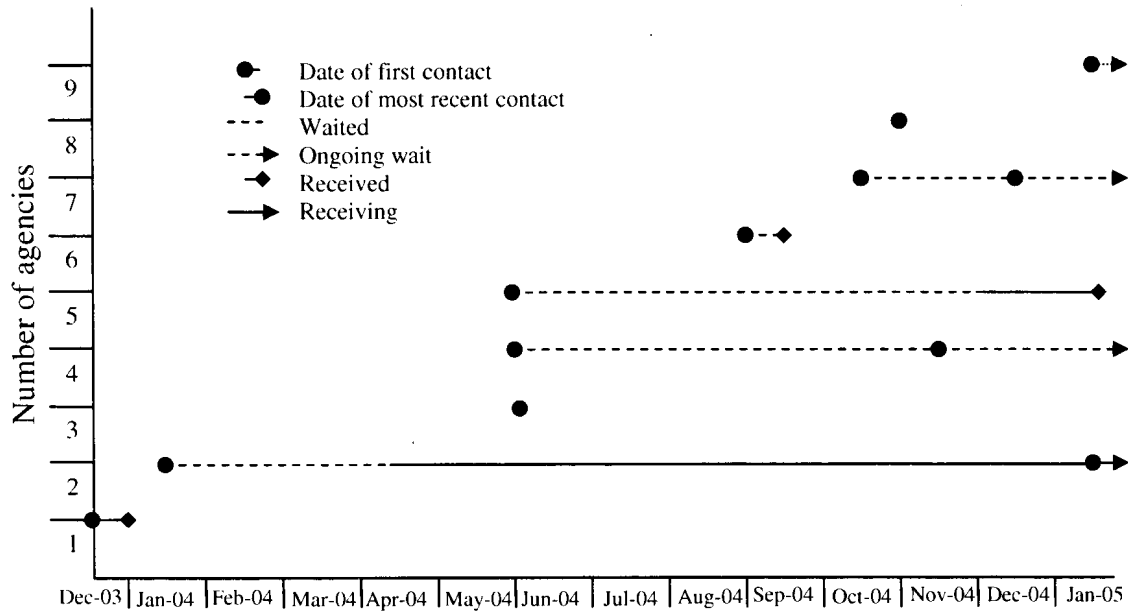
Figure 2.3. Example of a Simultaneous Agency Involvement Pattern (ID 368). This parent, interviewed in January 2005, contacted nine agencies/professionals in the previous year. A single dot means that the parent had a single contact with the agency/professional (agencies 3 and 8). At the time of the interview, this family was waiting for services from three agencies/professionals (agencies 4, 7, and 9), was receiving treatment from one agency/professional (agency 2), had received treatment or assessment from three agencies/professionals (agencies 1, 5 and 6) and had a single contact with two agencies (agencies 3 and 8).

Sequential involvement was defined as a pattern of non-overlapping involvement in the previous 12 months. Figure 2.4 shows a sequential pattern for a parent who contacted four agencies/professionals in the previous year. Appendix E presents the frequencies of the number of agencies contacted by agency involvement patterns.
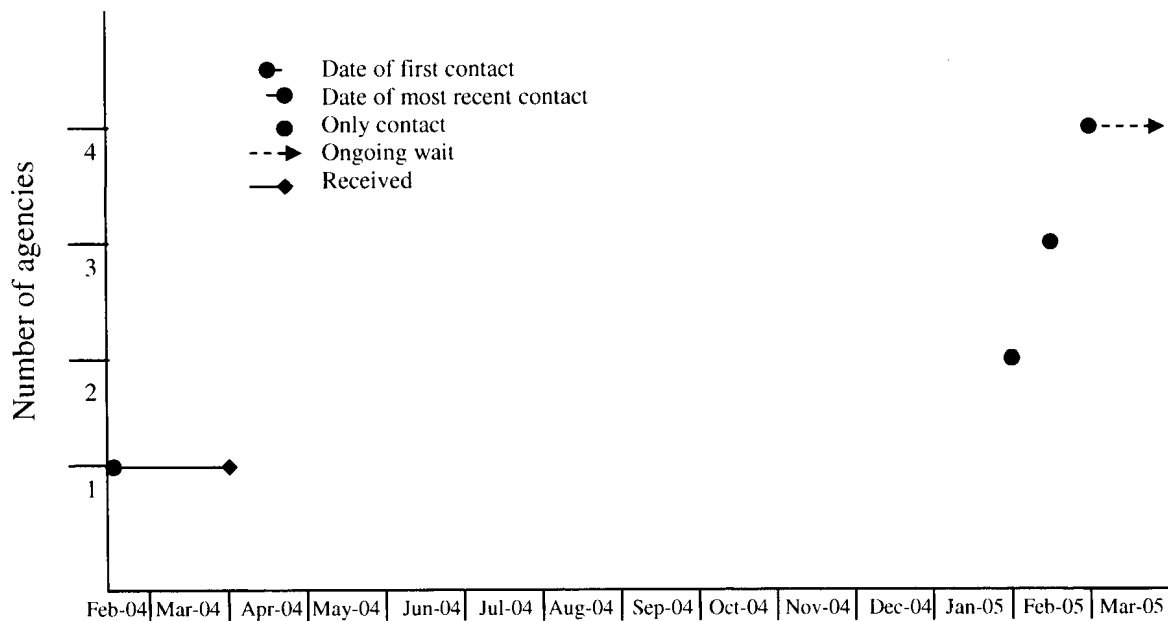
Figure 2.4. Example of a Sequential Agency Involvement Pattern (ID 447). This parent, interviewed in March 2005, reported contacting one agency in early February 2004 and completed treatment by early April 2004 (agency 1). The parent then contacted two agencies, one in early February 2005 (agency 2) and one in mid-February 2005 (agency 3) but these agencies did not offer the family any services because the family was outside of their catchment area. In late February 2005 the parent contacted another agency and was waiting for individual counseling services at the time of the interview (agency 4).

Predisposing Factors

The following demographic factors were included in multivariate analyses as predictors of high-volume help seeking and simultaneous agency involvement:

1) *Child gender*: Male (1) or Female (0).

2) *Child age*: Coded in two-year intervals due to low cell frequencies for one-year increments (range = 4 - 17).

3) *Parental level of education*: Highest educational attainment coded as: 1 = without high school diploma, 2 = high school graduate, 3 = some postsecondary, 4 = postsecondary certificate or diploma, 5 = university degree.

4) *Family income*: Coded as: 1 = Less than $10 000, 2= $10 000 to < $20 000, 3 = $20 000 to < $30 000, 4 = $30 000 to < $40 000, 5 = $ 40 000 to < $60 000, 6 = $60 000 to < $80 000, 7 = $80 000 or >.

5) *Rural/Urban Residency*: Postal codes were used to determine whether a family lived in an urban (1) or rural (0) setting (Statistics Canada, 2000).

Illness profile Factors

The following variables were included as illness profile factors predicting high-volume help seeking and simultaneous agency involvement:

1) *Internalizing problems*: T-scores based on population norms from the BCFPI were computed and then categorized into 10-point increments.

2) *Externalizing problems*: Coded the same as internalizing.

3) *Functional impairment*: Coded the same as internalizing.

4) *Parental depressive symptoms*: Obtained using the 6-item scale from the BCFPI. T-scores were computed using population norms and categorized into 10-point increments.

5) *Parent treatment history*: Treatment for self, partner, or marriage was coded as follows: Any history of previous treatment (1) or No previous treatment (0).

Enabling/Inhibiting Factors

The following barriers and facilitators were included as enabling/inhibiting factors in the multivariate analyses:

1) *Barriers*: Parents reported any barriers (i.e., transportation, travel time, parking, childcare, and lost income) associated with getting help in general (i.e., rather than barriers specific to a given agency) for their child. A total barrier score was calculated for each family (0 - 5), indicating the number of barriers. This score was dichotomized into any barriers (1) or no barriers (0) because of empty cells in cross- tabulations with the outcome variables.

2) *Impact of illness on the family*: T-scores based on population norms from the Family Functional Impact Scale of the BCFPI were computed and categorized into 10-point increments.

3) *Number of agencies in area*: Families were dichotomized into (1) 10 or more agencies and (0) fewer than 10 agencies based on the location of the agency from which they were recruited. The number of agencies within each community from which parents were recruited was computed based on a prior sub-study and existing databases (The Provincial Centre of Excellence for Child and Youth Mental Health at CHEO, 2006) using a criteria of within 50 km for all parents except those in two northern communities for which a 185 km radius was used given the sparse population distribution in this region. None of the communities studied had a centralized intake system to co-ordinate referrals across agencies.

Data Analyses

Logistic regressions were used to examine how predisposing, illness, and enabling/inhibiting factors differentiated the two help-seeking patterns: high- versus low-volume and the two agency involvement patterns: simultaneous versus sequential. Analyses were conducted using SPSS 14.0 (SPSS Inc., 2006).

Preliminary Analyses

Variable selection. Since screening variables spends degrees of freedom and increases the risk of over-fitting the model to the data at hand (Babyak, 2004), in this analysis, an a priori set of predictors was chosen based on the literature.

Missing data. The Expectation Maximization algorithm in SPSS missing value analysis (MVA) was used to input missing values (Tabachnick & Fidell, 2001). Missing values for parental education and family income were imputed using parental education, family income, respondent currently employed, and partner currently employed. All of the BCFPI subscales were used to input any BCFPI missing values using MVA.

Sufficient events per independent variable. In order for the regression coefficients to be reliable in a logistic regression, it is recommended that the ratio of the smaller of the two groups in the outcome measure (events) to independent variables should be 10:1 or higher (Peduzzi, Concato, Kemper, Holford, & Feinstein, 1996). Events per variable (EPV) ratios were calculated for (1) help-seeking volume and (2) simultaneous agency involvement.

Tests for interactions. Interactions were not tested because there were no theoretical reasons for doing so.

Testing assumptions. Linearity between the continuous independent variables and the outcome variables was tested using the Box-Tidwell Transformation (Menard, 2002; Tabachnick et al., 2001). Multicollinearity was tested using the collinearity statistic of tolerance in SPSS Linear Regression (Menard, 2002).

Multivariate Analyses

Fitting procedure. The predictor variables were entered into the logistic regressions in three groups: (1) predisposing (2) illness, and (3) enabling/inhibiting factors.

Model validation. Model validation is a necessary procedure to estimate how well the model might fit a new sample (Babyak, 2004), though one that most studies do not perform (Bagley, White, & Golomb, 2001; Ottenbacher, Ottenbacher, Tooth, & Ostir, 2004). The logistic regression models in this study were validated using bootstrap resampling. Other methods (e.g., split-sample, cross-validation, jackknife) are not as good as bootstrap validation (Steyerberg et al., 2001). Bootstrapping involves taking a large number of samples with replacement from the original sample. Unlike cross-validation, bootstrapping uses the entire dataset for model development (Harrell, Lee, & Mark, 1996). An "enhanced" bootstrap was calculated by computing the bias due to overfitting, or the "optimism" in the final model fit (Harrell, 2001). The area under the ROC curve (AUC), which measures the discriminative power of the model, was calculated from the bootstrap samples. The difference between the bootstrap-estimated index and the index computed on the original sample was averaged over 200 bootstrap replications (Steyerberg et al., 2001). The average difference, or "optimism," was subtracted from the original sample's AUC to obtain the "overfitting-corrected" estimate. A random prediction yields an AUC of 0.5, while AUC values > 0.7 can be regarded as acceptable, and > 0.8 as excellent (Hosmer & Lemeshow, 2000). Nagelkerke's R^2, which quantifies the explained variation on the log-likelihood scale (Nagelkerke, 1991), was also used to estimate model performance.

Bootstrap validation was run using the SPSS Output Management System. Syntax for running a bootstrap linear regression (Levesque & SPSS Inc., 2007) was modified for running a bootstrap logistic regression. A copy of the syntax is available upon request from the author.

Shrinkage. After the final model was fitted on the original sample, Van Houwelingen and Le Cessie's heuristic post hoc shrinkage factor, s_{heur} = [model χ^2 - (p)]/model χ^2 (where p is the number of predictors in the model), was used as a multiplier for the regression coefficients in order to adjust for over-optimism (Steyerberg, Eijkemans, & Habbema, 2001; van Houwelingen & Le Cessie, 1990). These shrunken coefficients were used to calculate odds ratios and confidence intervals for the final models. The analyses before shrinkage will be interpreted to understand this sample of families and the shrinkage analyses will be used to understand how this model may fit future populations.

Results

Preliminary Analyses

Missing data. Little's MCAR test did not indicate any significant deviation from random (see Appendix F). Thus, all analyses use the data set with imputed values.

Sufficient events per independent variable. The EPV ratio using the smaller of the two help-seeking volume groups (i.e., one mental health contact n = 142 families, 47.3%) and 12 predictor variables was 11.9:1, which is above the recommended minimum of 10:1 (Peduzzi et al., 1996). The EPV for simultaneous agency involvement using the smaller of the two groups (i.e., sequential users n = 62 families, 39.2%) and 13 predictor variables yielded an EPV ratio of 4.8:1, which is less than ideal. Using bootstrap

resampling, however, performance measures were adjusted for optimism in order to estimate how well the model will fit new data (Babyak, 2004).

Testing assumptions. For help-seeking volume, internalizing problems ($p = .03$), and for simultaneous agency involvement, family impact ($p = .01$) were the only variables that may violate the linearity assumption. Adjusting for the number of comparisons in this analysis yielded no significant violations (Tabachnick et al., 2001). Thus, both models were run as originally proposed. The collinearity statistics indicated no problems with multicollinearity.

Multivariate Analyses

Help-Seeking Volume

Among the predisposing predictors, only living in an urban versus rural area predicted high-volume help seeking (although this one variable was significant, the overall model was not significantly better than the null, or constant-only model[3]; see Table 2.1, Model 1). With illness and predisposing factors as predictors (Model 2), child functional impairment and parent treatment history predicted high-volume help seeking. Including illness factors significantly improved Model 1. When enabling/inhibiting factors were added (Model 3), parental treatment history, lower levels of parental depression and contacting an agency in an area with 10 or more agencies predicted high-volume help seeking; child functional impairment was no longer significant. Including enabling/inhibiting factors significantly improved the prediction over Model 2.

The shrunken odds ratios indicate that if the study were replicated on a new sample of similar families, parent treatment history is the one factor that may continue to

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[3] It can sometimes happen that a coefficient is significant even though the model is not. Because the model was pre-specified, the individual tests can still be meaningful.

predict high-volume help seeking, after controlling for the other variables in the model. Parental depression and contacting an agency in an area with 10 or more agencies were no longer statistically significant after adjusting for shrinkage; this suggests that they would be unlikely to be significant if the prediction equation were applied to a new sample. Since parental depression and number of agencies were not as strong as parent treatment history in predicting help-seeking volume, these variables are likely to regress to the mean in future samples and no longer have the statistical significance found in this sample.

The full model had discriminative power $< .70$ based on the unbiased estimate of the AUC, and explained 10% of the variance in high versus low-volume help seeking, based on the unbiased estimate of Nagelkerke's R^2 (See Appendix G). For the bootstrap resamples used to estimate the "optimism" or bias in the model, the range of the unique number of families re-sampled from the original 300 to form 200 samples of 300 was 174 to 201.

Table 2.1: Logistic Regression Analysis Predicting Help-Seeking Volume in the

Previous Year ($N = 300$)

Variables	No shrinkage			Shrinkage[a]
	Model 1	Model 2	Model 3	Model 3
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Predisposing				
Child gender (male)	1.03 (.63, 1.69)	1.17 (.70, 1.95)	1.14 (.67, 1.92)	1.09 (0.65, 1.84)
Child age[b]	1.01 (.88, 1.16)	1.00 (.86, 1.16)	1.02 (.88, 1.19)	1.01 (0.87, 1.18)
Parental education[c]	.96 (.77, 1.18)	.89 (.71, 1.10)	.87 (.70, 1.09)	0.91 (0.73, 1.14)
Family income[d]	1.11 (.97, 1.26)	1.11 (.97, 1.28)	1.11 (.96, 1.27)	1.07 (0.93, 1.23)
Urban residence	1.77 (1.02, 3.08)*	1.68 (.94, 3.00)	1.69 (.94, 3.04)	1.41 (0.78, 2.53)
Illness				
Parent treatment history		2.54 (1.50, 4.30)***	· 2.49 (1.46, 4.23)***	1.82 (1.07, 3.09)*
Parent depression[e]		.80 (.62, 1.03)	.74 (.57, .97)*	0.82 (0.63, 1.07)
Child internalizing[e]		1.00 (.82, 1.22)	1.01 (.82, 1.23)	1.01 (0.82, 1.23)
Child externalizing[e]		.99 (.80, 1.24)	.88 (.68, 1.14)	0.92 (0.71, 1.19)
Functional impairment[e]		1.34 (1.06, 1.70)*	1.15 (.97, 1.37)	1.16 (0.91, 1.49)
Enabling/inhibiting				
Impact of illness[e]			1.15 (.97, 1.37)	1.10 (0.92, 1.31)
>10 agencies in area			1.73 (1.05, 2.86)*	1.44 (0.87, 2.37)
Improvement to model fit[f]	$\chi^2_{(5)}=6.34$	$\chi^2_{(5)}=21.60$**	$\chi^2_{(2)}=7.06$*	
Full model χ^2	$\chi^2_{(5)}=6.34$	$\chi^2_{(10)}=27.94$**	$\chi^2_{(12)}=35.00$***	

Note. When the model was run as a linear regression, with number of agencies as a continuous variable, the same variables as presented above were significant.

*$p < .05$, ** $p < .01$, *** $p < .001$.

[a] A post hoc shrinkage factor, s_{heur} = [model χ^2 - (p)]/model χ^2, p = number of predictors, was used as a multiplier for the regression coefficients to adjust for over-optimism in future populations.

[b] Child age was coded in two-year intervals.

[c] Highest educational attainment coded as: 1 = without high school diploma, 2 = high school graduate, 3 = some postsecondary, 4 = postsecondary certificate or diploma, 5 = university degree.

[d] Coded in $10 000 increments from < $10 000 to $40 000, then in $20 000 increments from $40 000 to $80 000, then as $80 000 or greater.

[e] Coded in 10-point increments for population T-scores.

[f] Model 1 fit statistics indicate improvement to the null model (a model with an intercept only) and Model 2 and 3 statistics indicate improvement over the previous model.

Agency Involvement Pattern

None of the predisposing variables were significant predictors of simultaneous agency involvement (see Table 2.2). With illness and predisposing factors as predictors (Model 2), only more severe child internalizing problems predicted simultaneous agency involvement (although this new variable was significant, it was not enough to improve the overall model performance). Illness factors did not significantly improve Model 1. When enabling/inhibiting factors were added (Model 3), only more severe child internalizing factors continued to predict simultaneous agency involvement. Enabling/inhibiting factors did not significantly improve Model 2.

The shrunken odds ratios indicate that child internalizing problems may not be a significant predictor of simultaneous agency involvement in future populations.

The full model had discriminative power < .70 based on the unbiased estimate of the AUC, and explained 1% of the variance in high versus low-volume help seeking, based on an unbiased estimate of R^2 (see Appendix G). For the bootstrap resamples used to estimate the bias in the model, the range of the unique number of families re-sampled from the original 159 to form 200 samples of 159 was 93 to 115.

Table 2.2: Logistic Regression Analysis Predicting Simultaneous Agency Involvement in the Previous Year ($N = 159$)

Variables	No shrinkage			Shrinkage[a]
	Model 1	Model 2	Model 3	Model 3
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Predisposing				
Child gender (male)	.75 (.38, 1.50)	.76 (.37, 1.57)	.75 (.37, 1.55)	0.97 (0.47, 2.00)
Child age[b]	1.03 (.86, 1.24)	1.01 (.82, 1.23)	1.01 (.82, 1.23)	1.00 (0.82, 1.22)
Parental education[c]	1.26 (.93, 1.70)	1.26 (.93, 1.73)	1.30 (.95, 1.79)	1.03 (0.75, 1.42)
Family income[d]	.93 (.77, 1.11)	.93 (.77, 1.13)	.94 (.77, 1.14)	0.99 (0.82, 1.21)
Urban residence	.70 (.29, 1.66)	.60 (.24, 1.50)	.62 (.24, 1.55)	0.95 (0.38, 2.39)
Illness				
Parent treatment history		.93 (.44, 1.96)	.91 (.43, 1.93)	0.99 (0.46, 2.10)
Parent depression[e]		1.02 (.72, 1.44)	1.07 (.74, 1.53)	1.01 (0.70, 1.45)
Child internalizing[e]		1.46 (1.09, 1.95)*	1.43 (1.06, 1.93)*	1.04 (0.77, 1.40)
Child externalizing[e]		1.11 (.81, 1.51)	1.14 (.80, 1.63)	1.02 (0.71, 1.45)
Functional impairment[e]		.94 (.66, 1.32)	.92 (.64, 1.34)	0.99 (0.68, 1.44)
Enabling/inhibiting				
Impact of illness[e]			.97 (.77, 1.22)	1.00 (0.79, 1.26)
Barriers			1.17 (.54, 2.54)	1.02 (0.47, 2.21)
>10 agencies in area			.74 (.37, 1.49)	0.97 (0.48, 1.94)
Improvement to model fit[f]	$\chi^2_{(5)}=3.84$	$\chi^2_{(5)}=8.33$	$\chi^2_{(3)}=0.98$	
Full model χ^2	$\chi^2_{(5)}=3.84$	$\chi^2_{(10)}=12.17$	$\chi^2_{(13)}=13.15$	

$*p < .05, ** p < .01, *** p < .001$.

[a] A post hoc shrinkage factor, s_{heur} = [model χ^2 - (p)]/model χ^2 was used as a multiplier for the regression coefficients to adjust for over-optimism in future populations.

[b] Child age was coded in two-year intervals.

[c] Highest educational attainment coded as: 1 = without high school diploma, 2 = high school graduate, 3 = some postsecondary, 4 = postsecondary certificate or diploma, 5 = university degree.

[d] Coded in $10 000 increments from < $10 000 to $40 000, then in $20 000 increments from $40 000 to $80 000, then as $80 000 or greater.

[e] Coded in 10-point increments for population T-scores.

[f] Model 1 fit statistics indicate improvement to the null model (a model with an intercept only) and Model 2 and 3 statistics indicate improvement over the previous model.

Discussion

Families in which the parent(s) had any history of mental health treatment had over 2.5 times the odds of seeking help from more than one mental health agency/professional for their child's psychosocial problems in the previous year than families with no parent treatment history. This finding underscores the parents' role as an "agent" for their child who controls their access to the mental health system (Costello et al., 1998; Logan & King, 2002). Parents with a treatment history may have developed more positive attitudes toward mental health treatment in general, and its effectiveness, and may thus be more persistent in seeking services across multiple agencies/professionals for their children compared to parents without a treatment history. These parents may have overcome the stigma of seeking mental health services for themselves (The Standing Senate Committee on Social Affairs, 2006), and may thus be more persistent in seeking help for their children.

Theoretically, treatment history may be better conceptualized as an enabling factor than as an illness factor insofar as a parent's experience in receiving treatment may enable the family to seek help via knowledge of mental health resources and the health belief that mental health care is worth seeking. Although the variable of health beliefs was initially modeled as a predisposing factor, as Andersen (1995) clarifies in revisiting his behavioral model, health beliefs are more amenable to change than are demographic factors (predisposing). A parent's history of mental health treatment may influence their positive attitude toward, and motivation for, child treatment (Morrissey-Kane & Prinz, 1999). These parents may persist in seeking help because they conceptualize their child's problems as more amenable to change through professional help than without such help

(i.e., with only the parent as an agent of change) (Morrissey-Kane & Prinz, 1999), given their own treatment experience.

Contrary to the hypothesis that more severe parental psychopathology would lead to more help seeking, parents with more depressive symptoms were less likely to seek help from more than one agency. One possible reason for this finding is that parents who are currently depressed are perhaps more burdened with their own issues and are less likely to have the resources necessary to seek help from more than one agency for their child's psychosocial problems.

Impact of illness was not a significant predictor of high-volume help seeking. Although this is contrary to the findings of previous children's mental health service utilization studies, no study has examined how impact affects persistence of help seeking across agencies. Perhaps the impact of the child's illness is a better predictor of seeking services in the first place because a family wants relief from the burden of their child's problems, but once a family is in the midst of seeking help, resource-based variables such as previous experience (e.g., history of treatment for either or both parents), are better predictors of help seeking across multiple agencies/professionals.

Having more than 10 agencies within the area in which families lived significantly predicted a pattern of seeking help from multiple agencies. In other words, the more child-serving agencies available to a family in a region, the more likely the family is to contact more than one agency/professional in the previous year. While having more options may be beneficial in terms of greater availability, accessibility and acceptability of services, care must be taken to ensure that these services are not redundant and inefficient. Centralized intake may help to reduce fragmentation and

overlap of services and make help seeking more cost-effective in larger communities, where there are more child-serving agencies (Appendix D presents the number of agencies in an area by city populations).

Parents of a child with more severe internalizing problems were more likely to be on multiple agency rosters simultaneously. These children may require services from multiple agencies simultaneously because of differential help seeking on the part of the parents for different treatments (i.e., a psychiatrist for medication and a community agency for psychosocial treatment for the child). Alternatively, this pattern may reflect a lack of availability of services for internalizing problems (i.e., non-suicidal patients may be triaged as lower priority on waitlists) with the resulting pattern of one child being on two agency rosters simultaneously waiting for services.

Limitations

Sample selection and model validity need to be considered in discussing limitations of these analyses. As a result of the recruitment procedure and inclusion criteria used in this study, these findings are only applicable to parents who are legal guardians of their child, have the means to be contacted by phone and by mail, and are in the process of seeking help for their child's problems by contacting an agency themselves. Children in the care of child welfare (28% of telephone calls received by the recruiting agencies were for such children) would have different help-seeking patterns, and perhaps access to different services, than families who seek treatment themselves.

Although the EPV ratio was less than ideal for the model examining agency involvement, optimism-corrected estimates were reported for model performance. The optimism-adjusted R^2 and AUC values suggest that the model examining help seeking

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explained more of the variance in help-seeking patterns than the model examining agency involvement explained for a agency involvement patterns. The shrunken odds ratios indicate that in future populations, only parent treatment history may predict high-volume help seeking. None of the predictors of simultaneous agency involvement were significant after shrinkage. Therefore more caution should be used in interpreting the findings of the model predicting the simultaneous pattern. The general applicability of these models will depend on their validation in future studies.

Another limitation of these findings is that key variables that were not included in the models predicting high-volume help-seeking and simultaneous agency involvement, such as whether services were offered, or whether a family was placed on a waitlist, may contribute to multiple help-seeking and simultaneous agency involvement. Nevertheless, the current study provides a basis for future studies to continue to develop and refine predictive models of help-seeking and agency involvement patterns among parents who are already seeking services for their child's psychosocial problems.

Clinical Implications

Previous experience with the mental health system, lack of depressive symptoms, and having more child-serving agencies in their area increased the likelihood of a parent seeking help from more than one agency in the previous year. Thus, if services across agencies are not coordinated at intake, those parents with more resources (via experience, energy, and agencies in the area) will likely persist in finding appropriate services for their child. Among parents who sought help from more than one agency, those who had a child with more severe internalizing problems were more likely to be on multiple agency rosters simultaneously. Future studies could examine whether there are more problems

with provider continuity among families with higher child internalizing problems to determine whether or not these families follow through to treatment after making an initial contact with a provider.

The current study explored what characterizes families who follow particular help-seeking and agency involvement patterns. Further research is necessary to understand why families follow particular patterns once they have contacted a service provider. For example, mental health system characteristics, such as long waitlists, or individual-level characteristics such as selectivity in the services that a parent wishes to obtain may shape help-seeking and agency involvement patterns.

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Chapter 3: Why Wait? Correlates of Help-Seeking and Agency Involvement Patterns in

Ontario's Children Mental Health System

Previous studies have examined predisposing, need, and enabling/inhibiting

factors that differentiate children's mental health service users from non-users (Cohen &

Hesselbart, 1993; Farmer, Stangl, Burns, Costello, & Angold, 1999; Pavuluri, Luk, &

McGee, 1996; Sayal, 2004; Verhulst & Van der Ende, 1997; Zahner & Daskalakis,

1997). These core "population characteristics" constitute Andersen's original

sociobehavioural model (SBM) of help seeking (Aday & Andersen, 1974). Predisposing

factors are social and demographic factors associated with an individual's tendency to

seek help. Need (or illness) factors, refer to the nature and severity of the illness. While

both predisposing and need factors characterize individuals who tend to seek care,

enabling/inhibiting characteristics (i.e., system capacity, and barriers such as travel time

and cost) are important because they are amenable to intervention and change at the

system-level (Aday et al., 1974; Mowbray, Lewandowski, Bybee, & Oyserman, 2004).

The previous chapter described factors that characterized families with different

help-seeking and agency involvement patterns. Among families who were seeking

services (i.e., assessment or treatment) for their child's psychosocial problems, any

mental health treatment history for either or both parents, lower parental depression, and

higher system capacity (i.e., 10 or more agencies in area), predicted a pattern of seeking

help from multiple agencies/professionals in the previous year versus seeking help from

one agency. Among these families who sought help from multiple agencies/professionals,

only higher child internalizing problems predicted a pattern of simultaneous (i.e.,

overlapping) involvement (i.e., waiting, or receiving/received services) versus sequential

involvement (i.e., no overlap). After characterizing these families and identifying one system-level characteristic that differentiated high- versus low-volume help seekers, the question remains: why do families follow one pattern of help-seeking and agency/professional involvement versus another? The current set of analyses explored some reasons why a family may follow a particular pattern within the context of Ontario's children mental health care system.

Over time, the SBM has been revised to include the external "Environment", which broadly refers to the organizational structure and the goals and policies of health-care systems (Andersen, 1995). Again, unlike predisposing factors, which are either unchangeable (e.g., child gender) or difficult to change (e.g., family income), system-level characteristics associated with access to care may be more amenable to intervention. Studies of children's mental health service use have examined factors such as insurance coverage (e.g., Burns et al., 1997; Mandell, Boothroyd, & Stiles, 2003) and delivery systems (i.e., managed care versus fee-for-service) on mental health services utilization in the United States [U.S., (e.g., Cook et al., 2004; Saunders & Heflinger, 2004)].

The service delivery system for mental health care in Ontario, Canada, however, is different than in the U.S. Unlike many U.S. states, Ontario does not have a public managed care delivery system that controls families' access to care, amount of care available, or costs of care. Ontario's public delivery system has been characterized as "fragmented" and as more of a "patchwork of services, rather than a system of care" (Children's Mental Health Ontario, 2006a, p. 3). Existing programs have developed without the benefit of the recent policy framework for Child and Youth Mental Health

services and have lacked coordination within and across service sectors (Children's Mental Health Ontario, 2006a).

This set of analyses explored both system-level factors and individual-level factors as reasons why a family would follow a particular pattern of help seeking and agency involvement. First, reasons why a family would seek help from multiple agencies/professionals versus one agency were explored. After a family makes initial contact with a service provider, they may be placed on a waitlist, start treatment with that provider, change providers, or discontinue services. System-level factors such as referrals, services offered, and placement on a waitlist were examined. Perhaps families seek help from multiple agencies/professionals because they receive more referrals, are offered fewer services, or are placed on a waitlist more often or for longer than families who seek help at one agency. The individual-level factor of rejecting services offered was also examined as a reason why a family would contact multiple agencies/professionals. Perhaps families who seek help from multiple agencies/professionals are more selective in the services they seek and are rejecting services offered and subsequently seek services from other agencies/professionals. The number of other sectors contacted (e.g., general medicine, child welfare, education, and juvenile justice) was also compared across families who sought help from multiple agencies/professionals versus one agency to assess the impact of a certain type of help-seeker on the larger system. Families who are more active in their help seeking within the mental health sector could be expected to have a pattern of contacts across multiple sectors.

Reasons why families who contacted two or more agencies/professionals would become involved with agencies/professionals simultaneously versus sequentially were

then explored. Placement on a waitlist and wait time were examined as system-driven

factors associated with a pattern of simultaneous agency involvement. Waitlists are a

major issue in child and adolescent mental health services in Ontario (Children's Mental

Health Ontario, 2006a). On average, the waiting time for children to receive help in

Ontario is anywhere between 44 days to more than 170 days (around 5.5 months)

(Children's Mental Health Ontario, 2006b).

The other system-driven factor considered in the context of waitlist placement

was contact with a private provider. Some have suggested that decreased funding and a

lack of resources for services in Ontario has created a two-tier system, with those who

can afford it purchasing services privately, where there are no wait lists (Browne et al.,

2001; Children's Mental Health Ontario, 2006a). The current study examined not whether

those who could afford it were contacting private providers, but whether more waitlisted

families following a simultaneous-involvement pattern contacted a private provider than

families following a sequential-involvement pattern. That is, among parents

simultaneously involved with multiple agencies, was being on a waitlist associated with

seeking services from a private provider? The individual-level variables investigated

were whether parents were simultaneously involved with agencies/professionals because

of differential help seeking for (1) different types of problems or (2) different types of

services. The rationale behind the exploration of each of these factors is outlined in the

hypotheses section.

This chapter is organized into two parts: (1) System- and individual-driven

variables associated with high- versus low-volume help seeking and an exploration of

difference in the number of other sectors contacted across the two groups; and (2)

System- and individual-driven variables associated with simultaneous- versus sequential agency involvement. First, the methods for the overall study are presented. Then the objectives, hypotheses, methods, and results will be described for each of the two sets of analyses. A final discussion will integrate both sections and present implications and areas for further research.

Method

This set of analyses used the same data set as described in the previous chapter: a prospective, correlational study of 300 families' experiences in seeking help for their children's psychosocial problems (Reid et al., 2006). Families were recruited from 16 Children's Mental Health Centers across Ontario. Intake workers asked families if they wanted to be part of the research study immediately after the standard intake procedures were completed. Parents with a 4-17 year old child, who were legal guardians of the child, were included. Interested parents were mailed a letter of information and a consent form and were then contacted by telephone to schedule an interview.

The final sample of 300 children included 198 boys (66%) with mean age of 10 years (SD = 3.4). The majority of parents were female (92%); 82% were the child's birth mother. Most parents were White (93%), and 5% were a visible minority (i.e., South Asian, Black, Native, and Latin-American); 2% chose not to report their racial status. This was an under representation of visible minority groups compared to the Ontario population, which consists of 19% visible minorities (Statistics Canada, 2002). The mean family income of $30,000 - $40,000 was comparable to the Ontario average of $35,185 (Statistics Canada, 2002). Parents' educational attainment was: high school diploma (28%), some postsecondary (22%) and postsecondary certificate (29.3%). This is

comparable to the Ontario population where 33.7% of the population has some

postsecondary education (Statistics Canada, 2002).

Procedures and Measures

A Computer-Assisted Telephone Interview was used to ask parents about their

experiences in seeking help for their child's psychosocial problems. Parents first

completed a measure of the child's psychosocial adjustment [Brief Child and Family

Phone Interview (BCFPI: Cunningham, Pettingill, & Boyle, 2002)]. Parents were then

asked about all contacts with mental health agencies/professionals in the previous 12

months. Questions regarding each agency that a parent contacted were based on existing

measures of mental health service use [(e.g., Child and Adolescent Services Assessment

(CASA; Ascher, Farmer, Burns, & Angold, 1996); Service Assessment for Children and

Adolescents (SACA; Stiffman et al., 2000))]. Responses for open-ended questions were

coded into categories based on existing measures or derived from a pilot study (Shanley,

Reid, & Evans, 2006). For every mental health location contacted, parents reported any

service(s) offered from each location and whether they accepted or rejected the

service(s). Parents reported whether they were receiving or had received services, and

whether or not they were currently waiting for any services. If waiting, parents reported

the length of time that they had been waiting in days, weeks, or months. Parents also

reported the type of problem(s) for which they were contacting that agency as well as the

type of service(s) wanted from that location. Finally, pertinent to this set of analyses,

parents were asked about any contact with the health, child welfare, education, and

justice sector in the previous year. For each of these sectors, parents were asked whether

they initiated the contact themselves or whether someone from the sector contacted them.

Interviewers participated in two day-long sessions to review the procedures for conducting the parent interview. Every other month, interviewers coded a recorded interview in order to assess inter-rater reliability for all items involving coding (i.e., numeric ratings on standardized questionnaires were excluded). Percent exact agreement for each interviewer was assessed for each question compared to coding by the original interviewer. Average agreement across items was always greater than 86% for each interview with almost all interviewers having over 90% agreement. Variables and coding are described below in separate sections for each set of analyses.

Exploring Reasons for High vs. Low Help-seeking Volume

In study 1, described in chapter 2, it was found that parents with more personal resources (via experience through their own treatment history and energy, or lack of depressive symptoms) and more community resources (i.e., more agencies in their area) were more likely to seek help from multiple agencies/professionals. The current analyses examined further system-level resource variables related to the availability of services (i.e., services offered, referrals offered, and waitlist placement) and the individual-level variable of acceptability of services (i.e., rejecting services offered) as other reasons why a family would seek help from multiple agencies/professionals versus a single agency.

Objectives and Research Questions

1. To determine if high- versus low-volume patterns of help seeking are system-driven.

a) *Services offered.* Are families in the high-volume help-seeking group offered fewer services than families in the low-volume group?

b) *Referrals*. Are families in the high-volume help-seeking group receiving more referrals?

c) *Waitlists*. Are more families in the high-volume group currently waiting for services than families in the low-volume group? Have families in the high-volume group been waiting longer for services, on average, than families in the low-volume group?

2. To determine if these patterns are individual-driven.

Services rejected. Are families in the high-volume group rejecting more services from agencies that offered?

3. To determine whether high-volume help-seekers contacted more sectors than low-volume help-seekers. This objective does not explore reasons why a family may have contacted multiple agencies/professionals, but instead explores how families who contacted multiple agencies/professionals within the mental health sector sought help across other service sectors (i.e., medical, education, child welfare and justice) compared to families who contacted only one mental health agency.

Hypotheses

1. *System-driven*

a) *Services offered*. A family who contacts one agency that does not offer them services might be more likely to contact other agencies. The reverse is also expected; namely, a family who contacts one agency and is offered services might be less likely to contact other agencies. Thus, it was hypothesized that the low-volume group was offered services from more contacts than the high-volume group, reflecting more success in contacting an agency with available services.

b) *Referrals*. Receiving more referrals, on average, may explain why a family sought help from two or more agencies/professionals. It was expected that families in the high-volume group received more referrals from agencies contacted than families in the low-volume group.

c) *Waitlists*. If a family was placed on a waitlist, it was expected that they contacted another agency in order to try to obtain the help they wanted sooner. Thus, it was expected that more families in the high-volume group would be on waitlists than families in the low-volume group. It was also hypothesized that families in the high-volume group would be waiting for services longer, on average, than families in the low-volume group because a family that has been waiting longer for services has more time to attempt to seek help elsewhere and obtain services more efficiently (i.e., by calling multiple agencies and comparing wait times). Families who are simultaneously involved with multiple agencies/professionals may also be more willing to wait longer at any one agency because they are on multiple waiting lists or are already receiving services.

2. *Individual-driven*

Services rejected. Being more selective in accepting services might help to explain why a family would seek help from more than one agency in the previous year. It was hypothesized that the high-volume group rejected services from a greater proportion of contacts than the low-volume group.

3. *Number of other sectors contacted*

It was hypothesized that families in the high-volume group would contact more sectors than families in the low-volume group because parents' persistence in seeking services within the mental health sector was expected to generalize to the other sectors.

Variables and Coding

Outcome Variable

  Help-seeking volume. Parents were asked about all contacts with a psychiatrist, mental health clinic, a private psychologist, social worker or counselor, as well as specific mental health agencies within their community for their child's psychosocial problems in the previous 12 months. The sample was dichotomized into families who contacted one agency in the past 12 months (low-volume) and those who contacted two or more agencies/professionals in the past 12 months (high-volume).

  Figure 3.1 illustrates a low-volume pattern followed by ID 76, with the dates of first and most recent contact for the one agency contacted.
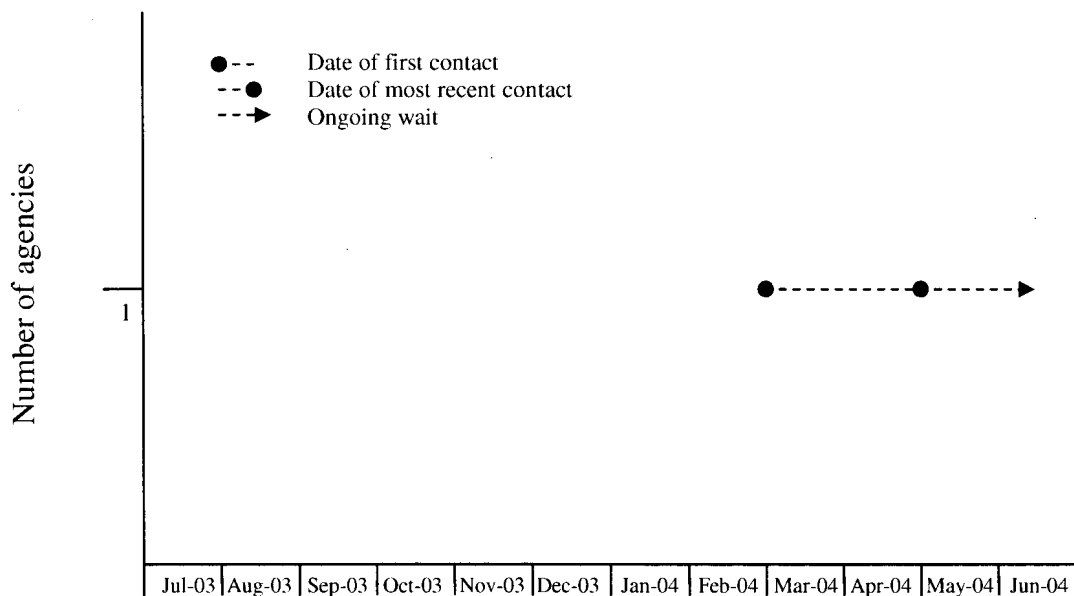
Figure 3.1. Example of a participant with Low-volume Help-seeking Pattern (ID 76). This parent was interviewed in June 2004 and reported contacting only one agency in the previous year. The reported date of first contact was in early March 2004, and the most recent date of contact in early May 2004. The parent was waiting for services since early March 2004 until at least June 2004 when the interview was conducted.

Figure 3.2 illustrates a high-volume help-seeking pattern followed by a parent (ID 58). Dates of first and most recent contacts are shown for each of the four mental health agencies/professionals contacted.
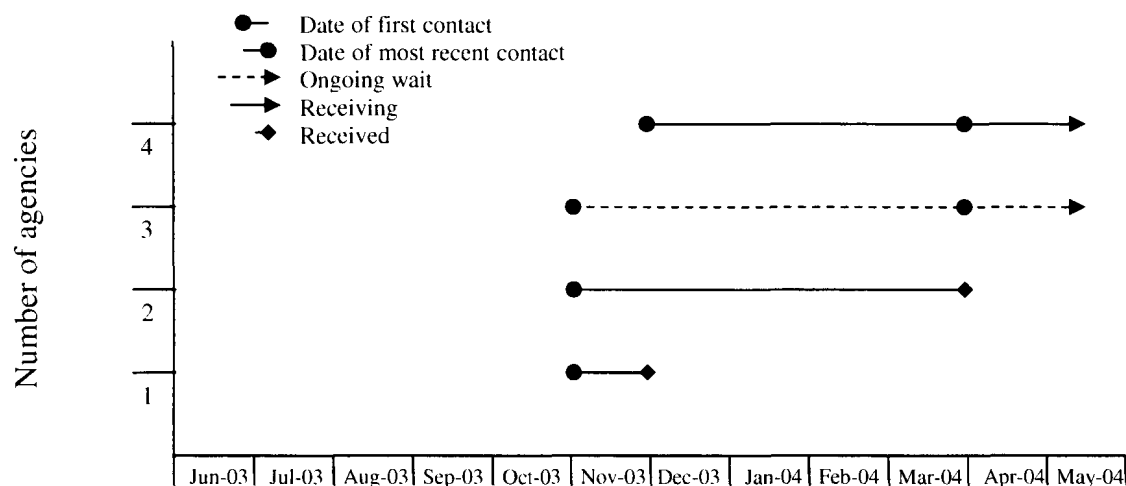
Figure 3.2. Example of a High-volume Help-seeking Pattern (ID 58). This parent, interviewed in May 2004, reported contacting three agencies/professionals in early November 2003. The parent received treatment from one professional (agency 1) but stopped in early December because it was too expensive. Treatment was completed with another professional in early April (agency 2). The parent was waiting for five months at the referring agency (agency 3) for individual counseling and family therapy at the time of the interview. Finally, the parent was receiving treatment at the time of the interview from an agency contacted first in early December 2003 and then again in March (agency 4).

System-driven Factors

Referrals. In order to compare referrals offered across the two groups, a variable was created to denote the proportion of agencies that offered a referral for each family.

Because each family contacted a different number of agencies/professionals, the total number of referrals offered to each family had to be converted into a proportion in order to have a comparable unit of measurement. For example, for ID 76 shown in Figure 3.1, if the one agency contacted offered a referral, the proportion variable would be 1.0. If the agency did not offer a referral, the proportion variable would be 0. For ID 58, if one out of the four agencies offered a referral, the proportion variable would be 0.25. The distribution of this variable was skewed for the high-volume group, with all families having a proportion of agencies offering referrals between 0 - 0.50. The low-volume group could only have proportions of 0 or 1.0. Thus, the proportion variable was grouped into 0, 1-50% and 100%, to reflect the distribution in this sample.

Services offered. Since each family contacted a different number of agencies/professionals, the proportion of agencies that offered services was calculated for each family in order to have a comparable unit of measurement. For example, for ID 76, if the one agency contacted offered services, this variable would be 1.0. If the agency did not offer services, this variable would be 0. All low-volume variables were either 0 or 1.0. For ID 58, if two out of the four agencies offered services, this variable would be 0.50.

Waitlists. A dichotomous variable was created to denote whether a family was currently waiting for services at any one agency/professional contacted (1) or not (0). A continuous variable was created for the length of time (in months) that a parent reported waiting for services. There were seven outliers —parents who reported waiting for between 7 and 24 months; all other families reported waiting 6 months or less. Thus, families waiting for more than six months were collapsed into "six or more months,"

which yielded a continuous variable ranging from 1 (less than a month wait) to 6 (six or more months wait).

Individual-driven Factor

Services rejected. To compare the services rejected across the two groups, a variable was created denoting the proportion of services that a parent accepted from agencies that offered. For example, if ID 76 accepted the service offered by the one agency contacted, this variable would be 1.0. If the parent rejected the service, or if the agency did not offer any services, this variable would be 0. For ID 58, if all agencies offered services and the parent accepted services from only one of these four agencies, this variable would be 0.25. The distribution of this variable was such that parents either accepted no services (100% rejected) or they accepted 50-100% of services offered.

Number of Other Sectors Contacted

A continuous variable was created for the number of other sectors that a parent contacted. Although parents were often contacted by the other sectors (e.g., child welfare and justice), only those contacts initiated by the parent were included in this variable. This is consistent with the goal of examining help seeking rather than mental health care utilization. For example, if ID 76 contacted no other sectors, this variable would be 0 (even if ID 76 was contacted by the school). If ID 58 initiated contact with all of the other sectors, this variable would be 4, which is the maximum number of other sectors that could have been contacted (education, medical, child welfare, and justice).

Data Analyses

System-driven Factors

Referrals. Given that the number of agencies in the area of the referring agency may contribute to the proportion of referrals offered (with more referrals in areas with more agencies), proportions were cross-tabulated by 10 or more agencies or fewer than 10 agencies in the area. Statistical comparison was not possible due to empty cells in the cross-tabulation.

Services offered. The proportion of agencies that offered services was dichotomized into 0-50% offered services and more than 50% offered services. A chi-square test was used to compare the high versus low-volume groups.

Waitlists. A chi-square test was used to compare the high versus low-volume groups across the variable of currently waiting at any one agency contacted (not waiting or waiting). A *t*-test was run to compare the average wait time across the two groups.

Individual-driven Factor

Services rejected. This variable was dichotomized into rejected more services (100% rejected) and accepted more services (accepted over 50%). A chi-square test was used to compare the high versus low-volume groups.

Number of Other Sectors Contacted

A *t*-test was run to compare the number of other sectors contacted by families with a high- versus low-volume help-seeking pattern.

Results

System-driven Factors

Services offered. The high-volume group was offered fewer services as a proportion of agencies contacted than the low-volume group (see Table 3.1). Nevertheless, over 85% of parents in both groups were offered services from more than half of the agencies contacted. Thus, it does not seem to be the case that families who contacted two or more agencies were being offered fewer services proportionally compared to families who contacted one agency.

Table 3.1: Comparison of Services Offered Across Help-seeking Volume Groups

	Proportion of agencies contacted that offered services[a]		
	50% or fewer offered	More than 50% offered	
Help-seeking volume	% (*n*)	% (*n*)	χ^2
Low-volume[b] (*n* = 141)	4.3% (6)	95.7% (135)	8.11**
High-volume[c] (*n* = 159)	13.8% (22)	86.2% (137)	

** = $p < .01$.

[a] For low-volume group, the proportion offered could only be 0 (i.e., 50% or fewer) or 100% (i.e., More than 50% offered).

[b] Low-volume refers to parents who contacted one agency in the previous year.

[c] High-volume refers to parents who contacted two or more agencies/professionals in the previous year.

Referrals. Overall, referrals from agency/professionals contacted do not seem to account for the different patterns of help seeking (see Table 3.2). Over 70% of parents did not receive referrals, and among parents in the high-volume group, over 98%

received either no referral or referrals from less than half of the agencies contacted. The comparison of the proportion of agencies that offered a referral reveals little difference across number of agencies in the area. Thus, being in an area with more than 10 agencies versus fewer than 10 agencies did not make a difference in the proportion of agencies that offered referrals across the two groups.

Table 3.2: Comparison of Referrals Offered Across Help-seeking Volume Groups

	Proportion of agencies that offered referral		
	None	1-50%	All
Help-seeking volume	% (n)	% (n)	% (n)
<10 agencies in area[a] ($n = 175$)			
Low-volume[b] ($n = 92$)	97.8% (90)	0	2.2% (2)
High-volume[c] ($n = 83$)	71.1% (59)	27.7% (23)	1.2% (1)
>10 agencies in area ($n = 125$)			
Low-volume ($n = 49$)	98% (48)	0	2% (1)
High-volume ($n = 76$)	71.1% (54)	28.9% (22)	0

[a] Number of agencies in area was based on the location of the agency from which family was recruited using a criteria of within 50 km for all parents except those in two northern communities for which a 185 km radius was used given the sparse population distribution in this region.

[b] Low-volume refers to parents who contacted one agency in the previous year.

[c] High-volume refers to parents who contacted two or more agencies/professionals in the previous year.

Waitlists. No difference was found in the proportion of families currently waiting for services across the two help-seeking patterns. Over 74% of families in both groups were currently on a waitlist (see Table 3.3). Thus, being on a waitlist does not seem to be related to contacting more than one agency/professional.

Table 3.3: Comparison of Waitlist Status Across Help-seeking Volume Groups

| | Currently waiting at any one agency contacted | | |
| | Not waiting | Waiting | |
Help-seeking volume	% (*n*)	% (*n*)	χ^2
Low-volume[a] (*n* = 141)	22.7% (32)	77.3% (109)	0.39
High-volume[b] (*n* = 159)	25.8% (41)	74.2% (118)	

[a]Low-volume refers to parents who contacted one agency in the previous year.

[b]High-volume refers to parents who contacted two or more agencies/professionals in the previous year.

Although no difference was found in the proportion of families waiting for services, it was also hypothesized that the amount of time waiting may be related to seeking help from two or more agencies/professionals. The high-volume group (*M* = 1.82, *SD* = 1.40) reported a statistically longer waiting time in months, than did the low-volume group (*M* = 1.49, *SD* = .92), *t*(276.12) = 2.42, *p* = .02 (two-tailed), suggesting that the longer a family was waiting for services, the more likely it was for them to have contacted another agency/professional.

Individual-driven Factor

Services rejected. There were no statistical differences across the two groups in the proportion of services rejected (see Table 3.4). Over 94% of parents accepted services

from over half of agencies that offered. Thus, it is not the case that parents who were seeking help from more than one agency were being more selective in the services that they accepted.

Table 3.4: Comparison of Services Rejected Across Help-seeking Volume Groups

| Help-seeking volume | Proportion of services accepted/rejected from agencies that offered[a] | | |
	Rejected all (100% rejected) % (n)	Accepted more (51-100% accepted) % (n)	χ^2
Low-volume[a] (n = 141)	4.3% (6)	95.7% (135)	0.31
High-volume[b] (n = 159)	5.7% (9)	94.3% (150)	

[a] For low-volume group, the proportion offered could only be 100% rejected or 100% accepted.

[b] Low-volume refers to parents who contacted one agency in the previous year.

[c] High-volume refers to parents who contacted two or more agencies/professionals in the previous year.

Number of Other Sectors Contacted

As expected, the high-volume group ($M = 1.44$, $SD = .85$) contacted more other sectors on average than the low-volume group ($M = 1.09$, $SD = .93$), $t(298) = 3.40$, $p = .001$ (two-tailed). Thus, those parents who initiated contact with other agencies/professionals in the mental health sector were more likely to have contacted more other sectors on average, than parents who initiated contact with only one agency in the previous year.

Discussion

Three system-level variables were examined to help explain why a family who has already contacted at least one agency in the previous year would contact other agencies/professionals in the mental health sector. First, not being offered services does not appear to be driving parents to seek help from multiple agencies. Second, it does not seem that families were seeking help from more agencies as a result of more referrals. Third, families who contacted two or more agencies/professionals were waiting longer for services than families in the low-volume group. Although the temporal sequence of waiting for services before contacting another agency was not taken into account, this comparison suggests that the longer a family waited for services, the more likely it is that they had contacted other agencies/professionals. Overall, it seems that waiting time is the one system-level factor that is related to parents seeking help from multiple agencies/professionals. An implication of this finding is that longer waiting times translate into more intense help seeking across different agencies, which means more burden (and possibly longer waiting times) on an already overburdened system. For example, if many families tend to accept placement on waitlists across multiple agencies, then waitlists become longer across agencies and waiting times may increase as agencies works through longer lists.

No differences were found across families rejecting services offered. Thus, the high-volume group was not being more selective of services in comparison to the low-volume group. Again, this finding suggests that families are not choosing to seek help across different agencies/professionals because of preferences for types of services, but because of preferences for timely services.

Families with a high-volume help-seeking pattern contacted a significantly

greater number of other service sectors (i.e., general medicine, education, child welfare

and juvenile justice) than families with a low-volume pattern. Both groups, however,

contacted at least one other sector on average in addition to the mental health sector.

Thus, parents were actively seeking help from an average of two sectors. This reveals the

nature of the children's mental health system, in which services may be received in up to

five sectors. Families who were more actively seeking help from the mental health sector

were more likely to seek services from more sectors than families who were involved

with only one agency. The integration of findings from the analyses presented in chapter

2 and in this chapter will be discussed in chapter 4.

Exploring Reasons for Simultaneous vs. Sequential Agency Involvement

In study 1, described in chapter 2, it was found that families seeking help for a

child with more severe internalizing problems were more likely to be involved with

agencies simultaneously than sequentially. It was hypothesized that this finding may be a

result of intentional help seeking for different types of internalizing problems (i.e., a

parent was simultaneously involved with a community agency for help with their child's

depression and with a hospital outpatient clinic for their child's eating disorder). This

pattern may also be a result of intentional help seeking across different agencies or

professionals for different types of treatment (i.e., a day treatment program for the child's

eating disorder and individual counseling for the child's depression). The current set of

analyses examined correlates of simultaneous versus sequential agency involvement

patterns, including differential help seeking for different problems and different treatments.

<div align="center">Objectives and Research Questions</div>

1. To determine if a simultaneous versus a sequential pattern of agency involvement is system-driven.

a) *Waitlists.* Do the majority of families who have contacted multiple agencies/professionals and are currently waiting for services follow a simultaneous pattern of agency involvement? Does the length of time on a waitlist correlate with a simultaneous pattern of involvement?

b) *Private provider.* Among families on a waitlist, is there a difference in the proportion that contacted a private provider across families with a simultaneous versus sequential pattern? Among families not waiting for services, is there a difference in the proportion of families that contacted a private provider?

2. To determine if these patterns are individual-driven.

a) *Type of problem.* Among families on a waitlist, is the simultaneous involvement group contacting more service providers for the same problems? Among families not currently waiting, is the sequential involvement group contacting more service providers for the same problems?

b) *Type of service wanted.* Among families on a waitlist, is the simultaneous involvement group contacting more service providers for the same type of treatment? Among families not currently waiting, is the sequential involvement group contacting more service providers for the same type of treatment?

Hypotheses

System-driven

1. a) *Waitlists.* It was expected that the majority of high-volume help-seeking families who were currently waiting for services followed a simultaneous pattern of utilization. Families who are on a waitlist may not just sit and wait their turn. Some families will likely become involved with other agencies/professionals while they wait to obtain the help they need. It was expected that the longer a family was on a waitlist, the more likely it was that they would follow a simultaneous pattern of involvement because they would have more opportunity, over time, to accept placement on another waitlist or to accept treatment services from another agency/professional. Thus, it was expected that families with a simultaneous agency involvement pattern were more likely to be on a waitlist and to be waiting longer for services than families with sequential pattern.

b) *Private provider.* It was expected a greater proportion of families with a simultaneous pattern of involvement that were currently waiting for services contacted a private provider because families presumably wanted to obtain services sooner. Although family income was not a predictor of simultaneous agency involvement in study 1, it is possible for families to obtain private services through insurance coverage. It was expected that a greater proportion of families with a sequential pattern of utilization that were not currently waiting contacted a private provider. If a family obtained treatment services from a public provider, it is not expected that they would simultaneously use services from a private provider. Thus, families with a simultaneous agency involvement who were currently waiting were expected to contact more private providers than families with a sequential pattern who were currently waiting. Families with a sequential pattern

who were not waiting were expected to contact more private providers than families with a simultaneous pattern who were not waiting.

Individual-driven

2. a) *Type of problem.* It was expected that families with a simultaneous involvement pattern who were currently waiting for services would contact more providers for the same problem(s) than families with a sequential pattern. Presumably, families who are placed on a waiting list and continue to seek help are interested in treatment for the same problem(s) because they are searching for the timeliest services. It was hypothesized that families with a simultaneous use pattern who were not currently waiting for services would contact more service providers for different problems than families with a sequential use pattern. If parents sought help for different problems across providers within the mental health sector simultaneously, this may reflect more appropriate help seeking than if parents sought help for the same problems across different providers. Thus, families with a simultaneous pattern who were waiting for services were expected to seek help from more agencies for the same problems compared to families with a sequential pattern who were waiting. Families with a simultaneous pattern who were not waiting for services were expected to seek help from more agencies for different problems than families with a sequential pattern who were not waiting.

b) *Type of service wanted.* It was expected that a greater proportion of families with a simultaneous pattern of involvement that were waiting for services would seek the same type of service(s) across different providers than those with a sequential pattern who were waiting because presumably, families who are waiting are not receiving the services they want. If a family is not waiting for services, they might use services simultaneously

because they are receiving different services across different providers. Thus, it was expected that a greater proportion of those with a simultaneous use pattern who were not currently waiting sought different types of treatment across different providers than those with a sequential pattern who were not waiting.

Variables and Coding

Outcome Variable

 Agency involvement pattern. Among families who contacted two or more agencies/professionals, a dichotomous variable was created for each agency/professional contacted indicating either agency involvement (waiting for services or received services) or no agency involvement. Simultaneous involvement was defined as any overlapping involvement of more than one agency/professional in the previous 12 months. Figure 3.3 presents a simultaneous use pattern for ID 368. The overlap of agency involvement with dates of first and most recent contact can clearly been seen.
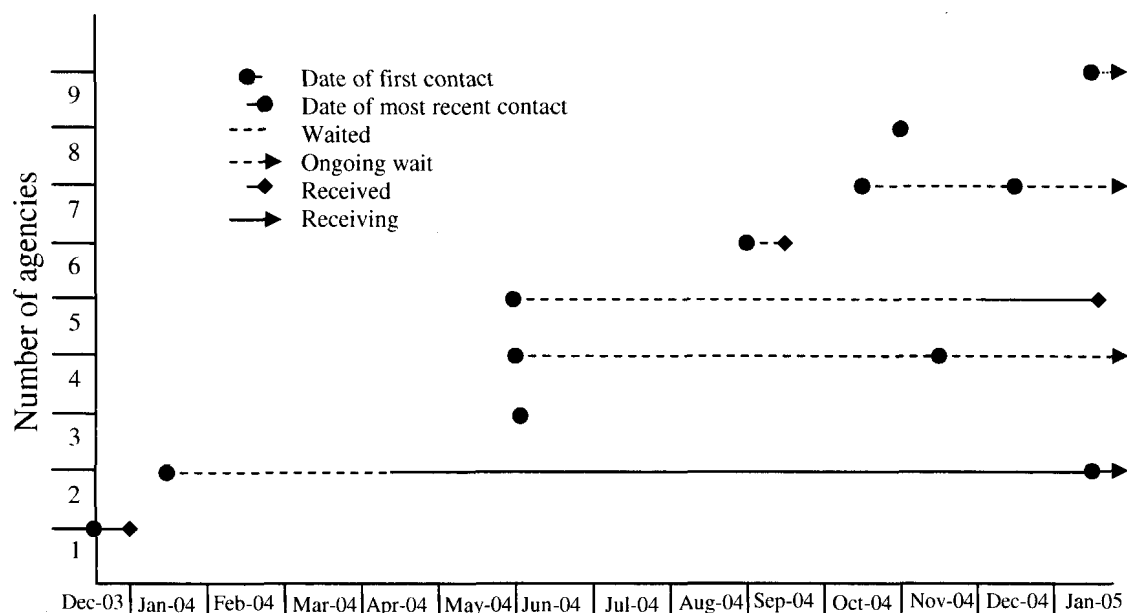
Figure 3.3. Example of a Simultaneous Agency Involvement Pattern (ID 368). This parent,

interviewed in January 2005, contacted nine agencies/professionals in the previous year. A single

dot means that the parent had a single contact with the agency/professional (agencies 3 and 8). At

the time of the interview, this family was waiting for services from three agencies/professionals

(agencies 4, 7, and 9), was receiving treatment from one agency/professional (agency 2), had

received treatment or assessment from three agencies/professionals (agencies 1, 5 and 6) and had

a single contact with two agencies (agencies 3 and 8).

Sequential involvement was defined as a pattern of non-overlapping agency

involvement in the previous 12 months (see Figure 3.4 for a case example).
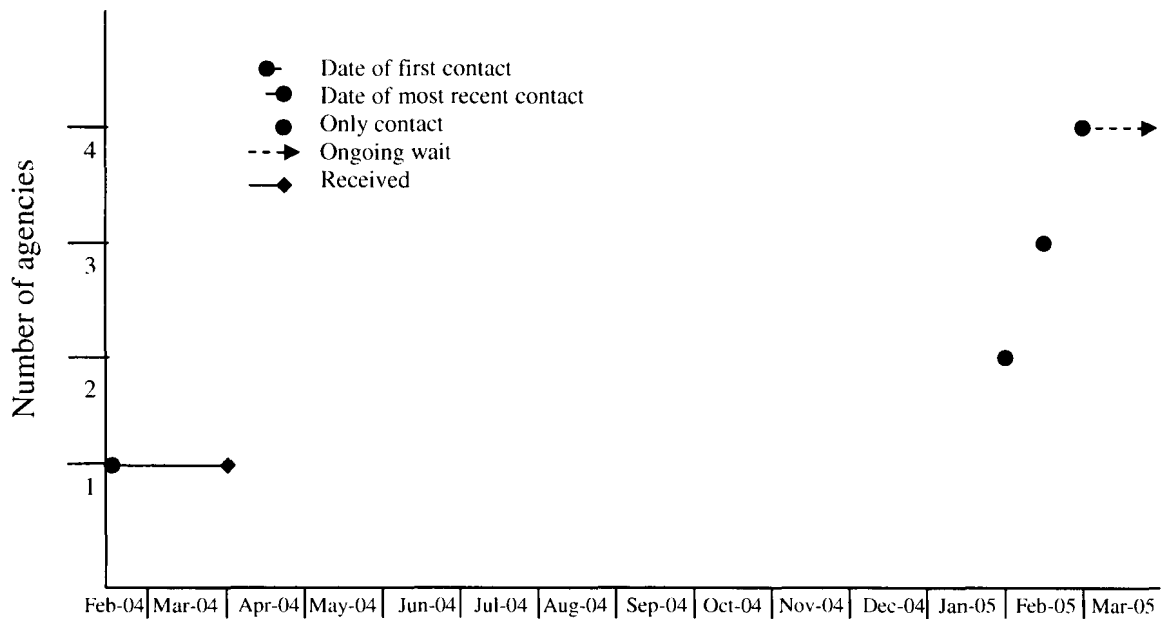
Figure 3.4. Example of a Sequential Agency Involvement Pattern (ID 447). This parent,

interviewed in March 2005, reported contacting one agency in early February 2004 and

completed treatment by early April 2004 (agency 1). The parent then contacted two agencies, one

in early February 2005 (agency 2) and one in mid-February 2005 (agency 3) but these agencies

did not offer the family any services because the family was outside of their catchment area. In

late February 2005 the parent contacted another agency and was waiting for individual counseling

services at the time of the interview (agency 4).

System-driven Variables

Waitlists. For every agency contacted, parents reported whether they were currently waiting for services. If a family was on a waitlist at any one agency, they were coded as "currently waiting." If they were not on any waitlist across agencies, they were coded as "not waiting." The length of time (in months) that a parent reported waiting was used for the variable of waiting time. If a parent was waiting at two or more agencies, the longest waiting time was used. For example, ID 368 was currently waiting for services at two locations, for 2 weeks at one location and for 6 months at the other location. Thus, the length of time (in months) that this parent was waiting was coded as 6 months.

Private provider. For every mental health location contacted, parents reported whether the provider was private (i.e., not a publicly funded or non-profit organization). If any provider contacted was private, this variable was coded as (1); otherwise it was coded as (0). For example, ID 447 did not contact any private providers, so this variable was (0). ID 368, on the other hand, contacted four private providers out of the nine contacts made, so this variable was coded as (1).

Individual-driven Variables

Problem type. Parents were interviewed about each agency (location) that they contacted in the previous year. For the first location, parents were asked to list the child problem(s) that they were trying to address; parent reports were coded into one of 30 different categories by the interviewer. For every additional location, parents were asked if they were seeking help for the same problem or for a different problem as they had been at the first location. If the problem was different, the parent was asked to list the problem(s) again. A variable was created to denote the proportion of agencies from which

parents sought help for the same problem. This variable is the parent-reported problem type. This proportion was then dichotomized into different problem(s) (0-50% of contacts for same problem), and same problems (51-100% of contacts for the same problem).

Because a parent may call two problems "different" (e.g., aggression and non-compliance) that from a clinical perspective might be part of an underlying disorder (e.g., oppositional-defiant disorder), the list of problems was examined by independent raters to determine if problems could be grouped together as the "same." Five raters from the graduate program in Clinical Psychology at the University of Western Ontario were given the list of 30 problems used to categorize parent reports of "problems" during the interview on individual cards. Raters were asked to group the cards into any groups that reflected the same problem. Raters were not given a maximum number of problems per group nor were they given a minimum number of groups. They were told that not all problems had to be grouped together. Problems were re-categorized as the same if at least three raters independently categorized the problems as the same. The following problems were regrouped as being the same: (1) Respite and childcare; (2) Sibling conflict, introduction of family member, divorce, and departure of family member; (3) Discipline, anger and aggression; (4) Lying and defiance; (5) Delinquency and school attendance; (6) Suicide threats and depression and (7) Anxiety and obsessive-compulsive behaviour. Then, any problems that a parent listed as "different" that matched any of the seven groupings were recoded as "same" for an "experimenter coded" variable of whether problems were the same or different. Appendix I presents the agreement across parent report and experimenter coding of different problems.

Services wanted. For every location contacted, parents reported the type of services that they wanted. Services included: assessment, individual counseling, group treatment, medication, day treatment, hospitalization, residential care, and others. If a parent reported wanting the same type of service across any two locations, this was coded as (1) wanted the same service across at least two locations. Otherwise, if no service wanted was the same across different locations, this was coded as (0) all services wanted different.

Data Analyses

System-driven Variables

Waitlists. A cross-tabulation was run with waiting status (currently waiting or not) and agency involvement pattern (simultaneous versus sequential). A chi-square analysis was used to compare whether parents who were currently waiting for services at any agency were more likely to follow a simultaneous versus sequential pattern of agency involvement. A *t*-test was used to compare average waiting time for families following a simultaneous versus sequential pattern of involvement.

Private provider. Chi-square analyses were used to compare the proportion of simultaneous versus sequential involvement groups that contacted a private provider, stratified by waiting status.

Individual-driven Variables

Problem type. Chi-square analyses were used to compare the simultaneous and sequential involvement groups across the proportion of agencies contacted for the same problem(s), stratified by waiting status.

Services wanted. Chi-square analyses were used to compare the simultaneous and sequential involvement groups across any same services wanted, stratified by waiting status.

Results

The two subgroups of (1) currently waiting, and (2) not waiting were used in the following analyses to take waiting into account in the comparisons across simultaneous and sequential agency involvement. Appendix H presents a subdivision of simultaneous and sequential involvement groups into the following patterns: currently waiting, currently waiting and received/receiving, and not waiting across agencies.

System-driven Variables

Waitlists. Families currently on a waitlist were more likely to have simultaneous involvement with two or more agencies/professionals than to have a sequential pattern of involvement (see Table 3.5).

Table 3.5: Comparison of Waitlist Status Across Agency Involvement Groups

| | Agency involvement pattern | | |
| | Simultaneous[a] | Sequential[b] | |
Waitlist status	% (*n*)	% (*n*)	χ^2
Currently on waitlist (*n* = 118)	66.1% (78)	33.9% (40)	12.74***
Not on waitlist (*n* = 41)	34.1% (14)	65.9% (27)	

***$p < .001$.

[a] Simultaneous refers to a pattern of overlapping agency involvement (waiting for or receiving services) in the previous year.

[b] Sequential refers to a pattern of non-overlapping agency involvement (waiting for or receiving services) in the previous year.

The simultaneous group (*M* = 2.01, *SD* = 1.56) reported a statistically longer waiting time in months, than did the sequential group (*M* = 1.57, *SD* = 1.10), $t(156.90) = 2.10$, $p = .04$ (two-tailed), suggesting that the longer a family was waiting for services, the more likely it was for them to be simultaneously involved with another agency/professional.

Private provider. Among families currently waiting for services, those who were simultaneously involved with two or more agencies/professionals were more likely to have contacted a private provider than those who were sequentially involved with agencies. Among families not waiting for services, about one-third had contacted a private provider across both groups (see Table 3.6).

Table 3.6: Comparison of Proportion of Families Contacting Any Private Provider

Agency/professional involvement pattern	Any private provider contacted		
	Yes % (n)	No % (n)	χ^2
Currently waiting (n = 118)			
Simultaneous[a] (n = 78)	42.3% (33)	57.7% (45)	8.91**
Sequential[b] (n = 40)	15.0% (6)	85.0% (34)	
Not waiting (n = 41)			
Simultaneous (n = 14)	35.7% (5)	64.3% (9)	0.02
Sequential (n = 27)	33.3% (9)	66.7% (18)	

**$p < .01$.

[a] Simultaneous refers to a pattern of overlapping agency involvement (waiting for or receiving services) in the previous year.

[b] Sequential refers to a pattern of non-overlapping agency involvement (waiting for or receiving services) in the previous year.

Individual-driven Variables

Type of problem. Contrary to expectations, there were no statistically significant differences in the proportion of agencies contacted for the same problem between the simultaneous and sequential group currently waiting for services, χ^2 (1, N = 118) = .60, *ns*; Nor were any differences found between the simultaneous and sequential group not waiting for services, χ^2 (1, N = 41) = .82, *ns*. Thus, these groups were collapsed back into simultaneous versus sequential to compare both parent-reported type of problem and experimenter-coded type of problem (see Table 3.7). Over 76% of parents contacted the

majority of agencies (over 50%) for the same problem. When these proportions were recoded according to the rater-based categories, over 83% of parents contacted the majority of agencies for the same problem. In other words, the majority of parents were contacting different agencies/professionals for the same types of problems. See Appendix I for a comparison of the agreement between parent reports and experimenter coding.

Table 3.7: Comparison of Proportion of Families Contacting Agencies/Professionals for the Same Problems

	Proportion of agencies contacted for same problem		
	Different problem(s)	Same problem(s)	
Involvement pattern	(100% different) % (n)	(51-100% same) % (n)	χ^2
Parent reported ($N = 159$)			
Simultaneous[a] ($n = 92$)	22.8% (21)	77.2% (71)	0.02
Sequential[b] ($n = 67$)	23.9% (16)	76.1% (51)	
Experimenter coded ($N = 159$)			
Simultaneous ($n = 92$)	12.0% (11)	88.0% (81)	0.65
Sequential ($n = 67$)	16.4% (11)	83.6% (56)	

[a] Simultaneous refers to a pattern of overlapping agency involvement (waiting for or receiving services) in the previous year.

[b] Sequential refers to a pattern of non-overlapping agency involvement (waiting for or receiving services) in the previous year.

Type of services wanted. Among families currently waiting for services, those who were simultaneously involved with two or more agencies were more likely to want the same treatment across agencies/professionals than families sequentially involved with two or more agencies. There was no difference across families not waiting for services (see Table 3.8).

Table 3.8: Comparison of Proportion of Families That Wanted the Same Services Across Agencies/Professionals

	Services wanted across agencies/professionals		
Involvement pattern	All different % (n)	At least one same across agencies % (n)	χ^2
Currently waiting (n = 118)			
Simultaneous[a] (n = 78)	26.9% (21)	73.1% (57)	3.91*
Sequential[b] (n = 40)	45.0% (18)	55.0% (22)	
Not waiting (n = 41)			
Simultaneous (n = 14)	28.6% (4)	71.4% (10)	0.01
Sequential (n = 27)	29.6% (8)	70.4% (19)	

**$p < .05$.

[a] Simultaneous refers to a pattern of overlapping agency involvement (waiting for or receiving services) in the previous year.

[b] Sequential refers to a pattern of non-overlapping agency involvement (waiting for or receiving services) in the previous year.

Discussion

Placement on a waitlist was associated with a pattern of simultaneous agency involvement. Thus, at the system-level, scarcity of resources was associated with a family simultaneously becoming involved (either by waiting or receiving services) with multiple agencies/professionals. The longer a family was waiting for services, the more likely they were to be involved simultaneously with other agencies/professionals. Moreover, those families who were waiting for services were more likely to become simultaneously involved with a private provider than they were to become sequentially involved with a private provider, which provides some evidence for a two-tier system in the presence of waitlists.

At the individual-level, parents were not simultaneously involved with agencies because they were seeking help for different problems. That is, most parents who had contacted multiple agencies/professionals in the previous year were calling different agencies seeking help for the same problem(s). Among families currently waiting for services, those who followed a simultaneous pattern were more likely to want the same services across agencies/professionals than families who followed a sequential pattern. Thus, a parent who was waiting for services and simultaneously on multiple agency rosters was more likely than a parent who was waiting for services and involved with agencies in a discrete, non-overlapping pattern to want the same type(s) of service(s) (i.e., family therapy, individual counseling) across different agencies. Since waitlist placement may reflect an unmet need for a type of service, it would make sense for a parent to simultaneously become involved with other agencies/professionals seeking the same service(s). No differences were found among families not waiting for services. In fact,

about 70% of families in both the simultaneous- and sequential-use groups wanted the same services across different agencies/professionals. Thus, neither seeking help for different problems nor for different services was driving families to become involved with agencies/professionals simultaneously.

Implications

This study provides evidence that parents who face long waitlists in a system without controlled access to services seek services across multiple agencies/professionals. This pattern of help seeking across multiple agencies likely increases waiting times across already over-burdened agencies in a self-perpetuating cycle. For example, if a parent calls an agency and is placed on a 6-month waitlist, and then calls another agency seeking the same services for the same problems and is placed on a 4-month waitlist and then calls a private provider and receives treatment services, this family continues to consume resources at both agencies (e.g., via staff time contacting families on waitlists) and makes the waitlists at both agencies longer. If many families seek services in this way, waitlists become longer as parents continue to seek more timely services.

Recently, Children's Mental Health Ontario has worked together with the Ministry of Child and Youth Services to develop an "Ontario Child and Youth Policy Framework" (Children's Mental Health Ontario, 2006c). Although decreasing waiting times for services is already a clear objective in Ontario's policy framework for child and youth mental health, findings from this study provide support for some form of case management or centralized intake that would (1) help families to navigate the "patchwork" of services in their area and (2) decrease the burden of families using or waiting for services across multiple agencies on the overall "system." In the currently

uncoordinated system, parents are already seeking help across different sectors. As suggested in the policy framework, inter-agency and cross-sector partnerships would help to reduce redundancies, close gaps, and provide families the help they need in an efficient manner. Development of a waiting list management system that would make it impossible to be on a waiting list across two agencies for the same treatment services [e.g., as with the joint replacement registry in Ontario (Bourne et al., 2001)] may help to reduce the average waiting time for treatment. Coordinating timely access to services may help to reduce the tendency for families who can afford it to receive services from private providers while waiting for services in the public sector. All families should have the right to timely access to services, regardless of economic condition.

Limitations

Before discussing future directions, limitations to the current set of analyses will be discussed. First, although the comparisons of waitlist status were informative, they lacked a temporal sequence. That is, it was not specified whether the agency at which parents were waiting the longest was contacted before other agencies/professionals were contacted, or whether parents received or were receiving services from other agencies/professionals and then contacted an agency that put them on a waitlist. Thus, it cannot be said that long waitlists led to multiple help-seeking or simultaneous agency involvement, but it can be said that long waitlists are associated with these patterns.

Second, this study relied on parent reports of their status (waiting for or receiving/ed services) at each agency/professional contacted as well as the length of time that they were waiting for services. Ideally, parent reports would be crosschecked for reliability with data from the agencies from which they were recruited. It would have

been extremely difficult, however, to track a parent across agencies because of confidentiality issues. Until there is a consistent method of calculating waiting times at agencies across Ontario (Schaafsma, 2006), such as with a registry, parent reports are the best source of this information.

Finally, this study focused on help-seeking and agency involvement patterns across agencies and professionals in the mental health sector and not across multiple sectors such as child welfare, justice, education, and health. Although this might seem like a simplification of the actual complexity in the system, the goal of this study was to understand reasons why a family would seek help from or become involved with multiple agencies within the same sector. Because the different service sectors have different mandates and are funded by different ministries, the current study attempted to understand how the availability and acceptability of services within the mental health sector affected how parents sought help from and became involved with different agencies and professionals over time.

Future Directions

The current analyses highlight the need for prospective lagged analyses incorporating being placed on a wait list as a predictor of (1) seeking help across different agencies/professional and across different services sectors and (2) simultaneously accepting placement on a waitlist or services from multiple agencies.

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Chapter 4: What Help-Seeking and Agency Involvement Patterns Reveal:

Summary and Implications for Ontario's Children Mental Health System

In Ontario, community mental health agencies are overburdened, and the average time on a waitlist for families is between 44 days to more than 170 days (around 5.5 months) (Children's Mental Health Ontario, 2006b) The children's mental health "system" consists of agencies and programs that appear to be poorly coordinated and redundant (Boydell et al., 2006; Shanley, Reid, & Evans, 2006). Thus, parents who attempt to get behind the helm and find appropriate help for their child's psychosocial problem(s) must attempt navigate through the children's mental health "system" without a proper map. A central reason for the disparity between the number of children in need and the number of children who receive services is that the number of children in need far exceeds the capacity of the mental health system (Federal/Provincial/Territorial Advisory Commitee on the Mental Health and Well-Being of Children and Youth, 2000). While other studies have focused on this gap between need and use of services, the current studies focused on the gap between attempting to receive services and obtaining services because the pathway between seeking and obtaining services is not linear, especially in a system with scarce resources.

Parents who are at the stage of actively seeking help for their child's psychosocial problems find themselves in a market where the demand far exceeds the supply. Families follow different patterns of seeking help in this "system," with some families "knocking" on a single agency door and others persisting in "knocking" on different agency doors. Among those "knocking" on different doors, some accept waitlists or services simultaneously across agencies and others accept waitlists or services sequentially. This

series of studies investigated (1) predisposing, need, and enabling/inhibiting factors associated with help-seeking and agency involvement patterns and (2) system-level and individual-level correlates of these patterns in the context of Ontario's children mental health care system.

Help-seeking Volume

Predisposing (e.g., demographic variables), illness (e.g., problem severity), and enabling/inhibiting factors (e.g., system capacity) were examined to determine whether it was more individual-level variables (i.e., predisposing or illness variables), or more system-level factors (i.e., enabling/inhibiting variables), or both, that predicted how families sought services within the mental health sector. Although individual-level factors such as demographic characteristics are, for the most part, immutable, they help us understand differences among families following different patterns of help seeking. Two patterns were examined: (1) low-volume, which refers to families who sought help from one agency only in the previous year and (2) high-volume, which refers to families who sought help from multiple agencies/professionals in the previous year.

The strongest predictor of high-volume help seeking in study 1, described in chapter 2, was parental history of mental health service use (which included marital counseling). This suggests that experience in obtaining services, and a lack of stigma in seeking mental health services led to persistence in seeking help across different agencies. Lower parental depression was also associated with high-volume help seeking. Perhaps parents with higher levels of depressive symptoms may have less energy to seek help for their child's psychosocial problems from multiple agencies. If a parent with more depressive symptoms is placed on a waitlist at the first agency contacted, they may

misinterpret this delay in getting timely services for their child as either "rejection" by the agency, or as a failure on their part to help their child. Such a misinterpretation may lead a parent to think that they are not capable of getting the help they want for their child, which may inhibit their efforts to seek services elsewhere.

The system-level variable of contacting an agency in an area with 10 or more agencies was associated with a high-volume pattern of help seeking. Thus, individual-level resources such as experience (i.e., parent treatment history) and energy (i.e., lack of depressive symptoms), and system-level resources (i.e., more agencies in the area) contributed to a family's persistence in contacting more than one agency.

Other individual-level and system-level factors related to specifically to services in Ontario's children's mental health system were examined in chapter 3. Individual-level factors, such as whether families rejected a greater proportion of services from agencies that offered; and system-level factors, such as whether families received a greater proportion of referrals, were offered services from a greater proportion of contacts, or waited for a longer time, were examined as correlates of a high-volume pattern of help-seeking. System-level factors are more amenable to intervention and change (Aday & Andersen, 1974; Mowbray, Lewandowski, Bybee, & Oyserman, 2004), so those factors that were associated with a high-volume pattern can be targeted to improve efficiency in obtaining services.

There was no difference across families with a high- and low-volume pattern in terms of rejecting services offered by the agencies they contacted. Thus, at the individual-level, families who contacted multiple agencies/professionals were not being selective in the services they accepted in comparison with families who contacted only one agency.

Families with a high-volume pattern were waiting for services longer, on average, than families with a low-volume pattern. This suggests that at the system-level, the longer a family has been waiting for services, the more likely it is for them to have contacted multiple agencies/professionals. In a system without centralized intake or managed care, this means that long waitlists create further burden across agencies as families seek help from multiple agencies over time. Compared to families who contacted only one agency, families who contacted multiple agencies/professionals were offered services from a smaller percentage of agencies they contacted. Nevertheless, over 85% of families with a high-volume pattern were offered services from over half of the agencies they contacted. Thus, not being offered services does not seem to explain why families sought help from multiple agencies/professionals. Families with a high-volume pattern were more likely to have contacted more service sectors. Thus, families were seeking more help from the mental health sector as well as from more other sectors without necessarily reporting more severe child problems or a higher burden of illness.

The results from both studies suggest that the two factors that seem to be driving high-volume help seeking are length of time on a waitlist and personal resources such as energy and experience and system resources such as the number of agencies in a family's area. These findings suggest that families in cities with more agencies, who have been waiting longer for services, are more likely to have contacted multiple agencies than families in regions with fewer agencies, who have not been waiting as long for services. Ironically, families who seek help across many agencies when faced with long waitlists may be contributing to the length of waitlists by placing their names on multiple waitlists and in some cases, by receiving services across multiple agencies. These families tend to

have more energy and experience seeking help, but do not have more severe child psychosocial problems. The implications of these findings are discussed below.

Agency Involvement Pattern

A simultaneous pattern of agency involvement (i.e., overlapping involvement across multiple agencies/professionals 12 months) was associated with more child internalizing problems. Families with this pattern may have been differentially seeking help for different types of problems across different agencies, which would reflect intentional involvement across multiple agencies. For example, a family may have gone to a psychologist for their child's eating disorder, and simultaneously enrolled their child in an anxiety group. On the other hand, a parent may have sought help for the same problem (i.e., depression) across a range of agencies/professionals, looking for different treatments (i.e., medication and hospitalization).

Further analyses investigated possible system-level (i.e., waitlist placement) and individual-level correlates (i.e., differential help seeking for different types of problems or different types of services) of agency involvement patterns in the context of the children's mental health service system in Ontario.

Placement on a waitlist was associated with a greater likelihood of following a simultaneous pattern of agency involvement. Moreover, the greater the length of time a family had been on a waitlist, the more likely it was for them to follow a simultaneous pattern of agency involvement. Among families who were waiting for services, those with a simultaneous pattern were more likely to have contacted a private provider than those with a sequential pattern. This finding provides some support for the idea that decreased funding and a lack of resources for services in Ontario (i.e., longer waiting

times) has created a two-tier system (Browne et al., 2001; Children's Mental Health Ontario, 2006a).

The majority of simultaneous and sequential users sought help for the same problem and for the same type of service across agencies. This finding reflects a problem with the availability of services insofar as some parents are using or waiting for redundant services for the same type of problems across agencies. A simultaneous pattern of agency involvement, which was related to long waiting times, puts further strain on the system, which can increase waiting times in a self-perpetuating cycle. From the parent's perspective however, this approach makes sense if they are attempting to seek the most timely and appropriate services for their child.

Limitations

Before considering the implications of these findings, some limitations should be considered. First, the 300 parents represent 31% of all eligible parents recruited to participate in the larger project. Compared to data from Children's Mental Health Ontario (CMHO) (Reid et al., 2006), this sample was similar in terms of marital status, family income, parent educational attainment, and level of child internalizing, externalizing & functional impairment. The mean age was similar to the CMHO sample, but the present study included more boys (Appendix B presents a table comparing characteristics of this sample with the CMHO Sample). It cannot be known, however, whether the help-seeking and agency involvement patterns from this sample were different from the patterns of the population of families seeking help from children's mental health agencies in Ontario.

Second, although placement on a waitlist and waiting time were examined as factors that differentiated families with different help-seeking and agency involvement

patterns, these analyses lacked a temporal sequence. Thus, it cannot be said that waitlists or lengthy waiting time led to a certain pattern of help-seeking or agency involvement. In order to assess the effect of having services delayed due to waitlists on help-seeking across other agencies would require a lag analysis of whether time on a waitlist increased the probability of contacting a new agency. Although understanding the effects of being placed on a waitlist was not the focus of this study, it is an important issue to explore in future research.

Implications

When families must seek services in a market with limited availability of services, those families with experience (in getting treatment for their own problems), energy (lack of depressive symptoms), and resources (agencies in their region), will be more likely to persist in knocking on other doors. At the system-level, the longer a family has been waiting, the more likely it is for them to have contacted multiple agencies/professionals. Among families who sought help from multiple agencies, those families who reported more child internalizing problems were more likely to be on multiple agency/professional rosters simultaneously. These families had waited longer on average than families who were involved with agencies/professionals sequentially. Future research should explore whether the wait for services for internalizing problems is longer on average across Ontario than for externalizing problems, given the findings of the two current sets of analyses. The majority of families who contacted multiple agencies were seeking help for the same type of problem(s) and wanted the same service(s) across agencies, suggesting that families were "shopping" for services, likely after encountering the average six-month waitlists at public agencies.

The implications of these findings are twofold. First, if parents must seek help in a market characterized by scarce resources, they should be able to access navigational tools that can reduce the time spent finding appropriate and timely services. Thus, parents will not have to "shop" for therapy by calling the "wrong" agency and wasting their own and the agency's valuable time. Ideally, a family would follow a linear path from attempting to seek appropriate services and obtaining services, without having to navigate through a "web" or "labyrinth" (Boydell et al., 2006, p. 187).

Second, the mode of service delivery should be changed so that services are more coordinated at intake. Currently, Children's Mental Health Ontario is working on a children's mental health policy that proposes integration and coordination within the mental health service sector (2006c). When resources for children's mental health are as scarce as they are in Ontario, with funding cuts affecting services across the province in the next year (Gordon, 2007), it is critical to make the most of the services that are still available to families. Improving currently available information systems such as the online Child and Youth Mental Health Services Directory (2006), which provides searchable information about each agency, can benefit families trying to navigate the system and professionals such as family physicians to help a family to manage care for their child. For example, if current programs and wait times were made available through the Child and Youth Services Directory, both families and physicians could coordinate care, thus disentangling the "web" or mapping the "labyrinth" of services and programs available across agencies. Moreover, agencies and professionals could better integrate and coordinate their services if they are able to map out the current services they offer to

one another. Such measures may help to bring Ontario closer to the goals outlined in the

policy framework for Children's Mental Health.

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Appendix A: Demographic Characteristics of Sample

Demographic characteristic	n	%
Number of males	198	66
Age of target child		
4	4	1.3
5	17	5.7
6	24	8.0
7	28	9.3
8	31	10.3
9	26	8.7
10	21	7.0
11	23	7.7
12	34	11.3
13	21	7.0
14	26	8.7
15	30	10.0
16	10	3.3
17	5	1.7
Educational attainment[a]		
Some high school or less	30	10.0
High school graduate	84	28.0
Some postsecondary	66	22.0
Postsecondary degree or diploma	88	29.3
University degree	32	10.7
Family income		
Less than $10,000	21	7.0
$10,000 to less than $20,000	46	15.3
$20,000 to less than $30,000	41	13.7
$30,000 to less than $40,000	36	12.0
$40,000 to less than $60,000	60	20.0
$60,000 to less than $80,000	52	17.3
$80,000 or greater	44	14.7
Number in urban residence	232	77.3

Note. $N = 300$.

[a] Highest level of education of parent interviewed.

Appendix B: Illness Profile Characteristics and Family Impact as Measured by the Brief

Child and Family Phone Interview (BCFPI)

Scale	Problem Severity	Percent of sample in clinical range[a]	
	M (SD)	$T \geq 65$	$T \geq 70$
Child internalizing	64.1 (13.6)	42.0	33.3
Child externalizing	69.5 (12.5)	63.3	50.3
Functional impairment	69.8 (13.7)	64.3	50.3
Parent depression	57.6 (11.1)	28.7	14.0
Impact of illness	78.9 (20.5)	72.0	67.0

Note. $N = 300$.

[a] Based on population norms.

Appendix C: Comparison of Sample Characteristics with Children's Mental Health

Ontario (CMHO) Sample

Demographic Characteristics	Study sample	CMHO
Parents		
Married/Common-law	60%	59%
Unemployed	34%	--
Looking for work	5%	--
Income		
<$40,000	47%	55%
$40,000 - $60,000	20%	19%
>$60,000	33%	26%
Education		
At most high school	38%	44%
Some post-secondary	22%	18%
College or trade school graduate	29%	27%
University graduate	11%	11%
Children		
Age (M in years)	10.9 yrs	10.5 yrs
Boys	66%	56%
Age distribution		
4 – 8 yrs	35%	31%
9 – 12 yrs	35%	35%
13 – 17 yrs	30%	34%

Appendix D: Number of Child-Serving Agencies by City Population

City Population	Number of Child-Serving Agencies[a]		
	< 10 % (n)	≥ 10 % (n)	Total % (n)
< 100,000	68.6% (120)	35.2% (44)	54.7% (164)
100,000 – 300,000	31.4% (55)	0	18.3% (55)
> 300,000	0	64.8% (81)	27.0% (81)
Total	100% (175)	100% (125)	100% (300)

[a] This did not include the number of independent professionals in an area.

Appendix E: Frequencies of Number of Agencies Contacted by Agency Involvement

Patterns

| Number of Agencies Contacted | Agency Involvement Pattern | | Total |
	Simultaneous (n = 92)	Sequential (n = 67)	(N = 300)
1	0	0	141
2	42	57	99
3	27	7	34
4	13	3	16
5	7	0	7
6	2	0	2
9	1	0	1

Appendix F: Missing Data Analyses

An SPSS missing value analysis (MVA) was run to investigate the pattern of missing data (Tabachnick & Fidell, 2001). The EM algorithm was used to input missing values in maternal education, family income, and BCFPI internalizing, externalizing, child functioning, family impact, and parental depression.

For family income, personal income was substituted if the parent reported their marital status as either never married, separated, divorced, or widowed. This resulted in 19 replacements, and 10 remaining missing values. The EM algorithm in SPSS MVA was used for imputing missing values for maternal education and family income using the following variables: maternal education, family income, respondent currently employed (1,0), and partner currently employed (1,0). Little's MCAR test shows that there is no significant deviation from a pattern of values missing completely at random, $\chi^2 (7) = 5.21, p = .63$. There is thus support for using the EM algorithm for imputation of missing values. For the 10 missing family income values, personal income values were compared with EM imputed values. In the one case in which personal income was reported as higher than the imputed family income, personal income was used instead of the imputed value.

For the remaining missing values, which were all BCFPI measures, agency BCFPIs replaced missing values where available for each family. An SPSS MVA was run using the EM algorithm for imputing missing values using all of the BCFPI subscales. Little's MCAR test was not significant, $\chi^2 (2464) = 2431.28, p = .68$, suggesting that there is no significant deviation from a pattern of values missing completely at random. All analyses used the data set with imputed values.

Appendix G: Model Performance Measures

Performance criterion	Training Sample (Bootstrap)[a]		Test Sample (Original)[b]	Optimism (Training - Test)	Estimated Performance (Original- Optimism)[c]
	Mean ± SD	95% CI (± SD)			
	Full Model of Help-Seeking Volume				
AUC	.71 ± .06	(.65, .76) *** (± .06, ± .06)	.69 (.63, .75)***	.02	.69 - .02 = .67
Nagelkerke R²	.20 ± .05		.15	.05	.10
	Full Model of Simultaneous Agency Involvement				
AUC	.72 ± .07	(.64, .81) *** (± .07, ± .06)	.66 (.58, .75)***	.06	.65 - .06 = .59
Nagelkerke R²	.21 ± .07		.11	.10	.01

***$p < .001$.

[a] 200 random bootstrap samples of size 300 were drawn from the original sample of 300 for help-seeking volume (range of unique families re-sampled was 174 to 201), and of size 159 from the original sample of 159 for agency involvement (range of unique families re-sampled was 93 to 115). The performance measures were averaged over the 200 bootstrap samples. The standard deviation of the mean AUC and of the 95% confidence interval was also calculated for the 200 bootstrap samples.

[b] The test performance uses the average of the coefficients from the bootstrap samples on the original sample of 300 (for help-seeking volume) and 159 (for agency involvement) to calculate the AUC.

[c] The estimated performance is the average difference between the training sample and test sample (optimism) subtracted from the model performance of the original index of the original sample (not bootstrapped).

Appendix H: Overall Status of Families with High-Volume Pattern across Different

Agencies/Professionals

Overall Status Across Different Agencies/Professionals				Simultaneous	Sequential	Total
Waiting (Range)	Receiving (Range)	Received (Range)	No service (Range)	% (n)	% (n)	% (n)
Waiting						
✓				19.6 (18)	0	11.3 (18)
✓			✓	4.3 (4)	35.8 (24)	17.6 (28)
Subtotal				23.9 (22)	35.8 (24)	28.9 (46)
Waiting for and receiving/ed services						
✓	✓			22.8 (21)	0	13.2 (21)
✓	✓	✓		15.2 (14)	0	8.8 (14)
✓		✓		22.8 (21)	23.9 (16)	23.3 (37)
Subtotal				60.8 (56)	23.9 (16)	45.3 (72)
Subtotal Waiting				**84.7 (78)**	**59.7 (40)**	**74.2 (118)**
Not waiting; Received/receiving services						
	✓			1.1 (1)	0	.6 (1)
	✓	✓		6.5 (6)	7.5 (5)	6.9 (11)
	✓		✓	1.1 (1)	7.5 (5)	3.8 (6)
		✓		3.3 (3)	4.5 (3)	3.8 (6)
		✓	✓	3.3 (3)	14.9 (10)	8.2 (13)
Subtotal				15.3 (14)	34.4 (23)	23.3 (37)
Not waiting; No services received						
			✓	0	6.0 (4)	2.5 (4)
Subtotal Not waiting				**15.3 (14)**	**40.4 (27)**	**25.8 (41)**
Total				100 (92)	100 (67)	100 (159)

Note. $N = 159$. ✓ = Current status at one or more agencies contacted by parents.

Appendix I: Agreement Across Parent Report and Experimenter Coding of

Same Problems

	Experimenter Coded		
Parent Reported	Different problem(s) (100% different) % (*n*)	Same problem(s) (51-100% same) % (*n*)	Total % (*n*)
Different problem(s) (100% different)	13.8% (22)	9.4% (15)	23.3% (37)
Same problem(s) (51-100% same)	0	76.7% (122)	76.7% (122)
Total	13.8% (22)	86.2% (137)	100% (159)

Appendix J: Ethics Approval

Office of Research Ethics

The University of Western Ontario
Room 00045 Dental Sciences Building, London, ON, Canada N6A 5C1
Telephone: (519) 661-3036 Fax: (519) 850-2466 Email: ethics@uwo.ca
Website: www.uwo.ca/research/ethics

Use of Human Subjects - Ethics Approval Notice

Principal Investigator: Dr. G.J. Reid
Review Number: 09745E
Revision Number:
Protocol Title: Help–I Need Somebody: The Experiences of families seeking treatment for children with psychosocial problems
Department and Institution: Psychology, University of Western Ontario
Sponsor:
Approval Date: 03-Jul-03
End Date: 30-Sep-06
Documents Reviewed and Approved: UWO Protocol, Letters of information & Consent Forms (dated June 18, 2003), Telephone Scripts
Documents Received for Information:

This is to notify you that the University of Western Ontario Research Ethics Board for Health Sciences Research Involving Human Subjects (HSREB) which is organized and operates according to the Tri-Council Policy Statement and the Health Canada/ICH Good Clinical Practice Practices: Consolidated Guidelines; and the applicable laws and regulations of Ontario has received and granted expedited approval to the above named research study on the date noted above. The membership of this REB also complies with the membership requirements for REB's as defined in Division 5 of the Food and Drug Regulations.

This approval shall remain valid until end date noted above assuming timely and acceptable responses to the HSREB's periodic requests for surveillance and monitoring information. If you require an updated approval notice prior to that time you must request it using the UWO Updated Approval Request Form.

During the course of the research, no deviations from, or changes to, the protocol or consent form may be initiated without prior written approval from the HSREB except when necessary to eliminate immediate hazards to the subject or when the change(s) involve only logistical or administrative aspects of the study (e.g. change of monitor, telephone number). Expedited review of minor change(s) in ongoing studies will be considered. Subjects must receive a copy of the signed information/consent documentation.

Investigators must promptly also report to the HSREB:
a) changes increasing the risk to the participant(s) and/or affecting significantly the conduct of the study;
b) all adverse and unexpected experiences or events that are both serious and unexpected;
c) new information that may adversely affect the safety of the subjects or the conduct of the study.

If these changes/adverse events require a change to the information/consent documentation, and/or recruitment advertisement, the newly revised information/consent documentation, and/or advertisement, must be submitted to this office for approval.

Members of the HSREB who are named as investigators in research studies, or declare a conflict of interset, do not participate in discussion related to, nor vote on, such studies when they are presented to the HSREB.

Chair of HSREB (Expedited): Dr. Paul Harding

ed)

Faxed: Y/N
Date: July 4/c3