ORGANIZATIONAL CULTURE AND MENTAL HEALTH SERVICE ENGAGEMENT OF TRANSITION AGE YOUTH: SERVICE PROVIDER PERSPECTIVES

By

HYUNSOO KIM

Submitted in partial fulfillment for the requirements for the degree of Doctoral Philosophy

Dissertation Advisor: Elizabeth M. Tracy, Ph.D.

Mandel School of Applied Social Sciences
CASE WESTERN RESERVE UNIVERSITY

May 2012
We hereby approve the thesis/dissertation of

HyunSoo Kim

Candidate of the Ph.D degree*

(signed) Elizabeth M. Tracy, PhD
(Chair of the committee)

David E. Biegel, PhD

Meeyoung O. Min, PhD

Michelle R. Munson, PhD

(date) November 21, 2011

*We also certify that written approval has been obtained for any proprietary material contained therein.
This work is dedicated to my parents, Jeung-Hee Park and Jin-Tark Kim, my first teachers. Thank you for teaching me the importance of passion, perseverance, and seeing the silver lining in every cloud.
TABLE OF CONTENTS

CHAPTER 1 – INTRODUCTION

<table>
<thead>
<tr>
<th>Background and Significance</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Rationale for the Study</td>
<td>15</td>
</tr>
<tr>
<td>Transition Age Youth (TAY)</td>
<td>15</td>
</tr>
<tr>
<td>TAY and mental health problems</td>
<td>16</td>
</tr>
<tr>
<td>TAY and mental health service use</td>
<td>17</td>
</tr>
<tr>
<td>TAY and mental health service engagement</td>
<td>19</td>
</tr>
<tr>
<td>The concept of engagement</td>
<td>20</td>
</tr>
<tr>
<td>Purpose of the Study</td>
<td>23</td>
</tr>
</tbody>
</table>

CHAPTER 2 – LITERATURE REVIEW

| The Historical Development of Theory related to Engagement | 25 |
| Client individual level approaches                        | 25 |
| Family level approaches                                   | 27 |
| The Theoretical and Conceptual Literature Relevant to TAY Engagement | 29 |
| Multiple level approaches                                 | 30 |
| Gateway Provider Model                                    | 30 |
| Socio-technical theory                                    | 31 |
| Organizational culture theory                             | 32 |
| Role of Organizational Culture in Mental Health Service System | 33 |
| Organizational culture on the delivery of mental health services | 33 |
| Organizational culture                                    | 35 |
Studies of organizational culture.................................................................36

The Empirical Support for Theoretical Base of Engagement.........................38

Intervention studies for increasing mental health service engagement............38

Individual level interventions.................................................................39

Multiple level interventions...................................................................40

Factors related to mental health service engagement..................................42

Client factors.........................................................................................43

Service provider factors.........................................................................44

Limitations of existing studies.................................................................50

Conceptual Framework for the Study.......................................................52

Integration of the theories and knowledge................................................52

Addressing the knowledge gaps in service engagement.............................56

Constructs and conceptual framework of service engagement of TAY...........57

Aims of the Study...................................................................................60

CHAPTER 3 – METHODOLOGY

Research Questions and Hypotheses.........................................................62

Research Design and Sampling................................................................67

In/exclusion criteria for organizations.......................................................68

In/exclusion criteria for practitioners.......................................................68

Sampling and power consideration.........................................................69

Human Subjects.....................................................................................69

Measurement........................................................................................70

Operationalization of key concepts.........................................................70
CHAPTER 4 – RESULTS

Preliminary Analysis

Socio-demographic characteristics

Characteristics of professional practice

Organization characteristics

Organizational culture

Within-group interrater agreement ($r_{wg}$)

Between-group intraclass correlation coefficient (ICC)

Service engagement

Correlational analysis

Multicollinearity test and centering decisions

Hypothesis Testing

Hierarchical linear modeling (HLM)

Unconditional model (one-way analysis of variance)

Random-coefficient regression model
CHAPTER 5 – DISCUSSION

Relationship between Practitioner Characteristics and Service Engagement

Relationship between Organization Characteristics and Service Engagement

Cross-Level Moderation Relationship on Service Engagement

Practitioners Perspectives on Service Engagement of TAY

Contribution of this Research

Limitations of the Study

Measurement limitations

Generalizability of results

Implications of the Study

Implications for policy

Implications for social work practice

Implications for organization management and administration

Considerations for Future Research

Conclusion

References
APPENDICES

Appendix A: Recruitment………………………………………………………………162

  Appendix A.1: Recruitment script for agency directors……………………………162
  Appendix A.2: Sample letter of cooperation………………………………………..164
  Appendix A.3: Letter to prospective participants……………………………………165
  Appendix A.4: Introductory letter to potential participants…………………………166
  Appendix A.5: Informed consent document………………………………………...167

Appendix B: Survey Questionnaire………………………………………………………169
LIST OF TABLES

Table 1. Summary of interventions on client engagement..............................42
Table 2. Summary of studies of service provider level factors on client performance.....49
Table 3. Variables, operational definition, measures, and levels of measurement........78
Table 4. Socio-demographic characteristics of practitioners.................................93
Table 5. Characteristics of professional practice...........................................97
Table 6. Organization characteristics..........................................................100
Table 7. Descriptive statistics and reliability of OCMH subscales..........................102
Table 8. Within-group interrater agreement ($r_{wg}$) of OCMH subscales................104
Table 9. ICC(1), ICC(2), and eta squared of OCMH subscales............................106
Table 10. Service engagement total and subscales scores................................108
Table 11. Correlation of variables.............................................................112
Table 12. Unconditional model for within-and between group variance...................115
Table 13. Random-coefficient model for hypotheses 1 and 2...............................118
Table 14. Intercepts-as-outcomes model for hypotheses 3 and 4............................122
Table 15. Slopes-as-outcomes model for hypotheses 5....................................126
Table 16. Summary of hypotheses testing results...........................................130
LIST OF FIGURES

Figure 1. Conceptual model of service engagement based on ecological perspective…..60

Figure 2. Hypothesis testing model………………………………………………………67
Acknowledgements

This dissertation project was funded by Ohio Department of Mental Health, under grant number ODMH 10.1260.

During these three and a half years of my doctoral program, there were so many supportive and/or knowledgeable individuals that guided me along my path that I am indebted to many for reaching this milestone. I feel deeply humbled and grateful for the enormous support that I have received throughout this entire process. I could not have asked for a better graduate school experience, or to be surrounded by more wonderful people.

First and foremost I would like to thank my advisor Dr. Elizabeth Tracy. I cannot adequately express my thanks for her help. Without her countless hours of reflecting, reading, encouraging, and most of all patience throughout the entire process, this dissertation could not have been completed. I want to give thanks to Dr. David Biegel for taking the time to provide support and direction when I needed it most, and I am thankful for the opportunity to have him on my committee. I would also like to thank my other committee, Dr. Meeyoung Min for the countless hours spent in her office making me a better researcher and this a better project. I am humbled by the patience and dedication that she has shown. Also, I would like to express my appreciation to Dr. Michelle Munson. From day one in the program, she pushed me to think deeper about my work and how my study could be practically applied to help those in need. Thank you for staying in my committee despite accepting a new position in another university. Staying on my committee has meant a great deal to me.
Many thanks go to Amy Roberts, Marji Edguer, Jung-Eun Kim my fellow cohort members, who have been dear friends and colleagues. The coffee and lunch meetings were a great help toward staying sane. I have really enjoyed traveling this journey with them. I would like to thank Seok-Joo, my best friend and colleague, for his support and valuable friendship throughout the entire life. My former office mates, Susie Smalling, Jenni Bartholomew, and Julia Noveske, thanks for all the help over the years. I wish also to thank Women’s Network Project team. It was great knowing and working with such a nice group of people. I am also appreciative of my fellow graduate students who shared their experiences and extended their friendship; in particular, I would like to acknowledge Karen Ishler, Ching-Wen Chang, Louis Weigele, and Anne Roma.

There are many great people I have had the opportunity to work with during my period of study, and I was fortunate to have been taught by such outstanding teachers both in and out of the classroom. I want to say thanks to Dr. Aloen Townsend, Dr. Mark Singer, Dr. David Crampton, and Dr. David Miller for their invaluable support of my efforts. I would also like to thank Helen Menke for always having a smiling face, a brilliant idea and a kind word whenever I came for questions. I give many thanks to the Alcohol, Drug Addition & Mental Health Services Board of Cuyahoga County, John Garrity and Thomas Williams for their support of this work. I want to thank the participants involved in this study, especially organization directors and practitioners. It goes without saying that without their invaluable experiences and willingness to share them with me, I would not have been able to conduct this study. I have gained so much from their experiences, input, and candid responses.
The most important thanks go to my loving wife, Heesun Kim, who agreed from day one to take this journey with me without question, I am eternally grateful. I am blessed to have a woman that has faith in me and believes in me. I am also so very thankful God blessed me with a partner that is a dedicated mother because this journey began as a family of two and ended as a family of four with our beautiful babies, Aiden Useong and Jiu. You are the most beautiful babies and you both have always been my motivation and inspiration - love you!
## LIST OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAC</td>
<td>Empowerment, Avoidance, &amp; Control</td>
</tr>
<tr>
<td>EM</td>
<td>Expectation-Maximization</td>
</tr>
<tr>
<td>HBM</td>
<td>Health Belief Model</td>
</tr>
<tr>
<td>HLM</td>
<td>Hierarchical Linear Modeling</td>
</tr>
<tr>
<td>ICC</td>
<td>Intraclass Correlation Coefficient</td>
</tr>
<tr>
<td>IPT-B</td>
<td>Interpersonal Psychotherapy-Brief version</td>
</tr>
<tr>
<td>MCAR</td>
<td>Missing Completely At Random</td>
</tr>
<tr>
<td>MVA</td>
<td>Missing Values Analysis</td>
</tr>
<tr>
<td>OCMH</td>
<td>Organizational Culture in Mental Health</td>
</tr>
<tr>
<td>OD</td>
<td>Optimal Design</td>
</tr>
<tr>
<td>OE</td>
<td>Climate: Organization Environment</td>
</tr>
<tr>
<td>PST</td>
<td>Professional Support &amp; Trust</td>
</tr>
<tr>
<td>PV</td>
<td>Professional Values</td>
</tr>
<tr>
<td>SES</td>
<td>Service Engagement Scale</td>
</tr>
<tr>
<td>TAY</td>
<td>Transition Age Youth</td>
</tr>
<tr>
<td>TPB</td>
<td>Theory of Planned Behavior</td>
</tr>
<tr>
<td>TRA</td>
<td>Theory of Reasoned Action</td>
</tr>
<tr>
<td>VIF</td>
<td>Variance Inflation Factor</td>
</tr>
</tbody>
</table>
Organizational Culture and Mental Health Service Engagement of Transition Age Youth: Service Provider Perspectives

Abstract

by

HYUNSOO KIM

Despite two decades of significant advancements in the development of psychotherapeutic and pharmacological approaches for children and adolescents with mental health problems, the most difficult problem continues to be engagement. However, there is a dearth of research examining factors beyond individual and family level factors. This study addresses this gap by honing in on the organizational level factors to further understand engagement of transition age youth. Engagement in services among transition age youth is particularly precarious, as they are less influenced by their guardians. Ecological perspective posits that there are multiple barriers to service engagement that exist on varying levels of the ecosystem. Building on the Gateway Provider Model, socio-technical theory, and organizational culture theory, the specific aims of this study are 1) to explore how practitioner-level characteristics (a. socio-demographic characteristics, b. professional characteristics) are related to youth service engagement; 2) to explore how organization-level characteristics (a. organization characteristics, b. organizational culture) are related to youth service engagement; and 3) to explore the moderating role of organizational culture on practitioner-level characteristics that affect youth service engagement.
A cross-sectional survey research design was used to address the research questions. The data was collected from 279 practitioners from 27 mental health service organizations which represent three major metropolitan areas (Cleveland, Columbus, Cincinnati) in Ohio. Hierarchical linear modeling (HLM) was used to address a nested (clustered) structure. Findings from the study revealed that a practitioner who had lower case loads and lower concerns of service barriers, and provided more service provision perceived higher level of service engagement. None of the practitioner demographic predictors had a significant effect on perceived service engagement. The practitioners who provided service to the urban population and worked at a mental health clinic setting (vs. outreach setting) perceived a higher level of service engagement. In an organization where the level of professional support and trust was higher and concerns in hierarchy problems were fewer, practitioners perceived that their transition age youth (TAY) clients were more engaged in mental health services. In addition, there were cross-level interaction effects between the practitioners’ professional characteristics and organizational culture. That is, in an organization which has a higher level of professional values, the relationship between more frequent coordination with other organizations and service engagement became stronger. Also, the fact that practitioners who perceive more controls of hierarchy in the organization and have a stronger relationship between resource knowledge and service engagement supports the conclusion that resource knowledge is a better predictor of service engagement in the organization with more hierarchical control. These findings are critical for policy makers, practitioners, administrators, and other allied human service professionals who are responsible for working across systems with youth in transition.
CHAPTER 1

This chapter will present the problem statement and the rationale for this study of transition age youth with mental illnesses. The prevalence of mental illness among transition age youth and mental health service engagement outcomes will be addressed. Finally, the purpose of this study will be discussed.

INTRODUCTION

Background and Significance

Maintaining client engagement in the mental health service system has been a long standing concern for mental health professionals, particularly service providers (Cunningham & Henggeler, 1999; Manfred-Gilham, Sales, & Koeske, 2002; McKay & Bannon, 2004). Engagement in services among transition age youth (TAY – herein defined as those between 18 and 30), may be particularly precarious, as they are no longer accompanied by their parents or guardians to all appointments. Clients’ dropping out of care is considered a significant obstacle to effective service delivery and it impacts both the efficacy and outcomes of treatment (Baydar, Reid, & Webster-Stratton, 2003; Meyers, Miller, Smith, & Tonigan, 2002; Nye, Zucker, & Fitzgerald, 1999). The annual cost of treating mental health disorders for children and adolescents is estimated at over $12 billion (Roland et al., 2001) – a problem that the U.S. health care system cannot afford to ignore. Clients will not improve from treatment if they are not fully engaged in the process, because (dis)engagement in treatment is directly related to outcomes (Staudt, 2007).

Despite two decades of significant advancements in the development of psychotherapeutic and pharmacological approaches for children and adolescents with
mental health problems, the most difficult problem continues to be engagement (Kazdin, 2004). There is, however, a dearth of research examining factors beyond individual and family level factors. That is, most engagement research has focused on client characteristics (e.g., demographic, diagnostic characteristics), while there has been little attention paid to the role of the service provider (e.g., practitioner\(^1\), organization) in client engagement. Therefore, it is important to explore the role that practitioners and organizations play in mental health service engagement among TAY. This study addresses this gap by honing in on the service provider level factors to further understand engagement. In particular, this study explored service practitioner and organization level factors that are associated with the TAY level of mental health service engagement, including the role of organizational culture.

The Rationale for the Study

Transition Age Youth (TAY)

The transition period from adolescence to adulthood proves a critical time in development. In terms of normative development, emerging adulthood has some features that distinguish it from young adulthood, such as the age of identity explorations, the age of instability, the self-focused age, the age of feeling in between, and the age of possibilities (Arnett, 2000). Of a total (civilian, non-institutionalized) U.S. population of more than 291 million in 2005, there were 67.3 million (almost one fourth of the national total) transition age youths between the ages of 18 and 34. They were born between middle of 1970 and late of 1980 and there are slightly more males than females in these age groups. Among the transition age youths, almost 61% were whites, three fourths

\(^1\) Practitioners refers to helping professionals employed by mental health and social service agencies, including social workers, therapists, psychologists, psychiatrists, case managers, counselors, and caseworkers
(73%) were no longer living with their parents, and half (51%) of all youths had never married (Rumbaut & Komaie, 2007)

Researchers use differing age groups to describe the transition period – starting from 12 years up to 35 years with great boundary variations in, and/or differing developmental markers for, onset and termination. For example, some researchers limited TAY period to 18 - 34, broken down for three age groups – 18-24 (early transition), 25-29 (middle transition), and 30-34 (late transition) (Rumbaut & Komaie, 2007). Some characterize the period as beginning with puberty and ending with acceptance of the responsibilities of early adulthood (Vander Stoep, Davis, & Collins, 2000; Karpur, Clark, Caproni, & Sterner, 2005). Others may delineate it according to institutional criteria such as the legal age of independence (typically age 18) marking onset and the institutional end of services (typically age 22) as the end point (Davis, 2003). Generally, the literature focuses on the period from around age 18 to age 30 (Munson, Scott, & Kim, 2010), and this study defines the transition period with this age range.

**TAY and mental health problems**

TAY must navigate the emotional aspects of new adulthood and shifting social roles (Schulenberg, Sameroff, & Cicchetti, 2004) while also attending to the concrete life needs associated with increased independence (Patel, Fisher, Hetrick, & McGorry, 2007). Even for the most healthy young adults, this can be a stressful time full of uncertainty (Arnett, 2000). These issues are compounded when TAY must also deal with mental health problems (Davis, 2003; Karpur et al., 2005; Manteuffel, Stephens, Sondheimer & Fisher, 2008; Schulenberg, Sameroff, & Cicchetti, 2004). TAY with mental health issues
tend to have additional health and developmental concerns including significant barriers in housing, employment and health. These youth often further struggle with education, violence and reproductive or other health issues (Patel et al., 2007; Vander Stoep et al., 2000). Specifically, adolescents with psychiatric disorders are six times less likely to complete high school, over three times less likely to engage in gainful activity and twice as likely to be involved in criminal activity (Vander Stoep et al., 2000). These youth may also be at higher risk for mortality due to suicide (Mantueffel et al., 2008; Patel et al., 2007). Often, the risk of poor outcomes among TAY with mental health problems is exacerbated by higher rates of co-occurring substance use disorders among this population than among any other age group with mental health challenges (Davis & Vander Stoep, 1997). Obviously, the unique mental health service needs of TAY extend beyond those of children and younger adolescents and differ from those of adults (Mantueffel et al., 2008), since TAY frequently encounter a loss of services as they age out of child-serving systems, severance of relationships with trusted providers who can no longer be accessed, and difficulty obtaining developmentally appropriate services in adult systems (Davis, 2003).

**TAY and mental health service use**

In the U.S., at least one in five transition age youths suffers from some form of mental disorder, and the Government Accountability Office report (2008) indicates that one out of 10 transition age youths aged 18-26 suffers with serious mental illness (e.g., Attention-deficit/hyperactivity disorder, schizophrenia, conduct disorder, bipolar disorder, and major depressive disorder, etc.). Nationally representative epidemiological data from the National Comorbidity Survey Replication (NCS-R, 2005) indicated that
almost half of the population (46.4%) aged 18 years and older experience at least one psychiatric disorder in their lifetime, and two-thirds of them suffer from an adult-type mental disorder (including psychosis, substance use, mood and anxiety disorders) in a given year (Kessler, Berglund, Demler, Jin, & Walters, 2005). Furthermore, 70% of mental disorders have onset prior to the age of 25 (Kim-Cohen et al., 2002). This makes the issue of youth mental health critical within the community and its effective management an urgent priority for mental health service providers. Taken together, it appears that young adulthood is a period of heightened risk for the onset of new disorders, as well as for the development of co-occurring disorders among those with pre-existing problems (Pottick, Bilder, Vander Stoep, Warner, & Alvarez, 2008).

Despite such high levels of need, young people cannot access mental health services easily (Taylor, Stuttaford, & Vostanis, 2007). Specifically, almost 50% of TAY who meet diagnostic criteria (Kessler, Avenevoli, & Ries Merikangas, 2001) do not receive needed mental health services (Cheung & Dewa, 2007). Davis (2003) suggests that up to 3 million TAY, including those in foster care and homeless youth, suffer from a diagnosable mental illness with only 30% ever receiving services. Service gaps for transition age youths prove pervasive and particularly so for the youths with mental health issues. According to a survey completed in the early 2000’s, 50% of public adult mental health services and 26% of child services in the U.S. did not include any transition services for young adults (Davis, 2003). A national survey of over 8000 TAY with either severe emotional disturbances and/or severe and persistent mental illness indicates that only 10% of 16-17 year olds received transition services between 1997 - 2006 (Mantueffel et al., 2008). None of the key transition age services (e.g., housing
assistance, education support) studied was offered in more than 30% of states nationwide and many states offered services at only one site for the entire state. Finally, only 10% of states offered mental health services specifically for transition age youths with mental illness (Davis, Geller, & Hunt, 2006).

**TAY and mental health service engagement**

An alarming result in the utilization of the mental health service process is that even when TAY do use mental health services, the majority of those who enter outpatient treatment drop out quickly or make only a small number of visits to their providers (Harpaz-Rotem, Leslie, & Rosenheck, 2004). Even though a small portion of TAY received needed mental health services, the serious problem is that many of them often face a variety of barriers to attending appointments, and moreover, they are likely to lack awareness or understanding regarding their need for continued treatment (Kim, Munson, & McKay, under review). In fact 40% to 60% of children and adolescents who receive treatment terminate it prematurely (Kazdin, Holland, & Crowley, 1997; USDHHS, 1999). In the Olfson study (2009), estimates regarding premature treatment termination range from 22% to 32%. Specifically, attrition rates in initial intake appointment can range from 48% to 62% of youth accepted for an evaluation (Harrison, McKay, & Bannon, 2004). Furthermore, with respect to ongoing service engagement, estimates of average length of care have been documented as low as four sessions of service, or rates of as few as 9% of youth remaining in care after a 3-month period (McKay & Bannon, 2004). Across the population of youth and transition age youths, high drop-out rates exist in various service settings and treatment stages, and client engagement is an essential yet
challenging component in effective mental health service delivery (Thompson et al., 2007).

Client disengagement is considered a significant obstacle that impacts both the outcomes and efficacy of treatment. Disengagement can negatively influence mental health outcome because clients entering treatment do not receive an adequate dose of treatment or related services such that the likelihood of obtaining the desired improvement is limited. In regard to efficacy, client disengagement wastes staff time and mental health resources, denies access to others in need, and limits the number of people an agency or practice can serve (Barrett et al. 2009). On the other hand, higher session attendance predicts better outcomes (Morral, Belding, & Iguchi, 1999; Rowan-Szal, Joe, & Simpson, 2000). Engaged clients are more likely to bond with practitioners, participate to a greater degree, stay in treatment longer, give their support to treatment goals, and report higher levels of satisfaction (Thompson et al., 2007). Thus, it is apparent that clients will not improve from treatment if they are not fully engaged in the process.

The concept of engagement

The review of literature revealed that while the terms “engagement” and “disengagement” are commonly used when discussing the complex relationship between people with mental health problems and the services providing for them, these are widely defined with little consistency (Kim, Munson, & McKay, under review). Service engagement and other terms (e.g., attendance, adherence, retention, attrition, maintain service, drop-out, premature termination, therapeutic alliance, and compliance) appear interchangeably in the literature (Kim, Munson, & McKay, under review). For example, Hall et al (2001) describes engagement as adherence to treatment in terms of remaining in
contact with services, collaborative involvement in treatment and openness about difficulties. Session attendance, clients keeping appointments, and staying in treatment is often used as proxy terms for engagement (Littell, Alexander, & Reynolds, 2001). Although, many researchers have used the concept of engagement as a discrete dichotomous entities (e.g., attend vs. not attend), recently some others conceptualize engagement as a process. For example, the term engagement refers to the early stage of activities with clients, whether the emphasis is on cooperation during sessions (Prinz & Miller, 1991), emotional involvement in sessions and progress toward goals (Cunningham & Henggeler, 1999), or some other aspect of the help-seeking process (Kim, Munson, & McKay, under review). Moreover, some definitions of engagement operationalize it as the alliance or include the therapeutic alliance as one of its components (Dearing, Barrick, Dermen, & Walitzer, 2005).

More recently, researchers have suggested more precise conceptualization of service engagement, capturing different dimensions on the continuum of engagement discussed above. For example, McKay and colleagues point out that mental health service engagement has been divided into two specific steps: initial attendance and ongoing engagement (McKay et al., 1998). Within the past decade, researchers have mostly focused on the initial treatment phase as engagement. The rationale for this focus is that without early engagement, clients are likely to dropout without hope of treatment benefit and the promise of a positive helping relationship. However, McKay and Bannon (2004) suggest that although the initial phase of treatment is considerably important to engagement, it cannot be assumed that once a client has been engaged in the early stage, the client will be engaged to treatment completion. Each step is considered related to
each other, but each one also appears as a distinct construct being independently related to characteristics of the client, the family, and the service system (McKay et al., 1998; McKay & Bannon, 2004; Kim, Munson, & McKay, under review).

Yatchmenoff (2005) has moved thinking forward regarding engagement by reviewing the extant literature on engagement in social work and developing a measure that can be utilized to examine engagement in social services. Yatchmenoff addresses that compliant behaviors may or may not signify meaningful involvement in the helping process, particularly with respect to nonvoluntary clients, such as those in the child welfare arena or youth in the court ordered juvenile justice system. Clients may keep appointments for many different reasons, but this does not necessarily mean that they are engaged in the therapeutic enterprise. Finally, the dimensions of engagement developed by Yatchmenoff expands social work and allied profession’s thinking to consider the sub-dimensions of: (a) receptivity (openness to receiving help), (b) buy-in (the perception of benefit and commitment to helping process), (c) the working relationship, and (d) level of trust/mistrust in providers/services (Yatchmenoff, 2005; Kim, Munson, & McKay, under review).

Furthermore, Staudt’s (2007) has moved thinking forward regarding engagement in services among children and families, for example, articulating that engagement is an ongoing process that is dynamic and does not remain the same throughout the treatment process. Staudt disentangled treatment engagement with two components: behavioral and attitudinal. The differentiating two primary components of engagement are useful in thinking about how engagement is something more than just making an appointment, a behavior, but that it is also about what one believes about treatment and whether one is
invested in treatment, which is more attitudinal (Kim, Munson, & McKay, under review). Furthermore, Staudt criticized that session attendance and other treatment behaviors are not so much indicators of engagement, and the attitudinal component of engagement is the crucial aspect to measure engagement, because the attitudinal component is necessary to clients’ meaningful behavioral participation in treatment.

Together, using client engagement rather than other terms as the overarching construct provides a conceptual framework that combines behavioral and quality dimensions, including both level and phase of engagement. Considering the definitions mentioned above, this study suggests that engagement is a necessary process for developing and maintaining positive involvement in terms of the level of client availability for treatment, collaboration, help seeking behaviors, and treatment adherence (Littell, Alexander, & Reynolds, 2001; Reid, 1996; Yatchmenoff, 2005; McKay, 1998).

**Purpose of the Study**

Fewer research studies have examined predictors of service engagement for TAY with mental illnesses. Moreover, there is a dearth of research examining factors beyond individual and family level factors. The present study tried to fill this gap by investigating the effects of service provider level predictors on the service engagement of TAY. Therefore, the objective of this research was to explore the relationship between practitioner and organization level predictors and TAYs’ engagement in mental health services. In particular, this study explored how organizational culture influences transition age youth service engagement. It is believed that in addition to affecting service engagement directly, organizational culture moderates the relationship between practitioner level predictors (e.g., professional characteristics) and service engagement,
strengthening the impact of practitioner level predictors on service engagement. This study was unique in that it treats practitioner perspectives as the unit of analysis. Although a great deal has been written about client characteristics to service retention, few studies have examined the issue from the practitioners’ perspective. Therefore, this investigation of professional and organizational variables, beyond adding insight into service engagement, may suggest new engagement models that might increase level of service engagement. The literature review in the next chapter will critically explore the theoretical and empirical status of mental health service engagement among TAY underpinning the aims of this study.
CHAPTER 2

This chapter will review the major theoretical literature pertaining to mental health service engagement of TAY, including the Gateway Provider Model, socio-technical theory, and organizational culture theory. Empirical evidence for understanding service engagement of TAY will be presented. Gaps in previous research will be identified and the conceptual model for this study will be illustrated. Finally, specific aims of this study will be discussed.

LITERATURE REVIEW

The Historical Development of Theory related to Engagement

Client engagement has been a central topic in social work literature since the 1950s (Staudt, 2003). For more than three decades, considerable attention has been given to how professionals might successfully engage clients in the helping process including nonvoluntary or reluctant clients who are recognized to be more difficult to engage (Yatchmenoff, 2005). Previous research, with few exceptions, incorporates social psychological theories to service utilization. In these studies, client individual and family level theoretical models were commonly utilized to investigate client engagement in mental health services.

Client individual level approaches

According to Behavior Modification (Bandura, 1969), known as a branch of learning theory, behaviors may or may not occur as a function of either performance or skill deficits (Elder, Ayala, & Harris, 1999). Many studies related to service engagement were based, at least in part, on a Behavior Modification approach, particularly on “performance deficits.” Performance deficits specify that the person knows how to
perform a given behavior but chooses not to engage in the behavior because there are restricted positive consequences for doing the targeted actions (e.g., keeping appointments for therapy sessions) (Elder, Ayala, & Harris, 1999). Reinforcement from provider for health behavior change is generally viewed positively and is likely to lead to individual health-behavior change.

The Health Belief Model (HBM, Rosenstock, 1974) proposes that health behavior depends on both a function of an individual’s perceptions of his/her vulnerability to an illness and his/her judgment of the perceived potential risk, barriers, or effectiveness of treatment with respect to deciding whether to seek medical attention (Elder, Ayala, & Harris, 1999). Within the framework of health behavior theories, a reduction of environmental barriers is linked to behavior change (Rosenstock, 1974). These barriers could be either physical or psychological. Provision of financial incentives to not miss appointments and reduction of logistical barriers to attending appointments provide a strong link between environmental barriers and individual health behaviors (e.g., service engagement). This section focuses on theory, followed by a review of intervention studies.

Fishbein and Ajen’s (1975) theory of reasoned action (TRA) was developed for the explicit purpose of predicting behavior. The components of TRA are three general constructs: behavioral intention, attitude, and subjective norm. According to this theoretical framework, behavior is preceded by intention, which is influenced by both attitudes toward the behavior and subjective norms (i.e., perceived social pressure to perform or not perform the behavior). Namely, TRA suggests that a person’s behavioral intention depends on the person’s attitude about the behavior and subjective norms.
Ajzen’s (1985) theory of planned behavior (TPB) expanded upon this earlier theory to include the concept of perceived behavioral control. TPB can cover people’s volitional behavior which cannot be explained by TRA. Also, the TPB has improved the predictability of intention in various health-related fields such as mental health service utilization and service continuation.

In addition, Prochaska’s Transtheoretical Model has been used to investigate the influence of the stages and processes of behavioral change on therapeutic outcome in studies of premature termination from therapy and adherence to pharmacological regimens (Prochaska, 1999). According to the Transtheoretical Model, which is also known as the Stages of Change Model, behavioral change is composed of five discrete stages: pre-contemplation, contemplation, preparation, action and maintenance. The change involves both a period of time and a set of tasks needing to be accomplished before moving into the next stage, and an individual’s change in a somewhat predictable manner, moving from one stage to the next (Prochaska & DiClemente, 1992). Prochaska (1999) has found support for this model of explaining behavior change with research in which the stages were found to relate to persistence in treatment, differential treatment effectiveness, and treatment outcome.

**Family level approaches**

Given the multidimensional nature of many childhood psychological disorders, treatment strategies that focus only on the individual child and adolescent in therapy have shown limited impact (Weisz, Weiss, & Donenberg, 1992). Consequently, treatment of children and adolescents has shifted toward approaches that more heavily involve parents or family members in the engagement process (Rodrique, 1994). Kovacs and Lohr (1995)
reported that 40% of studies from 1970 to 1988 pertaining to mental health service of children and adolescents included parents in the engagement process. A number of theoretical approaches have emerged that are aimed at increasing the system’s capacity to engage caregivers to improve their children and adolescents’ mental health service involvement (Berg & Kelly, 2000). Although some forms of family therapy are based on behavioral or psychodynamic principles, many studies relied on concepts from strategic and structural family systems theory to approach health care service engagement (Szapocznik et al., 1988; Santisteban et al., 1996; Coatsworth et al., 2001). The approaches were based on the premise that failure to engage in treatment is often because of dysfunctional family interactions. This approach regards the entire family as the unit of treatment and addresses such factors as relationships, interactions and communication patterns rather than symptoms in individual members (Szapocznik et al., 1988). Accordingly, this model is based on the Minuchin’s (1974) principles of structural and systemic family therapy. The principles that apply to understanding of family functioning and to treatment also apply to understanding and modifying the family’s resistance to service engagement (Santisteban et al., 1996).

In sum, these characteristics can be seen to form an individual and family level theoretical framework composed of: (a) individual-centered psychotherapeutic approaches; (b) altering an individual’s current environment to help that individual function more fully; (c) the presumption that behavior increases only when it is reinforced; and (d) accountability for parents or family members involved in a behavior modification process. Indeed, depending on the individual and their family’s situation, these factors might have very different effects on behavioral intention. However, there
are limitations to capturing the complexity of TAY population engagement issues with these individual and family level theoretical models.

**The Theoretical and Conceptual Literature Relevant to TAY Engagement**

Traditionally, engagement has widely been addressed in terms of client compliance and resistance, and strategies to address client reluctance to change are often offered (McKay et al., 1996a) within the individual or family based theoretical frameworks mentioned above. However, McKay and colleagues (1996a) indicated that barriers to engagement are not seen as exclusively resulting in a client’s “unwillingness to change.” Rather, barriers of engagement can be found within a client’s behavior, the beliefs and experiences of the family, lack of sensitivity by professionals, and agency procedures. Whereas the parent’s attitude or behavior and involvement may be a clearer focus of service with younger children – particularly because parents, not children usually seek services –, TAY engagement is less influenced from their parent’s or guardian’s attitude toward mental health service. And whereas younger children rely more exclusively on parents for scheduling and transportation, TAY are responsible for their own scheduling and transportation (Costello, Pescosolido, Angold, & Burns, 1998). This means that family level theoretical models are less helpful for addressing mental health services with TAY population, and parental cognition may not be a critical predictor in determining engagement in TAY treatment. Therefore, it seems obvious that any approach to improve engagement of TAY must address multiple barriers and not focus solely on individual or family level obstacles. Based on the assumption that efforts to increase engagement do not become or are not viewed by clients as coercive, several
different theoretical perspectives can be applied to mental health service engagement of TAY.

**Multiple level approaches**

McKay and colleagues (1996a) suggest that the ecological perspective posits that there are multiple barriers to services and failure to engage is not simply due to lack of client motivation or individual problems, but a combination of factors that exist on varying levels of the ecosystem. The ecological model describes the multi-layer and dynamic context of mental health service delivery that involves several relevant levels of factors to be considered in treatment development, delivery, and service engagement (Miller et al., 2008). The context includes: (a) client-level factors (e.g., demographic, diagnosis characteristics), (b) practitioner-level factors (e.g., level of professional experience), (c) organizational influences (e.g., culture and climate), (d) service delivery characteristics (e.g., frequency of sessions, type of intervention modality), and (e) environmental factors (e.g., service system financing policies) (Miller et al., 2008). All of these may influence service engagement. In a variety of service delivery settings, many studies utilized an ecological framework where the origins of variation in engagement are identified at multiple levels (Henggeler et al., 1996; McKay et al., 1996b, Burns et al., 1996; Karver et al., 2008; Grote et al., 2009).

**Gateway Provider Model**

Stiffman et al. (2001) found that practitioner factors play a far more significant role than client factors in determining the use of services, and the Gateway Provider Model posits that professional individuals’ knowledge and awareness of services and assessment of youth’s symptoms, diagnosis, and impairment are essential in
recommending ways for youth to engage services. After family and friends, providers from formal nonspecialty sectors (e.g., social services, juvenile justice, education, primary health care) or community based mental health service agencies often have the first official service contact with the youth, identify the problem, and provide some immediate services as well as specialty mental health services. In general, whether youths are offered or referred to services strongly depends on a practitioner’s awareness of problems and knowledge of service resources (Stiffman et al., 2004). When functioning in this role, these practitioners might be called “gateway” providers (Horwitz et al., 1992) because they open the gate to service for youths. Even when these providers offer direct mental health services, their actions in referral, consultation, and other resource knowledge (e.g., employment, housing) help TAY utilize and engage services. Therefore, the Gateway Provider Model supports that the practitioner’s professional characteristics (e.g., resource knowledge) will be related to service engagement. This model is important because individual practitioners can have unique effects on the process and treatment outcomes regardless of service type (Staudt, 2003).

Socio-technical theory

The impact of employee perceptions of the work environment and organizational performance has been an interest of researchers in the field for several decades (Hellriegel & Slocum, 1974). Over the past 30 years, predominant models of organizational behavior have supported the idea that successful adoption and implementation of innovations or restructuring is as much a social as a technical process. One of the most conceptually useful models, namely the socio-technical theory, from the organizational literature for implementation science, integrates the organizational social
context² and core technical processes of an organization to understand how each effects the other (Porras & Robertson, 1992). The model of organizational effectiveness developed one of the first attempts to view organizations as creating a social context (e.g., organizational culture, climate) within which the technical work of the organization could be performed (Burns & Stalker 1961). This model assumes that the organization’s “core technology” (e.g., type of treatment, engagement strategies and skills) is embedded within a social context that is created by the organization (Glisson et al., 2008). The organization’s successful performance depends as much on social processes in the organization as on technical processes. This assumption is particularly related to the development of a science of effective performance in mental health services research because mental health services depend on both social and technical processes, and practitioners’ expectations, perceptions, and attitudes can directly affect how clients are served (Glisson et al., 2008, p. 99). Thus, according to the socio-technical theory, an organization’s social context can complement and enhance the adoption and successful implementation of new technologies (e.g., new treatment model or engagement strategies), present barriers to the adoption of new technologies, or truncate or adapt a technology in ways that reduce the technology’s effectiveness.

**Organizational culture theory**

Also, according to organizational culture theory, culture affects work performance and organizational effectiveness by influencing the individual workers directly or indirectly (Aarons & Sawitzky, 2006). Organizational culture typically refers to basic

---

² Organizational social context is shared service provider expectations, perceptions and attitudes that affect the adoption and implementation of evidence-based practices, the nature of the relationships that develop between service provider and consumers, and the overall availability, responsiveness, and continuity of the services (Glisson, et al., 2008, p. 99)
assumptions, values, and behavioral norms and expectations found in an organization or its subunits (Rousseau, 1990). Organizational culture theorists are in general agreement that the social norms, expectations, meaning, perceptions, and attitudes are the keys to understanding individual behavior in organizations and organizational effectiveness (Glisson et al., 2008). The expectations (e.g., the extent to which practitioners are expected to be proficient in their work), perceptions (e.g., whether practitioners perceive a high level of personal engagement in their work with clients), and attitudes (e.g., practitioners commitment to the organization in which they work) are believed to either encourage or inhibit the adoption of best practices, strengthen or weaken fidelity to established protocols, support or attenuate positive relationships between service providers and consumers, and increase or decrease the availability, responsiveness and continuity of services provided by the organization. For example, organizational culture affects the priorities the workers emphasize in their work, and the psychological impact and meaning of that work for the individual workers. In addition, those aspects as the social process affect the behavior of everyone in an organization and the underlying beliefs that shape the action of staff (Glisson, 2000).

**Role of Organizational Culture in Mental Health Service System**

**Organizational culture on the delivery of mental health services**

Mental health services are complex and multidisciplinary, subject to multiple stakeholders, funding sources, rules and regulations. Community mental health organizations perform a central role in the delivery of mental health services. The organizations, operating within heterogeneous service environments, are largely
responsible for providing a continuum of services to diverse consumers with complex and urgent needs (Morris, Bloom, & Kang, 2007).

For the last 20 years researchers have concentrated their efforts on examining the mental health delivery system at the specific service, treatment, and specialized programs. However, a growing concern with physical, psychological and organizational environments and their impact on behavior has resulted in a substantial body of literature on organizational factors, such as organizational culture. As many investigators have argued, the organizational culture is an important but under-investigated part of the context of mental health services (Glisson, 2002; Glisson & James, 2002; Morris, Bloom, & Kang, 2007). The nature of the work requires that practitioners provide services to consumers who are at risk of a variety of functional and psychological problems. Because the effectiveness of these services depends heavily on the relationships formed between service providers and the people who receive the services, the attitudes of the service providers play an important role in the outcomes of services (Glisson & Hemmelgarn, 1998).

As a result of these reasons, the effectiveness of work environments in meeting the needs of organizations and consumers is of primary concern within mental health service systems. This is a significant oversight because the quality of mental health services may be particularly vulnerable to adverse organizational factors, inasmuch as human relationships are at the very core of the effective coordination and delivery of individualized, continuous, and sensitive care to consumers with severe mental illness (Morris, Bloom, & Kang, 2007). Thus, Glisson and others have argued persuasively that organizational culture in mental health services should be a primary focus of research and
intervention, in order to support high quality and individualized care that is responsive to consumer needs, as well as to realize cost effective improvements in mental health services (Morris, Bloom, & Kang, 2007).

**Organizational culture**

Although it depends to some extent on the discipline of the reviewer, the first reference in the professional literature to the term “organizational culture” is credited to Pettigrew (1979). Pettigrew (1983) regarded organizational culture as a source of a family of concepts including symbol, language, ideology, belief, ritual, and myth. Schein (1984) viewed culture as “basic assumptions and beliefs that are shared by members of an organization, that operate unconsciously and that define in a basic taken-for-granted fashion an organization’s view of itself and its environment” (p. 6). Louis (1985) defined culture as a commonly held set of understandings for organizing action. Cook and Rousseau (1988) saw culture as behavioral norms and values specific to organizational policies, procedures, and preferred outcomes, and other normative elements with an organizational frame of reference.

In sum, most scholars agree that organizational culture is a multidimensional, multilevel construct. Values, norms, and customs are usually considered the fundamental level of organizational culture and are often described as “taken-for-granted” or entrenched beliefs, assumptions, and unspoken rules that guide an organization (Schein 1992). Schein’s (1992) definition of organizational culture as “a pattern of shared basic assumption that the group learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and therefore to
be taught to new members as the correct way to perceive, think and feel in relation to those problems (p. 12)” has become a commonly cited description of the concept.

There are at least two types of organizational culture; defensive and constructive (Cooke & Szumal, 1993; Glisson & James, 2002). Defensive cultures may be viewed as typified by values, beliefs and shared behavioral expectations that fulfill lower order security and protection needs. Constructive cultures are characterized by values, beliefs and shared behavioral expectations related to the fulfillment of higher order satisfaction needs. The types of defensive cultures associated with requirements for extensive documentation process, micro-management of all decisions, and conformity to a rigid array of strategies meant to serve as protection against intense public criticism, administrative sanctions, and litigation. In contrast, the constructive cultures include more successful organizations that emphasize performance, motivation, support, interpersonal relationships, and effectiveness are less common in defensive bureaucracies where case managers are expected to follow well-worn, organizational paths of behavior that are unrelated to service quality or successful outcomes (Martin et al., 1998).

**Studies of organizational culture**

Organizational culture became a business phenomenon in the early 1980s, triggered by Deal and Kennedy’s (1982) and Peters and Waterman’s (1982) studies. Osborne and Gaebler (1992) provided a popular extension of business and industrial world’s work to government agencies by demonstrating the importance of organizational context to the performance of public agencies (Glisson, 2002). Recently, Schorr (1997) explained the role that organizational context plays in child welfare and family service systems. And more recently, investigators and theorist have turned to organizational
theory in order to better understand how context affects the implementation of innovative treatments in mental health services, the transfer of technology, and the quality and outcomes of mental health services (Glisson, 2002). Also researchers have moved forward thinking regarding organizational culture in mental health services through measurement development (i.e., Glisson, 2002; Schiff, 2009).

Empirical research in the business sector suggests that the concept of organizational culture may play a key role and may be the underlying variable that organizational psychologists and sociologists previously postulated (Buckingham & Coffman, 1999). Organizational culture has been linked to both employee job attitudes and organizational performance include normative values emphasizing teamwork, achievement, innovation, cooperation, and affiliation (Rousseau, 1990); strong leadership, open communication, and clear conflict management mechanisms (Shortell et al., 1994); clearly articulated performance goals, and the availability and fairness of organizational rewards, and task support (Kopelman, et al., 1990). Organizational culture in public sector organizations, Osborne and Gaebler (1992) have identified a number of cultural dimensions that are associated with “high performance” organizations. These include workplace cultures that emphasize results over process and procedures, organizational mission over bureaucracies, and that value and encourage staff autonomy, innovation, and discretion in the enactment of work roles.

Some recent work in the health and mental health fields has begun to establish elements of organizational culture specific to the field. Although organizational culture has garnered little attention in the mental health service engagement literature, some variables related to mental health organizational culture have been studied in connection
to client service engagement (Kemp et al., 2009). In Littell and Tajima’s (2000) study of family preservation services, workers with a strong deficit orientation reported lower levels of client collaboration and compliance. Turning these issues around, a growing body of research evidence points to the importance of supportive work environments, worker empowerment, and inclusive worker attitudes in efforts to more effectively engage and serve clients (Callahan & Lumb, 1995). Glisson and Hemmelgarn (1998) found that positive relationship between workers and clients are most likely to occur in organizations where the organization characterized by low conflict, cooperation, role clarity and personalization.

In summary, it would be expected that the organization’s culture would have a great impact on organizations’ processes and products. Especially, in the mental health field, basic human values, ethics, and principles may be more likely to be articulated than in organizations that are not concerned with people changing. In mental health organizations, people operate in an environment that specializes in identifying values, attitudes and beliefs as part of the therapeutic process (Glisson, 2000).

**The Empirical Support for Theoretical Base of Engagement**

**Intervention studies for increasing mental health service engagement**

The following is based upon a review of the empirical literature on interventions designed to improve mental health service engagement that met the following criteria: 1) examined engagement in mental health services; 2) included a comparison condition; and 3) focused on adolescents and/or young adults. The search words ‘engagement’, ‘retention’, ‘attrition’, ‘adherence’, ‘therapeutic alliance’, ‘premature termination’, ‘dropout’, combined with ‘mental illness’, ‘community mental health’, and ‘adolescent’ and
‘young adults’ were used to identify relevant studies. As a result, seven articles met the search criteria. The engagement improvement intervention characteristics for TAY described in the studies reviewed were classified as either client individual level (e.g., interventions for client behavior change or barriers reduction) or multiple level (e.g., therapist engagement strategies, multiple service delivery approaches) (See Table 1).

**Individual level interventions**

Many of the individual level engagement interventions were based on Behavior Modification, the Health Belief Model, theory of reasoned action, or transtheoretical model. In the case of those interventions, positive reinforcement was given by providers for maintaining engagement. Any type of reinforcement from the providers for health behavior change was generally viewed positively and was likely to lead to health-behavior change. One of the initial trials to keep appointments for mental health services consisted of different types of reminder interventions. Reminder interventions implemented during initial contacts with youth can boost service use substantially. For example, supplying a simple reminder letter or phone call was widely used (Sawyer, Zalan, & Bond, 2002). One of the other approaches to increase engagement at the individual level was providing incentives and reducing barriers. For example, providing a gift certificate, paying for parking, finding or paying for public transportation, arranging for child care while in the appointment, or providing a stipend for lunch when attending, as provisions, are all very attractive to “youth” clients (Corrigan & Bogner, 2007). All of the individual level approaches substantially improved attendance and reduced the likelihood of premature termination during the initial stage of treatment. However, results showed the effectiveness may be temporary, working to improve initial attendance but
not ongoing engagement. Short-term interventions to help youth keep initial appointments will not help them maintain service use or encourage them to become actively involved in the services, even when they keep initial appointments (Kim, Munson, & McKay, under review).

**Multiple level interventions**

On the other hand, multiple level approaches were based on the concept of ecological perspective. The ecological perspective leads to the identification of treatment barriers at different system levels (McKay et al., 1995). Multiple barriers to services are recognized and failure to engage is not viewed simply as lack of client motivation or individual problems (McKay et al., 1995). Interventions of Henggeler et al. (1996), McKay et al. (1996b), Burns et al. (1996), Karver et al. (2008), and Gorte et al. (2009) used an ecological framework in which the origins of the engagement differences in various types of service delivery setting are identified at multiple levels (e.g., individual, family, organization, community, and public policy). Henggeler et al. (1996) identified that families of delinquent or substance-abusing youth who received multisystemic therapy had a higher rate of treatment completion compared to families that received usual services. McKay and colleagues (1996b) trained therapists from an inner-city mental health clinic in a first-interview engagement intervention. In this study, therapists who received specific engagement training had higher return rates of clients for second appointments than those who did not receive the training. In addition to considering the service delivery model of engagement, Burns et al. (1996) conducted a test of the impact of the addition of a case manager on engagement of youth with serious emotional disturbance and their families in care. Findings revealed that involvement in the
experimental case manager condition was associated with significantly longer 
participation in services, use of a wider variety of services, fewer inpatient hospitalization 
days, and use of more community-based services. Grote and colleagues (2009) conducted 
a culturally relevant, enhanced brief interpersonal psychotherapy (IPT-B) intervention for 
low income, depressed new and expectant young adult mothers. Enhanced IPT-B is a 
multi-component model of care consisting of an engagement session (motivational 
interviewing and ethnographic interviewing), followed by eight acute IPT-B sessions 
before the birth, and maintenance IPT up to six months postpartum. During the 
engagement session, the interviewer elicits each participant’s unique barriers to care and 
engages in collaborative problem solving to ameliorate each barrier. Substantively, 
results suggest preferable the multi-component engagement intervention outcomes.

This ecological approach to understanding service engagement is either explicitly 
or implicitly stated in all of the effective interventions reviewed above. Interventions of 
this type are associated not only with initial involvement in youth mental health care but 
also ongoing engagement and completion. Several studies have shown that multiple level 
approaches that focus on the complex array of potential barriers to service involvement 
and multi-layer and dynamic context of service delivery can increase substantially 
attendance at initial appointments and ongoing service involvement (Kim, Munson, & 
McKay, under review).
Table 1. Summary of interventions on client engagement

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Previous Research</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Individual Level Approaches</strong></td>
<td></td>
</tr>
<tr>
<td>Mail/Telephone reminder</td>
<td>Sawyer, Zalan, &amp; Bond (2002)</td>
</tr>
<tr>
<td>Financial incentive/Barriers reduction</td>
<td>Corrigan &amp; Bogner (2007)</td>
</tr>
<tr>
<td><strong>Multiple Level Approaches</strong></td>
<td></td>
</tr>
<tr>
<td>Multisystemic therapy</td>
<td>Henggeler et al. (1996)</td>
</tr>
<tr>
<td>Therapists engagement training</td>
<td>McKay et al. (1996b)</td>
</tr>
<tr>
<td>Multiagency team led by a case manager on engagement</td>
<td>Burns et al. (1996)</td>
</tr>
<tr>
<td>Therapist engagement strategies (CBT vs. NST)</td>
<td>Karver et al. (2008)</td>
</tr>
<tr>
<td>Culturally relevant, enhanced brief interpersonal psychotherapy (IPT-B)</td>
<td>Grote et al. (2009)</td>
</tr>
</tbody>
</table>

Factors related to mental health service engagement

Although the importance of engagement is generally well understood, the factors that contribute to it have been less consistently studied (Broome, Flynn, Knight, & Simpson, 2007). The mixed findings with regard to the direct relationship of therapeutic engagement and outcomes in the mental health treatment field may suggest that there are various kinds of variables that impact the development of mental health service engagement. This section explores research focused on client factors and service provider factors (i.e., practitioner-level and organization-level) influencing the broader category of mental health service engagement (e.g., premature termination, attrition). As none of the
research has investigated the relationship between the factors and TYA mental health service engagement specifically, the review was based on children/adults population (See Table 2).

**Client factors**

Socio-demographic (e.g., gender, age, ethnicity) and socioeconomic factors (e.g., employment, education, marital status) of engagement vary, with only a few consistent findings, suggesting that such associations are complex and multifaceted (O’Brien et al., 2009). For example, gender has not been consistently shown to be a factor related to engagement (Craig & Huffine, 1976; Olfson et al., 2009), although there is a widely held clinical perception that young men are more difficult to engage (Richard & Vostanis, 2004). Young people seem to be more likely to drop out and miss appointment but as youth get older, the disparity between rates of service use by gender tends to decrease. Evidence suggests that people of ethnic minority background are more likely to terminate treatment prematurely (Wang, 2007). Some studies have found that engagement is significantly associated with income, urban locale, education, employment status, marital status or living conditions (Garfield, 1994; Edlund et al., 2002) although this has not been confirmed in other studies.

Having a forensic history has found to be associated with disengagement (Owen et al., 1997). In terms of clinical characteristics (e.g., diagnosis, serious of mental illness, dual diagnosis), youth with a co-occurring serious mental illness and a substance use disorder have very high rates of treatment disengagement, and serious levels of youth psychopathology are negatively associated with engagement (Kazdin & Mazurick, 1994). As social factors that predict engagement of youth mental health or drug abuse treatment
service reported in the literature, Knight and Simpson (1996) and Harrison et al. (2004) have found that positive change in the family dysfunctional aspects and social support networks of clients accompanies therapeutic engagement and early recovery. Client’s internal and external motivation for treatment (e.g., treatment readiness, external pressures) and the quality of a client’s recovery environment also appear to be related to sustaining engagement (Kokotovic & Tracey, 1990; Moras & Strupp, 1982). McKay et al. (2001) found that clients with a positive attitude toward services were more likely to keep initial appointments at a mental health clinic.

Service provider factors

Limited research has examined the association between practitioner characteristics and service engagement (Meier et al., 2005; Ackerman & Hilsenroth, 2003; Najavits & Weiss, 1994). A few studies that explored engagement related to service provider factors in mental health services focused broadly on practitioners’ demographics, clinical experience (e.g., specific treatment technique), or therapeutic alliance (Simpson, Joe, Rowan-Szal, & Greener, 1995). Lambert and Barely (2002) have suggested that as much as 30% of the variance in treatment outcomes is due to common factors, which is above and beyond the 15% of outcome variance accounted for by specific treatment techniques. More recently, many researchers recognized that therapeutic techniques were not the only variables and that people respond to the context in which services are delivered. Research has considered multiple levels of factors, including the practitioners’ individual, professional, and organizational characteristics, acknowledging that engagement is an interactional process not only between clients and practitioners, but also between clients and organizations.
Impact of practitioner-level factors: In terms of practitioners’ socio-demographic and individual characteristics on service engagement, gender, age, race, and education have been used as control variables (Lehman, Greener, & Simpson, 2002; Rampazzo et al., 2006; Broome, Flynn, Knight, & Simpson, 2007; Meier et al., 2005). Overall, the findings on impact of practitioner demographic characteristics have been inconsistent. One of the interesting results found in Mensinger and colleagues’ (2006) is that therapist-client gender/race match is important to client service involvement. Meier and colleagues (2005) did find therapists who were ex-addicts were able to establish stronger relationships with their clients.

Regarding practitioner’s professional characteristics on service engagement, Meier and colleagues (2005) reported time in current role is predictor of therapeutic alliance, with counselors with greater time in their current role reporting lower alliance. On the other hand, Wintersteen and colleagues (2005) also found clinicians’ more experience predict lower alliances. On a simple level, rates of missed appointments with consultants appear to be lower than those with trainee (McIvor et al., 2004). Mitchell and Selmes (2007) found that the rate of both initial and subsequent missed appointments was highest following self-referral and referrals from the police/probation service and lowest from community psychiatric nurses, social services and from within psychiatric services. Perception of therapy process strategies was positively associated with appointment attendance (Watt & Dadds, 2007). Also, practitioner ratings of perceived barriers were significant for predicting session attendance (Mensinger et al., 2006). Kazdin, Holland, Crowley and Breton (1997) also indicates that therapists’ ratings of potential barriers were more powerful predictors of attrition than were parents’ or client’s ratings, and
potentially suggests that the perceptions of mental health treatment providers regarding client treatment engagement may be worthy of closer examination. Garcia and Weisz (2002) found lack of therapist rapport related to youth’s discontinued mental health service. Greener and colleagues (2007) reported staff interactions, sharing, mutual support, and the extent that their advice is associated with better engagement. In addition, Stiffman et al. (2001) suggested that practitioner perceptions play a far more significant role than client factors in determining the use of services.

**Impact of organization-level factors:** In terms of organization attributes, client engagement was lower in programs with a larger capacity and higher in programs with accreditation (e.g., quality assurance mechanisms) (Broome, Flynn, Knight, & Simpson, 2007). Client utilized more counseling services in publicly owned organization (vs. private-nonprofit) (Knight, Broome, Simpson, & Flynn, 2008). In addition, institutional resources (e.g., staffing, equipment) are positively related to client’s continuing service use (Greener et al., 2007; Lehman, Greener, & Simpson, 2002).

In one of the few studies examining organizational climate studies, Glisson and Hemmelgarn (1998) found that organizational climate is the primary predictor of positive service quality (e.g., continuity, availability). Also, Greener et al. (2007) and Lehman et al. (2002) found that positive organizational climate positively influences service use. There are also empirical studies that have examined both organizational climate and culture simultaneously (Glisson & James, 1992; Nugent & Glisson, 1999). These studies found that defensive cultures and negative climates are negatively associated with

---

3 is defined as the individual employee’s perception of the work environment. (c.f. The empirically derived core concepts from literature described ‘climate’ as the way people perceive their work environment and ‘culture’ as the way things are done in an organizational unit, climate is defined as a property of the individual and culture is defined as a property of the organization.) (Glisson & James, 2002, p.769)
providing services. For example, case managers in defensive work environments avoid providing mental health service to those children and families who are most in need of mental health care.

There were some organizational culture studies that explored whether or not organizational culture generates a moderating effect that affects the relationship between individual/team level and organizational level (i.e., cross-level interaction). Glisson and James (2002)’s study revealed that more constructive cultures were associated with higher service quality (e.g., continuity, availability), also this study revealed that there is cross-level interaction relationships that link constructive culture to individual attitude and perceptions, and behavior. For example, in the study, case managers (vs. other team) in teams with more constructive cultures described a higher quality of service. Glisson and Green (2005) found positive effects of constructive organizational culture on the access to mental health care, also there is cross-level interactions that children served by child welfare and juvenile justice case management units (vs. other units) with constructive organizational cultures were more likely to receive the needed mental health services. Although, theoretical models linking organizational culture to associated individual level outcomes are rare and generally untested, there is some consensus that culture affects other work unit characteristics, and that individual work attitudes and behaviors are an outcome of those characteristics (Glisson & James, 2002).

In summary, there has been limited empirical research on the contribution of organizational characteristics to mental health service engagement, and none that examine the link between organizational culture and service engagement. Until recently, in the mental health field, limited attention has been given to differences in mental health
service outcomes and assess to service within organizational context and how organizational characteristics might contribute to a client’s subjective experience. Recent research on engagement of children and youth in care attempted to examine this important phenomenon by emphasizing the role that organizational level factors play in helping a client to obtain care and influence outcomes (Smith & Donovan, 2003; Yoo, 2002). Research that explores how these unique organizational level influences relate to service outcomes has presented a new way to understand the client’s service engagement. On the basis of findings from previous research of human service systems, organizational culture is believed to contribute to adherence to treatment protocols and the development of therapeutic alliance between service provider and client, and availability, responsiveness, and continuity of service (Glisson, 2002). The engagement process can be undermined by contextual influences surrounding practitioners including the professional techniques and staff attribute and influences of the provider organization.
Table 2. Summary of studies of service provider level factors on service engagement

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Previous Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client Level</td>
<td></td>
</tr>
<tr>
<td>Socio demographic</td>
<td>▪ Gender and age – no relationship with engagement (Craig &amp; Huffine, 1976; Olfson et al., 2009)</td>
</tr>
<tr>
<td></td>
<td>▪ Young male – less engaged (Richard &amp; Vostanis, 2004; Edlund et al., 2002)</td>
</tr>
<tr>
<td></td>
<td>▪ Ethnic minority – premature termination (Wang, 2007)</td>
</tr>
<tr>
<td>Socio economic</td>
<td>▪ Low socioeconomic status - early drop out (Garfield, 1994; Edlund et al., 2002)</td>
</tr>
<tr>
<td>Clinical</td>
<td>▪ Having a forensic history – disengagement (Owen et al., 1997)</td>
</tr>
<tr>
<td></td>
<td>▪ Co-occurring disorder – disengagement (Kazdin &amp; Mazurick, 1994)</td>
</tr>
<tr>
<td>Psychological/Behavioral</td>
<td>▪ Motivation for treatment, quality of recovery environment – sustaining engagement (Kokotovic &amp; Tracey, 1990; Moras &amp; Strupp, 1982)</td>
</tr>
<tr>
<td></td>
<td>▪ Positive attitude toward services – keep initial appointments (McKay et al. 2001)</td>
</tr>
<tr>
<td>Environmental</td>
<td>▪ Positive family functioning, social support networks – engagement and early recovery (Knight &amp; Simpson, 1996; Harrison et al., 2004)</td>
</tr>
<tr>
<td>Practitioner Level</td>
<td></td>
</tr>
<tr>
<td>Socio demographic</td>
<td>▪ Lack of client and therapist cultural (gender/race) match – premature termination (Mensinger et al., 2006)</td>
</tr>
<tr>
<td></td>
<td>▪ Therapists who were ex-addicts – strong relationship with client (Meier et al., 2005)</td>
</tr>
<tr>
<td></td>
<td>▪ Greater time in current role – lower alliance (Meier et al., 2005)</td>
</tr>
<tr>
<td>Professional</td>
<td>▪ More experience – lower alliances (Wintersteen et al., 2005)</td>
</tr>
<tr>
<td></td>
<td>▪ More service training – keep appointments (McIvor et al, 2004)</td>
</tr>
<tr>
<td></td>
<td>▪ Referral from community psychiatric nurses, social services and from within psychiatric services – high level of engagement (Mitchell &amp; Selmes, 2007)</td>
</tr>
<tr>
<td></td>
<td>▪ Perception of therapy process strategies – appointment attendance (Watt &amp; Dadds, 2007)</td>
</tr>
<tr>
<td></td>
<td>▪ Greater perceived barriers – less session attendance (Mensinger et al., 2006; Kazdin et al., 1997)</td>
</tr>
<tr>
<td></td>
<td>▪ Lack of rapport – discontinued treatment (Garcia &amp; Weisz, 2002)</td>
</tr>
<tr>
<td></td>
<td>▪ Staff interactions, sharing, mutual support – better engagement (Greener et al., 2007)</td>
</tr>
<tr>
<td>Attributes</td>
<td>▪ Smaller size organization and program with accreditation – higher engagement (Broome, Flynn, Knight, &amp; Simpson, 2007)</td>
</tr>
<tr>
<td></td>
<td>▪ Publicly owned organization (vs. private-nonprofit) – more counseling services (Knight, Broome, Simpson, &amp; Flynn, 2008)</td>
</tr>
<tr>
<td></td>
<td>▪ Institutional resources (e.g. staffing) – continuing service use (Greener et al., 2007; Lehman, Greener, &amp; Simpson, 2002)</td>
</tr>
<tr>
<td>Organizational Level</td>
<td></td>
</tr>
<tr>
<td>Organizational climate/culture</td>
<td>▪ Positive climate – more service use (Greener et al., 2007; Lehman, Greener, &amp; Simpson, 2002)</td>
</tr>
<tr>
<td></td>
<td>▪ Positive organizational climate – positively related to service continuity &amp; availability (Glisson &amp; Hemmelgarn, 1998)</td>
</tr>
<tr>
<td></td>
<td>▪ Defensive cultures and negative climates – avoid providing mental health services (Glisson &amp; James, 1992; Nugent &amp; Glisson, 1999)</td>
</tr>
<tr>
<td></td>
<td>▪ Constructive culture – higher service quality, assess to service use vary by service teams/units (cross-level interaction effect) (Glisson &amp; James, 2002; Glisson &amp; Green, 2005)</td>
</tr>
</tbody>
</table>
Limitations of existing studies

Although a growing number of empirical studies has identified differences in the demographic and clinical characteristics of youth who remain in service and those who drop out (McKay et al., 1998), there are still limitations as far as accommodating the disparate array of factors that affect the TAY’s decision to stay in mental health service and then to actively engage in services.

First, while several studies indicated significant findings, the relationships between these studied factors and mental health service engagement are often unclear. Although the results revealed that various factors are significantly related to the broad concept of engagement, findings have been inconsistent across studies and have failed to replicate significant results. It is difficult to compare findings because most studies only focus on one or two variables at a time. It seems obvious that no single factor was, by itself, necessary or sufficient to explain TAY’s mental health service engagement (McKay, 2004).

Second, most engagement research has focused on client characteristics (e.g., demographic, diagnostic characteristics) and there has been little attention paid to the service provider’s (e.g., practitioner-level, organization-level) role in client engagement. Even though client behaviors or attitudes are often used to predict engagement, practitioners have a primary role to play in the engagement process (Liddle, 1995; Sanisteban & Szapocznik, 1994). In fact, mental health treatment programs have unique organizational attributes that provide a foundation for therapeutic processes designed to improve client functioning (Rampazzo et al., 2006). Recently, organizational research has focused on program and clinical management in the service delivery processes and their
role in improving treatment effectiveness (Bunger et al., 2009). In particular, the practitioners’ role is more important for adolescent or transition age youth clients than adult clients or child clients who are accompanied by their parents or family members (Bunger et al., 2009; McKay & Bannon, 2004). The youth may keep appointments for many different reasons (e.g., court-order), and clearly some organizations do a better job than others at engaging and retaining youth clients. It seems evident that the future of service engagement research involves an increasing amount of direct inquiry of provider perspectives when attempting to account for service engagement (McKay & Bannon, 2004).

Third, even though prior studies highlighted the difficulties practitioners face in engaging young people into mental health services (Armbruster & Kazdin, 1994), and a number of practitioner characteristics such as gender, race, education/training, and year of experience have been also documented as correlates of service engagement (Wintersteen, Mensinger, & Diamond, 2005; Reis & Brown, 1999), little is known about the linkages between organizational social context (e.g., organizational culture and climate), and treatment outcomes in mental health services in general (Snowden, 2001, 2003; Yoo & Brooks, 2005). Moreover, no research to date has examined the relationship between organizational culture and level of service engagement of TAY.

Fourth, few studies have explored the influence of moderating and mediating factors or confounding treatment-related factors on service engagement (Gottheil, Sterling, & Weinstein, 1997; Sparks, Daniels, & Johnson, 2003). For example, a few studies have focused specifically on service provider level predictors (e.g., type of treatment) that directly influence the service use or outcome but do not consider the
influence of indirect factors. An example of a compounding factor in examining engagement in TAY mental health services is that many referrals are not made by the youth themselves but are mandated by schools, courts or other agencies. Namely, many youth do not keep initial appointments or drop-out because they never desired or recognized a need for youth mental health services in the first place.

Furthermore, on a broader level, there are no widely used measures for service engagement and organizational culture in the area of mental health. Although, developing instrumentation efforts have tried to address those aspects of engagement or organizational culture that are perceptible and measureable outcomes in mental health settings (Schiff, 2009), few studies support and replicate the specific measures.

**Conceptual Framework for the Study**

**Integration of the theories and knowledge**

By applying the models, such as the Gateway Provider Model, socio-technical and organizational cultural theories and recent empirical research as described above to TAY, the important role that mental health service practitioner and the organization’s social context play an in maintaining TAY engagement becomes clear. Results of empirical studies are clearly supported and consistent with the three theoretical models within the larger frame of ecological perspectives.

First, the result of empirical studies reviewed at the practitioner-level support the basic framework presented in the Gateway Provider Model hypothesis that providers play a key role in service access for youth. There is some evidence in the research literature that practitioner-level factors such as their socio-demographic and professional characteristics play a crucial role in mental health service delivery. Taking account of this
evidence via the conceptual Gateway Provider Model, TAY receive help from a greater variety of service sectors depending on their practitioners’ professional abilities, such as identifying mental health problems, familiarity with and connected to community resources, and dealing with client service barriers. For example, one way of thinking about this relationship is that if a youth with dual diagnosis (e.g., mental health problem and substance abuse disorders) is working with a mental health practitioner, she or he will likely receive care from various beneficial service sectors due to the practitioners’ referral resources, knowledge, and other treatment skills. Consistent with the concept of this model, another example, the organizational context of practitioner’s burden, can explain additional variance in service provision (Stiffman et al., 2001). Namely, the greater the burdens (i.e., caseload), the less likely a practitioner is to focus on providing services. The examples show that gateway providers (e.g., mental health service practitioners) may be more likely both to engage a youth in the services and to provide a youth many resources to solve problems when they know the community resources that are available to youths and have minimum case loading. These variables are important because TAY in the welfare system have multiple behavioral health and environmental problems requiring services from multiple service sectors. The more service sectors involved in their care increases the likelihood that a greater number of service needs are addressed, which is the ultimate goal of the call for inter-agency coordination and reduced fragmentation (Stroul & Friedman, 1986).

Second, the socio-technical theory, which focuses on organizational characteristics of its social context, supports that the organizational-level factors (e.g., type of organization, service setting, culture, climate and structure) can explain much of
the variance in organizations’ “core technology” (e.g., engagement strategies) in service provision. Although relatively few studies focus on the organizational social context in service use or engagement, many studies mentioned above have consistently commented on the role of the organization’s social context in influencing organizational behavior in regards to service provision (Glisson & Hemmelgarn, 1998). Particularly, a number of Glisson’s (2002) studies have consistently documented that the organization’s social context can support effective services with norms, values, expectations, and attitudes that complement and enhance its core technology. Other studies guided by the socio-technical theory revealed that organizational level factors are related to organization performance and client outcome (Rampazzo et al., 2006; Greener et al., 2007; Broome, Flynn, Knight, & Simpson, 2007; Watt & Dadds, 2007). Based on this theory, the reviewed studies reinforce that the implementation of effective mental health services is as much a social process as a technical process, and a service organization’s characteristics and its social context are as important to implementation effectiveness as is its core technology (Glisson, 2007). Therefore, the socio-technical theory potentially shows that, in turn, the perceptions of organizational social context will influence organization performance such as service engagement.

Third, organizational culture theory, like the socio-technical theory, supports that organizational-level factors can explain much of the variance in practitioner and organization performance in service provision directly or indirectly. There is a great deal of evidence in the research literature that organizational culture is associated with worker performance and organizational performance (Glisson, 2000). In particular, organizational culture has been found to influence the level of predictability in employee
behavior (e.g., worker morale and turnover) and overall productivity levels in an organization (e.g., service quality, service outcomes, the adoption of innovations, and organizational effectiveness) (Kaczka & Kirk, 1968; Schneider & Hall, 1972; Glisson et al., 2008). This relationship and in/direct effect on service outcomes has been confirmed across a variety of settings. Compared to the socio-technical theory, organizational culture theory is more focused on the perceptions and attitudes of practitioners toward their clients and their work. For example, organizational culture is theorized to influence treatment outcomes through its relationship with staff behavior – *indirect effect* (Muldrow, Buckley & Schay, 2002). The Gateway Provider Model also posits that organizational culture is related to practitioners’ resources and connectivity (Bunger et al., 2009) and this influences service outcomes. The common idea between the Gateway Provider Model and organizational culture theory is that the organizational factors particularly, might influence the behavior of professional providers. Although there are only a few published studies on the influence of organizational factors on provider behavior, there are a number of conceptual studies indicating how provider environments might also shape practitioners’ actions on behalf of youth clients (Stiffman, et al., 2004). More recently, Glisson et al., (2008) has successfully applied the concept of organizational culture to the study of human service organizations and identified a link between organizational culture, work performance, and treatment outcomes for children served within the welfare system (Glisson & Hemmelgarn, 1997; Yoo & Brooks, 2005).

Overall, integrating the reviewed studies and theories indicates that mental health service organizations vary in key dimensions of social context, and that organizational culture is related to practitioner behavior and organization performance in service
outcomes (Glisson et al., 2008). Research on professionals work environment in mental health care has concentrated on inter-organizational relationships within and across service systems (e.g., area characteristics, social network mechanisms, state and federal policies) (Glisson & James, 2002). These critical dimensions of work environment fall into multiple dimensions that can be conceptualized broadly as the psychological impact of the environment on the individual (James, James, & Ashe, 1990) and the structure or culture of the organization (Kopelman, Brief, & Guzzo, 1990). However, inclusion of providers’ characteristics or perceptions in models has been largely untested. These studies mostly focused on the client and clinic rather than on the individual provider or organizational behavior, and many of them recognized and do recommend shifting the focus to the individual provider and organizational approaches.

**Addressing the knowledge gaps in service engagement**

The individual client theoretical model approaches to mental health service engagement (e.g., Health Belief Model, Reasoned Action Theory) have suggested that individual client factors are a crucial variable in predicting service use and engagement. However, there is theoretical as well as empirical support for the idea that client engagement may be influenced by practitioners’ predisposing and enabling characteristics, their referral resources, skills, knowledge, as well as perception of service engagement barriers. In keeping with ecological approach conceptualizations, reviewed literature revealed that service engagement barriers exist at multiple levels, including the youth, the family, and the agency (McKay, Bennett, Stone, & Gonzales, 1995). Researchers refined and contrasted those models with client focusing models based on the Gateway Provider Model. Moreover, a growing set of studies that inform engagement
interventions call for researchers to go beyond identifying the youth characteristics and relating these factors to service engagement. Similarly, in efforts to explore the factors leading to service engagement there remains a lack of research examining factors beyond individual client and family combining factors.

In addition, the relevant theoretical models (e.g., socio-technical theory, organizational culture theory) provide support for the profound role of organizations in predicting service engagement and the important direct and indirect effects of organizational social contexts for maintaining services. There is empirical support for the idea that organizational characteristics (e.g., culture and structure) are important to the effective functioning of organizations. Preliminary studies confirmed that culture affects service quality and service outcomes in the welfare system. Also, there is evidence that culture determines staff attributes such as how work is approached, the priorities of work efforts, the tenor of work relationships, and the effort and commitment made by workers to achieve work goals (Glisson & Green, 2006). However, almost none of the research to date has examined the relationship between organizational characteristics and service engagement. Variations in organization-based social contexts may explain, in part, the gap between what we know about mental health service engagement and about how to best deliver effective service in the community (Glisson et al., 2008).

**Constructs and conceptual framework of service engagement of TAY**

Suggested by the previous research findings, the next phase of effort includes building a conceptual theoretical framework for future testing of the relationship between practitioner and organizational level factors and TAY’s mental health service engagement. Informed by the Gateway Provider Model, socio-technical theory, and
organizational culture theory, it is proposed that the conceptual model posit nested levels based on ecological perspectives, reflect prevailing engagement improvement perspectives, and distinguish but link key implementation processes and outcomes.

Based on the review of theoretical and empirical literature, the conceptual theoretical model in Figure 1 shows that integrating the concept of the reviewed theories and enabling and predisposing factors contributes directly or indirectly to service engagement. In accordance with the conceptual framework, the primary components that affect service engagement in mental health organization are described. An ecological perspective based on the practitioner level and organizational level factors will guide an examination of TAY’s service engagement. This study model conceptualizes the association of service provider factors (practitioner level, organizational level factors) with mental health service engagement among TAY as integral to understanding the service provider barriers to delivering effective services in community-based mental health systems.

The circular portion of the figure represents the influence of the mental health service provider which includes practitioner individual level and organizational level constructs as the foundational or core construct that affects practitioner’s perception of service engagement. Organizational culture and organization characteristics (e.g., type of organization, location, service setting) are viewed as ‘Organizational level’ constructs. Organizational culture, especially, represents shared phenomena in the organization by definition and the characteristics define the organization nature. Professional characteristics (e.g., in-service training, use of referrals, case load size, service barriers)
and socio-demographic characteristics (e.g., race, sex, age, education) are constructs that comprise of ‘Practitioner level’ factors.

The perimeter that forms the circle around each construct is drawn with lines (solid, dashed) representing the permeable nature of each boundary. This highlights the reciprocal nature of the interactions among all of these constructs. The solid multi-way direction arrow in the circle represents the nature of the influences between practitioner level and organizational level predictors. Dashed one-way direction arrows in the circle represent the nature of the influences in each level.

Service engagement is the outcome of the cumulative and disparate effects exerted by all of the constructs in the model. The practitioner level factors in the model are theorized to have a cumulative effect on the service engagement of youth clients through organizational level factors. In this conceptual framework, it is hypothesized that organizational level predictors moderate the effect of this cumulative influence; in particular, the primary effect of practitioner factors is moderated by organizational culture.
Aims of the Study

In order to successfully bridge the gaps between existing research and practice (and policies) in TAY mental health services engagement, future research requires further study of the service provider level factors that best affect service engagement and practitioners’ actions to improve the level of engagement. Although it is not entirely clear which components of the ecologically based approaches are the most salient factors affecting service engagement, it seems evident that a broad consideration of factors that influence engagement is crucial in enhancing client engagement. Therefore, the proposed
research will identify service provider level factors that are associated with TAY level of mental health service engagement, including the role of organizational culture. This is important for developing interventions and policies that will increase the number of these transition age youths who complete an adequate amount of treatment. By building a greater understanding of the effectiveness of service engagement in mental health treatment, this research will help guide the use of limited treatment dollars. The specific aims of this study are as follows:

- **Aim 1**: to explore how practitioner-level characteristics (a. socio-demographic characteristics, b. professional characteristics) are related to youth service engagement (*Gateway Provider Model*).

- **Aim 2**: to explore how organization-level characteristics (a. organization characteristics, b. organizational culture) are related to youth service engagement (*Socio-technical theory*).

- **Aim 3**: to explore the moderating role of organizational culture on practitioner-level characteristics that affect youth service engagement (*Organizational culture theory*).
CHAPTER 3

This chapter presents the research design and methods used in the study. This includes the research questions, hypotheses, research design, measures, sources of data, data gathering procedure and the statistical analysis of data.

METHODOLOGY

Research Questions and Hypotheses

The objective of this research was to explore the impact of practitioner and organization level predictors on transition age youths’ engagement in mental health service. Specifically, this study explored 1) how practitioner-level characteristics are related to youth service engagement, 2) how organization-level characteristics are related to youth service engagement, and 3) how practitioner’s perception of organizational culture influences service engagement. It was believed that in addition to affecting service engagement directly, organizational culture moderated the relationship between practitioner level predictors (e.g., socio-demographic and professional characteristics) and service engagement, strengthening the impact of practitioner level predictors on service engagement.

The primary questions and hypotheses that were addressed in the current study focused on the major constructs highlighted in Figure 2. The dependent variable was practitioners’ perceived service engagement of transition age youth. Independent variables were categorized by two levels (practitioner level and organizational level). Practitioner level variables include: 1) Socio-demographic characteristics (race, gender, age, education, job title, permanent position, years in field, years in organization, previous mental health experience) and 2) Professional characteristics (in-service
training, resource knowledge, use of referrals, coordination, service provision, case load size, service barriers, teamwork). Organizational level variables include: 1) Organization characteristics (type of organization, location, service setting) and 2) Organizational culture. Organizational culture was viewed as independent variable as well as moderating variable. Research questions and hypotheses are as follows:

Q1. Do practitioner’s socio-demographic characteristics affect the practitioner’s perception of youth service engagement in mental health service?

H1a. Younger practitioners will identify lower level of service engagement compared to older practitioners, such that age will be positively associated with level of service engagement.

H1b. Female practitioners will display higher level of youth service engagement than male.

H1c. Practitioners with higher education will display higher level of youth service engagement than with lower education.

H1d. White/Caucasian practitioners will display higher level of service engagement than non-White.

H1e. Practitioners who have been in the organization longer will display higher level of service engagement.

Q2. Do practitioner’s professional characteristics affect the practitioner’s perception of youth service engagement in mental health service?

H2a. A higher score on the amount of in-service training will be associated with higher level of service engagement.
H2b. A higher score on the amount of resource knowledge will be associated with higher level of service engagement.

H2c. A higher score on the frequency of referral out will be associated with higher level of service engagement.

H2d. A higher score on the frequency of coordination with other organizations will be associated with higher level of service engagement.

H2e. A higher score on the amount of individual service provision will be associated with higher level of service engagement.

H2f. Greater case load size will be associated with lower level of service engagement.

H2g. A lower number of perceived service barriers will be associated with higher level of service engagement.

H2h. A higher score of teamwork will be associated with higher level of service engagement.

Q3. Do organization characteristics affect the practitioner’s perception of youth service engagement in mental health service?

H3a. Location of organization will be related to practitioner’s perceptions of level of service engagement, such that an organization serving an urban population will have a higher level of service engagement than rural or suburban.

H3b. Organization’s service setting will be related to practitioner’s perceptions of level of service engagement, such that a mental health clinic setting will have higher level of service engagement than other type of service setting.
Q4. Does *organizational culture* affect the practitioner’s perception of youth service engagement in mental health service?

H4a. Practitioners who perceive constructive organizational culture will perceive higher level of service engagement after practitioner level predictors are controlled.

Q5. Does *organizational culture* moderate the relationship between practitioner professional characteristics and the youth service engagement in mental health service?

H5a. Constructive organizational culture will strengthen the effect of practitioners’ in-service training on service engagement, while defensive organizational culture will decrease the effect of practitioners’ in-service training on service engagement.

H5b. Constructive organizational culture will strengthen the effect of practitioners’ resource knowledge on service engagement, while defensive organizational culture will weaken the effect of practitioners’ resource knowledge on service engagement.

H5c. Constructive organizational culture will strengthen the effect of practitioners’ use of referrals on service engagement, while defensive organizational culture will weaken the effect of practitioners’ use of referrals on service engagement.

H5d. Constructive organizational culture will strengthen the effect of practitioners’ coordination with other organizations on service engagement.
engagement, while defensive organizational culture will weaken the effect of practitioners’ coordination on service engagement.

H5e. Constructive organizational culture will strengthen the effect of practitioners’ individual service provision on service engagement, while defensive organizational culture will weaken the effect of practitioners’ individual service provision on service engagement.

H5f. Constructive organizational culture will weaken the effect of practitioners’ case loads on service engagement, while defensive organizational culture will strengthen the effect of practitioners’ case loading on service engagement.

H5g. Constructive organizational culture will weaken the effect of practitioners’ perception of service barriers on service engagement, while defensive organizational culture will strengthen the effect of practitioners’ perception of service barriers on service engagement.
Figure 2. Hypothesis testing model

Research Design and Sampling

The present study, a cross-sectional survey research design was used to explore the relationship between organizational culture and mental health service engagement among TAY. Two hundred seventy practitioners from 27 mental health service organizations in Ohio were selected using convenience sampling method. A survey was
developed and piloted to test feasibility of this research. Inclusion and exclusion criteria for the study sample are identified below.

**In/exclusion criteria for organizations**

County contracted urban community mental health service agencies which provided counseling, individual treatment program, community psychiatric supportive treatment, community based treatment foster care, and/or outpatient mental health clinics were contacted to recruit participants. Residential or inpatient hospital mental health organizations were excluded because many of individuals admitted to the program were discharged involuntarily after certain amount of treatment episodes so that the measure of engagement would be different. As potential target organizations, there were 78 mental health organizations in Cuyahoga (Cleveland), Franklin (Columbus) and Hamilton (Cincinnati) Counties (i.e., 43, 15, and 20 contracted mental health organizations, respectively).

**In/exclusion criteria for practitioners**

Practitioners who offered transition age youth (age between 18 and 30) mental health services and those who work directly with them were the proposed study participants. Professionals who had worked in the agency for more than one year were invited to complete the survey, since that provided assurance that the staff was familiar with the organization’s culture. The broader categories included (clinical) social workers, mental health counselors, case managers, supervisors, therapists as well as many other professionals who have similar job titles. Executive directors or administrators were excluded from among the study participants because they are often removed from the provision of direct services due to their positions and may have been for many years.
Sampling and power consideration

Prior to sample recruitment, the sample size required to achieve adequate statistical power was estimated. The needed sample size for Hierarchical Linear Modeling (HLM) can be assessed under a general framework of power analysis (Cohen, 1988) and a software package called “Optimal Design (OD)” (W.T foundation, Raudenbush, 2009) for multi-level data (Raudenbush & Liu, 2000, 2001). Following procedures set forth by Cohen (1988)’s rules of thumb, in order to estimate the sample size needed to achieve an acceptable level of power, the alpha value was set at $\alpha = < .05$, the desired power level was .80, and the effect size value was set at .25 representing a medium effect size. A power analysis using OD found that controlling for other variables, holding constant the number of practitioners in each agency at 10 and 15 (at least 3 practitioners are required for multilevel analysis), the required number of agencies was 21 and 16, respectively. Therefore, the total sample size of between 210 and 240 practitioners and within 16 to 21 organizations was adequate to detect a medium-sized effect (i.e., $\delta = 0.25$) at the .05 significant level with a minimum power of .8. With the estimates generated from OD as the context the sample size recruited in the current study appears to be adequate for multilevel modeling analysis. In this study, there were $n=279$ individual practitioners in $n=27$ organizations included in the sample (average 10.7, Min. = 3, Max. = 23 practitioners).

Human Subjects

Procedures conformed to standards established by the Institutional Review Board (IRB) of Case Western Reserve University (CWRU). This study was granted approval by the IRB committee on February 10, 2011. All participants were informed regarding the
voluntary nature of this study. Participants’ responses to the survey were anonymous. No one working at participants’ agency, including administrators or supervisors knew how they answered the questionnaire unless they chose to tell them. All data were stored under a participant assigned numeric identifier, and all data were analyzed and reported in aggregate form.

Measurement

Operationalization of key concepts

Variables are summarized as sets of dependent, independent, moderating, and control variables. All variables’ categories and operational definitions, measures, and level of measurement in this study are presented in Table 3.

Dependent variable

The Service Engagement Scale (SES) was used as a measure of overall service engagement. No special training was required to use this brief measure. SES is a 14-item measure consisting of statements that assess client engagement with services, which case managers rate on a four-point Likert scale: 0 = not at all or rarely, 1 = sometimes, 2 = often, and 3 = most of the time (Tait, Birchwood, & Trower, 2002). Negatively worded questions were reverse scored. The total score ranges from a minimum of zero to a maximum of 42, with higher scores indicating greater levels of engaging with services.

Four sub-scales assess 1) availability (3 items), which refers to the client being available for arranged appointments (e.g., Clients avoids making appointments; Cronbach’s alpha [\( \alpha \) = .82], 2) collaboration (3 items), which refers to the client actively participating in the management of illness (e.g., Actively participates in planning treatment; \( \alpha = .76 \)), 3) help-seeking (4 items), which refers to the client seeking help
when needed (e.g., *Difficulty in asking for help*; $\alpha = .90$), and 4) treatment adherence (4 items), which refers to the client’s attitude toward taking medication and treatment (e.g., *Client refuse treatment*; $\alpha = .82$), as is the alpha coefficient for the overall scale ($\alpha = .91$). The scale has high internal consistency, retest reliability, good face validity, and content validity, supported by clinician ratings of engagement (Tait et al., 2002). The SES has been used with samples of community-based mental health clinicians and their clients (Tait, Birchwood, & Trower, 2002, 2004; Mulder, Koopmans, & Hengeveld, 2005; Davidson & Campbell, 2007; Lecomte at al., 2008; Fisher et al., 2008; Ruchlewska et al., 2009; Staring et al., 2009). Internal consistency for the total scale in the pilot study as measured by Cronbach’s alpha was good ($\alpha = .82$). Since this measure adequately reflects the multiple dimensions of engagement with mental health services that are conceptually related, the total SES score was utilized in the hypothesis testing model.

**Independent variables**

**Socio-demographic characteristics**

The socio-demographic section of the survey directly asks the respondent’s gender, age, and asks them to choose the ethnic category that best represents them from a list of five possible racial/ethnic categories. Given the high percentage of respondents who identified as White-Caucasian, this variable was recoded into a dichotomous variable with White-Caucasian (coded as 0, reference group) vs. non White-Caucasian. Practitioners were asked the highest level of education achieved. Given that a very small percentage of respondents received post masters education, those who did were collapsed into a “masters and above” category. Responses were then recoded into a dichotomous variable with “Less than masters (including community college, bachelors degree)” as the
reference group (coded as 0) and “masters or above (including masters and doctorate degree)” as the second group (coded as 1). The survey also asked the practitioner to identify the job title at his/her current position in the agency from a list of seven possible categories: social worker, case manager, psychologist, therapist/counselor, psychiatrist, administrative staff, and supervisor. In addition, the survey asked whether the practitioner has a permanent position versus a temporary position with the agency (no=0, yes=1), the number of years they had worked in the mental health field, and the number of years they had worked in the organization. Also the survey asks whether the respondent and/or a family member live(d) with mental health issues (e.g., mood disorder) with two response categories (no=0, yes=1).

**Professional characteristics**

In addition to practitioners’ socio-demographic characteristics, the following characteristics of professional practice were included in the questionnaire: hours of in-service training, use of referrals, coordination, case load size, teamwork, resource knowledge, service provision, and service barriers were also assessed.

In-service training was the total hours of in-service training they had within a month. Use of referrals was a single item question which assessed the level of referrals made to other service categories (e.g., “To what extend is providing youth with referrals to drug/alcohol, health, education, inpatient, and outpatient resources a part of your job?”). Response options included four categories for this question: “not at all”, “very little”, “somewhat”, and “to a great extent”.

Coordination was a single item question which assessed the frequency of service coordination with other organizations (e.g., “When you work with a youth, how often do
you coordinate with other agencies in providing services?”). Different from use of referrals, coordination of service include, for example, interagency treatment planning teams, targeted case management services, and individual family-based support services, and used when client’s needs cannot be met with existing resources but require that creative. Response options included four categories for this question: “never/rarely”, “sometimes”, “often”, and “always”.

Case load size is the total number of clients treated by the practitioner in the past 3 months. Teamwork was measured with two items. The first item focused on frequency of individual meetings with supervisors or supervisees for receiving/providing supervision. The second item focused on frequency of group staff meetings. Each of these items was scored on a 4-point Likert scale that included daily (1), several times per week (2), weekly (3), and monthly (4). The responses to the items were summed to create a single score of frequency of teamwork ranging from 2 to 8, with higher scores indicating more frequent teamwork with others in providing services.

Resource knowledge was indicated by practitioner familiarity with resources in other service systems and the community (e.g., “The following list names a number of different categories of mental health, substance use, or other resources, please check any agencies or organizations that you are familiar with.”). Practitioners reported their familiarity with 30 service categories grouped into four major service domains: six for the health and education domain, seven for the inpatient behavioral health care domain, eight for the outpatient treatment domain, and nine for the ‘other’ service domain (Bunger, Stiffman, Foster, & Shi, 2009). Practitioners indicated ‘yes’ or ‘no’ for each service category, and a total familiarity score (ranging from 0 to 30) was computed, with
higher scores representing more practitioner more knowledge of resource. (25 categories of original version’s Cronbach’s alpha is .94, test-retest reliability is .84). This measure was used successfully in several prior studies (Horwitz et al., 2001; Stiffman et al., 2006; Stiffman, Hadley-Ives et al., 2000; Stiffman, Horwitz et al., 2000; Stiffman et al, 2001). Internal consistency of the sum of scores in the pilot study was Cronbach’s alpha of .90.

Service provision was assessed through questions about direct provision for 21 possible mental health services (e.g., “In your service setting, which of the following services do you personally provide to clients?”) (Stiffman, Hadley-Ives et al., 2000, Stiffman et al., 2001). Practitioners reported whether they provided any of 21 types of services (e.g., assessment, individual treatment, etc). A summed score of service provision (range from 0 to 21) was computed and higher score represent more service provisions to clients (Original version with 10 types of services test-retest reliability is .87). Internal consistency for the total scale in the pilot study as measured by Cronbach’s alpha was good (α = .86).

Service barriers were measured by perceived service barriers of the practitioners. (e.g., “Concerning the availability and continuity of services available to youths at your agency, what are the gaps?”) This was a 10 item checklist of potential barriers/gaps (e.g., transition between services, coordinating services) which can affect the availability and continuity of services available to client at the organization (Bunger, Stiffman, Foster, & Shi, 2009). Practitioners checked whether the barrier existed at their agency. The measure yielded a summed score of perceived service barriers (ranging from 0 to 10); higher scores indicated more barriers in services.

Organization characteristics
Type of organization was assessed by asking which type of organization operated the facility. Response options included six categories recoded into three categories for this study: (1) private for-profit, (2) private nonprofit, and (3) public organization (i.e., state, local, county, tribal, or federal). In regard to location, practitioners were asked to characterize their service area with the following question in the survey: “which best describes the location of the population you serve?” Response options included three categories dummy coded into two categories (there were no practitioner responses to the rural option) for the purposes of this study: “suburban” (coded as 0) and “urban” (coded as 1). Practitioners further classified the outpatient service settings in which they worked through the following question: “in which of the following service organization settings do you work?” as (1) private therapist, psychologist, psychiatrist, social worker or counselor, (2) mental health clinic or center, (3) partial day treatment program, or (4) in-home therapist, counselor. Response options were dummy coded into two categories for the purposes of this study- “outpatient (1, 2, and 3: coded as 0)” and “outreach (4: coded as 1)”.

Organizational culture

The Organizational Culture in Mental Health (OCMH) scale measured organizational culture (Schiff, 2009). The OCMH was designed based on theoretical aspects of organizational dynamics in people-serving organizations. Compared to other organizational culture measures, the OCMH was beneficial for capturing cultural elements of mental health service organizations. This 60 item scale had been well validated and showed good reliability. Respondents indicated on a six-point Likert scale from ‘Not at all’ to ‘always’.
The OCMH includes four subscales with strong psychometric properties. Scale themes included professional support and trust (PST) ($\alpha = .91$), professional values (PV) ($\alpha = .90$), empowerment, avoidance, and control (EAC) ($\alpha = .88$), and climate: organization environment (OE) ($\alpha = .69$). A summed subscale scores were computed (possible range from 0 to 80 for PST and PV; 0 to 60 for EAC; 0 to 30 for OE), with higher scores representing constructive organizational culture, lower scores representing defensive organization culture in general. Specifically, the PST represents the nature of relationship and interactions among employees, supervisors, and managers (Schiff, 2009). The scale measures an atmosphere of openness, responsiveness to feedback both staff and clients, and responsiveness to individual needs (e.g., “Is there an atmosphere of trust, sincerity and mutual respect”). In mental health organizations with a high score on PST, freedom of expression is encouraged and management is open to feedback from all levels of the organization (Schiff, 2009, p.99). The PV focuses on professional attitudes and counseling values inherent in mental health professional practice (e.g., “Do staff show equal respect for all clients they serve”). This subscale reflects the core value of belief in the dignity and worth of people that have always been at the heart of counseling processes (Schiff, 2009, p. 100). The EAC dealt with issues of power and control that create dysfunction in the workplace (e.g., “Are there cliques that compete for power, preference and control”). Organizations scoring high on this factor are difficult places to work, but in the current study the scores were reverse coded so that higher scores indicated fewer issues of power and control in the workplace. The OE focuses on aspects of the physical environment that ensure the workplace is comfortable and physically
approachable (e.g., “Is there age-appropriate reading material for the waiting room”) (Schiff, 2009, p. 101).

Based on this measure’s use with 26 practitioners in the pilot study described below, the Cronbach’s coefficient alpha was .93 for PST, .91 for PV, .77 for EAC, and .67 for OE. The four factors of the OCMH have strong scale reliability and face validity. These factors, in this study, provided an empirical measure of specific values, attitudes, and beliefs that characterize outpatient mental health organizations.
<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Operational definition</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Service Engagement Scale (SES)</td>
<td>Practitioner’s rating on the level of client availability for treatment, collaboration, help seeking behaviors, and treatment adherence</td>
<td>14 items, 0 - 3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Operational definition</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Socio-demographic Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>Sex as defined by practitioner</td>
<td>0= female</td>
</tr>
<tr>
<td>Age</td>
<td>Current age</td>
<td>years</td>
</tr>
<tr>
<td>Race</td>
<td>Ethnicity as defined by practitioner</td>
<td>5 categories</td>
</tr>
<tr>
<td>Education</td>
<td>The highest level education achieved</td>
<td>5 categories</td>
</tr>
<tr>
<td>Job title</td>
<td>The exact title of the practitioner current position</td>
<td>7 categories</td>
</tr>
<tr>
<td>Permanent position</td>
<td>Permanent position with the organization</td>
<td>0= no</td>
</tr>
<tr>
<td>Yrs in field</td>
<td>The number of years the practitioner has worked in this field</td>
<td>years</td>
</tr>
<tr>
<td>Yrs in organization</td>
<td>The number of years the practitioner has worked in this agency</td>
<td>years</td>
</tr>
<tr>
<td>Previous mental health experience</td>
<td>The practitioner/family member have/had lived with mental health issues</td>
<td>0= no</td>
</tr>
<tr>
<td></td>
<td><strong>Professional Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>In-service training</td>
<td>The total hours of in-service training within a month</td>
<td>hours</td>
</tr>
<tr>
<td>Use of referrals</td>
<td>The degree of referrals made to other service systems</td>
<td>4 categories</td>
</tr>
<tr>
<td>Coordination</td>
<td>Coordinating with other organizations</td>
<td>4 categories</td>
</tr>
<tr>
<td>Case load size</td>
<td>The number of clients currently treating by practitioner</td>
<td># of clients</td>
</tr>
<tr>
<td>Teamwork</td>
<td>The frequency of individual and group staff meetings</td>
<td>2 item, 4 categories</td>
</tr>
<tr>
<td>*Resource knowledge</td>
<td>The number of service categories with which practitioner was familiar</td>
<td>30 items yes or no checklist</td>
</tr>
<tr>
<td>*Service provision</td>
<td>The number of different services that practitioner provided directly to youth</td>
<td>21 items checklist</td>
</tr>
<tr>
<td>*Service barriers</td>
<td>The number of perceived gaps in the availability and continuity of services available to youths at the organization</td>
<td>10 items checklist</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organizational Level</th>
<th>Operational Characteristics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of organization</td>
<td>The type of organization in which practitioner worked</td>
<td>6 categories</td>
</tr>
<tr>
<td>Location</td>
<td>The location of the population practitioner served</td>
<td>3 categories</td>
</tr>
<tr>
<td>Service setting</td>
<td>The type of outpatient service setting</td>
<td>4 categories</td>
</tr>
<tr>
<td></td>
<td><strong>Organizational culture</strong></td>
<td></td>
</tr>
<tr>
<td>*Organizational Culture in Mental Health (OCMH)</td>
<td>The assumptions, beliefs, values and behavioral expectations shared within organizations</td>
<td>60 items scoring 0 to 5 each</td>
</tr>
</tbody>
</table>

*indicated variables with standardized measurements or indices/checklists
Survey Instrument Pilot Test

The survey used in this study was developed through a year of collaborative research between principal investigator, instrument developers (Dr. Stiffman, Dr. Schiff, Dr. Tait), and other mental health stakeholders during the pilot phase of this project of research. This survey focused on various aspects of mental health providers experiences – such as referral resource, knowledge, organizational culture – that were identified by mental health researchers as important to understanding service use and engagement. All measures were rated by practitioners. Some variables were included in the survey based on prior research, such as age, education, and whether one lived with mood disorder.

The survey instrument used in this study was added to a focus group study exploring stakeholder perspectives of engagement strategies in working with transition age youths with mood disorders (PI, Dr. Michelle Munson). The survey protocol was pilot tested (N=26, 4 organizations) in five practitioner focus group sessions held March, 2010 in Cleveland and Cincinnati, Ohio. Sixty-nine percent of the practitioners in the pilot sample were female and sixty-two percent were white. All practitioners possessed a bachelors-level degree, and 65% of them had master-level degree. The average practitioner was employed 8 years (SD=7.6), with a range from less than one year to 29 years. All measurement reliability and validity were checked (See measurement section).

The sample (N=26) from pilot test was combined into the dissertation study sample because 1) there were no different measures in the pilot and main surveys, 2) in/exclusion criteria for organizations and practitioners were the same in the two survey procedures, and 3) statistically, there was no difference between sample from pilot survey
and main survey on key variables (e.g., demographic, service engagement, organizational culture etc.).

**Data Collection**

Recruitment and data collection for the study took place over five months (April, 2011 – August, 2011). As the target organizations, Cuyahoga, Franklin, and Hamilton Counties have 43, 15, and 20 contracted mental health organizations, respectively, four were excluded from the study since they were previously utilized in the pilot study. The executive directors, quality improvement directors, or clinical directors of the remaining agencies were contacted individually by e-mail and by phone about the study. The purpose of this study was described as collecting information on mental health service practitioners’ views on service engagement among transition age youth. They were reminded that this study was funded by ODMH. They were also reminded that participation was entirely voluntary and were informed of the potential risks and benefits. The recruitment script for agency directors is included as Appendix A.1.

At the initial contact with agency directors, the investigator forwarded a summary of this research, a sample Letter of Cooperation (Appendix A.2), and a sample copy of the survey protocols (Appendix B). In addition, all the agency directors were apprised of general IRB approval for this study and that specifically all the material and documents (e.g., survey instrument, Letter of Cooperation) used in this study were granted approval by the IRB Committee at CWRU.

If directors of the mental health agencies contacted agreed to participate, each director was asked to write the Letter of Cooperation the study and send this back to the investigator. Also they were asked for an estimate of the number of employees meeting
study criteria in the agency as indicated in the Letter to Prospective Participants (Appendix A.3). After receiving the Letter of Cooperation and potential estimate of the number of employees from an agency director, the director was mailed the number of surveys indicated in their initial estimate. Each individual survey packet contained 1) an Introductory Letter to Potential Participants (Appendix A.4), 2) Informed Consent Document (ICD, Appendix A.5), 3) the survey developed for this study, 4) pre-addressed stamped envelope for survey, and 5) a token incentive of $10. Two of the directors for the study had the option of PI’s visiting the agency for collecting survey material at a time.

All participants were provided a letter that included pertinent information about the study, the researcher’s name and contact information, the name of the study and the contact information for the CWRU IRB in case participants have any questions about the research. An informed consent document was provided for participants to read and keep. Participants were encouraged to contact the investigator immediately to discuss any concerns about their study participation. Participants were informed that the risks of this study were minimal and their participation would contribute to the knowledge-base concerning the service engagement of transition age youth in mental health service.

They were also provided a copy of the Informed Consent Document (ICD) to read and keep. Participants were asked to fill out the survey protocol and then send it back to the investigator in a pre-addressed and stamped envelope via mail. Two of the directors for the study requested the option of the PI’s visiting the agency for administering and collecting survey material directly (nineteen cases).

The investigator sent one e-mail prompt approximately one or two weeks after the agency director confirmed that the surveys had been distributed to eligible staff. This e-
mail was addressed to all staff at the agencies involved in the study rather than specific individuals in the agency since individual respondents were not known to the investigator. The purpose of the e-mail contact was to make a personal request to the practitioners to complete the survey, to answer questions about the study, and to clarify the nature of the study. In the e-mail, all potential participants were reminded of the study’s purpose, that the study was completely voluntary, and that there were no repercussions for not participating.

Among 74 potential target organizations 14 organizations were excluded, since some were residential mental health agencies and others provided services to adults only. A total of 60 agencies were contacted to participate in this study. Twenty three organizations expressed willingness to participate, 18 organization responded with reasons why they could not participate (e.g., busy time of year-4, children client only-9, not many practitioners to participate-5) and 19 organizations did not reply to the invitation, email or voice message, for an overall organization response rate of 38.3%. No significant differences were found for comparison of those organizations who did agree to participate (N=23) with those who did not (N=37) on county ($\chi^2=3.272, p>.05$), budget size ($\chi^2=3.039, p>.05$), number of full-time employees ($t=.813, p>.05$), area of rural/suburban/urban ($\chi^2=3.355, p>.05$).

A total of 287 surveys were sent to providers and a total of 258 surveys were returned, for an overall response rate of 89.8%. Five surveys were not included in the analysis because three of them were completed by non-eligible persons (e.g., administrators), and two of them included no responses to any of the SES items or OCMH items on the survey. Therefore, including the sample from the pilot test (26
practitioners, 4 organization), the total sample of this study was 279 practitioners from 27 organizations.

**Data Analysis**

**Preliminary analysis**

The analysis for the proposed study involved several preliminary analysis stages. Before carrying out inferential statistical procedures, all variable distributions were examined to see whether variable transformations were needed where distributions are skewed, or fail to meet the assumption of analysis (i.e., lack of normality). Plots were used to describe the data and identify outliers and influential observations. After a review of the distributional properties of each variable, univariate and bivariate analyses were carried out. Continuous data were described using means and standard deviations. Categorical variables were reported as medians (for ordinal data), frequencies, and percentages. Correlations between continuous variables were estimated using Pearson’s product moment correlation coefficient or Spearman’s rank correlation coefficient. Also, multicollinearity (i.e., high correlations between predictors >.80) was examined. This preliminary work also involved computations of reliabilities of the measures (e.g., Service Engagement Scale, Organizational Culture Scale).

In addition, multilevel research required special statistical procedures to analyze the data (Klein & Kozlowski, 2000). One of those procedures was to justify the aggregation of individual-level data: the OCMH subscales. In order to consider perspectives on culture among practitioners in organizations as shared but not identical in individual level, two characteristics must be present in the sample: 1) overall consensus among organization members and 2) enough variation between organizations to provide
evidence of identifiable cultural types (Glisson & James, 2002; Klein & Kozlowski, 2000). Thus, \( r_{wg} \) was used to ensure that there was high degree of agreement within each organization on OCMH score (James, Demaree, & Wolf, 1993). Between-group analysis using type-one intraclass correlation coefficient (ICC), type-two ICC, and eta-squared was conducted (Bliese, 2000) to determine the appropriateness of aggregating the data at the organizational level. The \( r_{wg} \) is an index of the agreement or consensus across perceivers in a common setting. The \( r_{wg} \) is calculated by comparing an observed group variance to an expected random variance. It provides a measure of agreement for each group rather than an omnibus measure for the groups as a whole. Generally, \( r_{wg} \) of .70 or higher was acceptable. The ICC(1) was calculated to look at how much of the variance in the variable is due to group membership and the ICC(2) to examine acceptable level of reliability of group means based on ICC(1) and group size. In cases where group sizes are equal, the ICC(2) is equivalent to the overall sample-mean reliability estimate (Bliese, 2000). The eta-squared value was tested to see the proportion of total variation between groups across the entire sample of groups. ICC(1)’s statistical significance is based on the \( F \)-test. ICC(2) values of .70 or higher were acceptable. Eta-squared values should have significant \( F \) scores and they should be higher than the ICC(1) (Glisson & James, 2002; Klein & Kozlowski, 2000). All the data entry, managing, preliminary analysis were performed by using SPSS 19.

**Hypothesis testing**

In consideration of the hierarchical structure of our data (Level 1- Practitioner, Level 2 - Organization; individual practitioners nested within organizations), a multilevel modeling approach was used to examine individual practitioners’ perception of service
engagement as it related to both practitioner-level and organizational-level measures. The study data had a nested structure: practitioners within the same organization represented a cluster because they were exposed to similar organizational influences (e.g., organizational culture); they were more similar to one another than to practitioners in other organizations. Therefore, their responses to survey items were not independent, which would have been a violation of the independence of observations assumption in OLS regression (Goldstein, 1995). Hierarchical linear modeling (HLM) addresses this issue using HLM, Version 7 (2010).

Specifically, it was examined how service engagement, measured at the practitioner level, is influenced by practitioners’ perceptions of resource knowledge, use of referrals, in-service training hours, coordination, teamwork, service provision, case load size, and service barriers. It is also examined how service engagement is affected by organizational-level characteristics, including type of organization, location, service setting, and organizational culture. With information provided from the multilevel model, the relationship between practitioner level predictors and their service engagement were explored (Aim1 – Hypotheses 1 & 2). After establishing that there was significant variance across organizations in the Level-1 intercepts, then the agency level hypothesis (Aim2 – Hypotheses 3 & 4) were directly tested. Finally, after establishing that significant organization variance in the slopes was present in the multilevel model, it was then explored whether the variance in the slope across organizations is significantly related to the level-2 independent variable (e.g., organizational culture). This was a direct test for the cross-level moderator (Aim3 – Hypotheses 5).
To assess the five hypotheses, a sequence of models is required: the unconditional (one-way ANOVA), random-coefficient regression, intercept-as-outcomes, and slopes-as-outcomes models (Raudenbush & Bryk, 2002).

**Unconditional Model**

To conduct cross-level analyses, there must be systematic within- and between-group variance in the dependent variable. This condition is necessary because the dependent variable (service engagement) is hypothesized to be significantly related to both an individual level variable (e.g., resource knowledge) and organizational level variable (e.g., organizational culture). An unconditional model with no independent variables at Level-1 or Level-2 estimates the following equations:

\[
\text{Level-1: } DV_{ij} = \beta_{0j} + r_{ij} \\
\text{Level-2: } \beta_{0j} = \gamma_{00} + U_{0j}
\]

where

\[
DV = \text{service engagement} \\
\beta_{0j} = \text{mean service engagement for organization } j \\
\gamma_{00} = \text{grand mean service engagement} \\
r_{ij} = \sigma^2 = \text{within-organization variance in service engagement} \\
U_{0j} = \tau_{00} = \text{between-organization variance in service engagement}
\]

The Level-1 equation does not include an independent variable, therefore the regression equation includes only an intercept estimate. The Level-2 model regresses each organization’s mean dependent variable onto a constant.

**Random-Coefficient Regression Model**

The random-coefficient regression model tests the significance of Hypothesis 1 and 2. Technically, this model was used to assess whether there was significant between-
organization variance in the intercepts and slopes. To find support for Hypothesis 3 and 4, there must be significant variance in intercepts across organizations, and for Hypothesis 5 to be supported, there must be significant variance in slopes across organizations. The following equations were used:

Level-1: \[ DV_{ij} = \beta_{0j} + \beta_{1j} (IV) + r_{ij} \]
Level-2: \[ \begin{align*}
\beta_{0j} &= \gamma_{00} + U_{0j} \\
\beta_{1j} &= \gamma_{10} + U_{1j}
\end{align*} \]

where

\( DV = \) service engagement \\
\( IV = \) practitioner level variable \\
\( \beta_{0j} = \) mean service engagement for organization \( j \) \\
\( \beta_{1j} = \) grand mean practitioner level variable for organization \( j \): slope for organization \( j \) \\
\( \gamma_{00} = \) mean of the intercepts across organizations \\
\( \gamma_{10} = \) mean of the slopes across organizations \((Hypotheses \ 1 \ & 2)\) \\
\( r_{ij} = \sigma^2 = \) within organization variance in service engagement: Level-1 residual variance \\
\( U_{0j} = \tau_{00} = \) between organization variance in service engagement: variance in the intercepts \\
\( U_{1j} = \tau_{11} = \) variance in the slopes

The Level-2 regression equation is equal to an intercept term and a residual since there are no Level-2 predictors of \( \beta_{0j} \) or \( \beta_{1j} \). The \( \gamma_{00} \) and \( \gamma_{10} \) parameters denote the Level-1 coefficients averaged across organizations (i.e., they are the pooled \( \beta_{0j} \) and \( \beta_{1j} \) parameters). Since \( \beta_{0j} \) and \( \beta_{1j} \) are regressed onto constants, the variance of the Level-2 residual terms (i.e., \( U_{0j} \) and \( U_{1j} \)) represents the between-organization variance in the intercepts.

**Intercepts-as-Outcomes Model**

After establishing that there was significant variance across organizations in the Level-1 intercepts, then the cross level hypothesis (Hypothesis 3 and 4) can be directly tested. It is tested using the following equations:
Level-1: \(DV_{ij} = \beta_{0j} + \beta_{1j} (IV1) + r_{ij}\)
Level-2: \(\beta_{0j} = \gamma_{00} + \gamma_{01} (IV2) + U_{0j}\)
   \(\beta_{1j} = \gamma_{10} + U_{1j}\)

where

\(DV = \) service engagement
\(IV1 = \) practitioner level variable
\(IV2 = \) organizational level variable
\(\beta_{0j} = \) mean service engagement for organization \(j\)
\(\beta_{1j} = \) grand mean practitioner level variable for organization \(j\): slope for organization \(j\)
\(\gamma_{00} = \) mean of the intercepts across organizations
\(\gamma_{01} = \) Level-2 slope (Hypotheses 3 and 4)
\(\gamma_{10} = \) mean (pooled) slopes
\(r_{ij} = \sigma^2 = \) within organization variance in service engagement: Level-1 residual variance
\(U_{0j} = \tau_{00} = \) between organization variance in service engagement: variance in the intercepts
\(U_{1j} = \tau_{11} = \) variance in the slopes

*Slopes-as-Outcomes Model*

Finally, after establishing that significant organization variance in the slopes was present in the random coefficient regression model, it was examined whether the variance in the slope across organizations was significantly related to the organization level independent variable (e.g. organizational culture). This was a direct test for the cross-level moderator (Hypothesis 5). The slopes-as-outcomes model was employed for this step as follows:

Level-1: \(DV_{ij} = \beta_{0j} + \beta_{1j} (IV1) + r_{ij}\)
Level-2: \(\beta_{0j} = \gamma_{00} + \gamma_{01} (IV2) + U_{0j}\)
   \(\beta_{1j} = \gamma_{10} + \gamma_{11} (IV2) + U_{1j}\)

where

\(DV = \) service engagement
\(IV1 = \) practitioner level variable
\(IV2 = \) organizational level variable
\(\beta_{0j} = \) mean service engagement for organization \(j\)
\( \beta_{1j} = \) grand mean practitioner level variable for organization \( j \): slope for organization \( j \)

\( \gamma_00 = \) mean of the intercepts across organizations

\( \gamma_{01} = \) Level-2 slope

\( \gamma_{10} = \) mean (pooled) slopes

\( \gamma_{11} = \) Level-2 slope \((\text{Hypotheses 5})\)

\( r_{ij} = \sigma^2 = \) within organization variance in service engagement: Level-1 residual variance

\( U_{0j} = \tau_{00} = \) between organization variance in service engagement: variance in the intercepts

\( U_{1j} = \tau_{11} = \) variance in the slopes

**Handling missing data**

Of the 284 practitioners, three practitioners were missing all items on the SES scale and two practitioners were missing all or most items on the OCMH. These practitioners were removed from the final sample. Within the remaining 279 participants who completed the survey, Missing Values Analysis (MVA) in SPSS 19 was undertaken to determine the level and nature of data missing in the dataset for this study. A descriptive analysis examining missing data in every item from the survey revealed that no single item had more than 3.6% data missing. When composite variables were analyzed the highest levels of missing data for any composite variable was the service engagement scale at 4.8%. This level is well within the range considered to be low levels of missing data in the literature (Little & Rubin, 2002). Little’s MCAR test was also accomplished to see if there were any systematic patterns among the missing data or if the data were missing completely at random (MCAR) (Tabachnick & Fidell, 2007). The result of Little’s MCAR test in the current study was: \( \chi^2 = 71.588, p = .492 \), indicating an absence of systematic patterns among the missing data and acceptable levels of missing data. Since a 20% or lower level of missing data is considered an acceptable level for data imputation and the level among the variables in the current study was much lower, the decision was made to impute data to replace the missing data (Little & Rubin, 2002).
Imputation was accomplished via likelihood-based methods using the expectation-maximization (EM) within MVA in SPSS 19. The EM method uses an expectation-maximization algorithm to estimate means, covariances, and Pearson correlations.
CHAPTER 4

This chapter presents the gathered data in tabular presentation, analysis and interpretation of findings based on the results of the statistical analysis applied. The results are organized in sequential order based on the statement of the research questions in Chapter 2 and analysis plans in Chapter 3.

RESULTS

Preliminary Analysis

This study’s final sample included 279 practitioners from 27 mental health organizations. The average number of participants from an organization was 10.7 \((SD=5.6)\), ranging from 3 to 23. Based on participant self-report on the survey, all respondents met criteria for the study. Socio-demographic characteristics, characteristics of professional practice, and organization characteristics are summarized in Tables 4, 5 and 6, respectively.

Socio-demographic characteristics

*Gender & Age.* Participants were 81.4% female and 39.6 \((SD=11.9)\) years old on average with a range of 23 to 73.

*Race.* The respondents were 79.6% Caucasian, 16.5% African American, 2.2% Hispanic/Latino, and 1.8% Asian or other.

*Education.* Nearly two-thirds of the practitioners in this sample had a master’s degree (64.9%). A bachelor’s degree was held by 29.4% and a doctoral degree was held by 2.9% of the participants. One respondent who indicated “other” had post-graduate certificates.
Job title. 40.5% of participants were therapist/counselors, 20.4% were case managers, 20.1% were social workers, and 17.2% were supervisors. Three respondents were psychologists and one respondent identified as a psychiatrist.

Permanent position. The majority of practitioners in this sample had permanent contracts with their agency (94.6%).

Years in field & organization. Almost half (51.5%) of practitioners had worked in mental health field for more than 10 years. Mean years in the mental health field was 11.8 (SD=9.1) and ranged from 1-38 years. The amount of time that respondents reported being in the agency was positively skewed (2.62), with almost half (48.7%) having been employed by the agency for 1 to 3 years. According to Allison’s (1999) rule of thumb (acceptable levels of skewness (<2) and kurtosis (<7)) it was not an acceptable level of skewness. However, for the purpose of this study, the original score was kept as a continuous variable because the skewness was marginal and the original score contained more information. Mean years in the agency was 5.7 (SD=6.3) and ranged from 1 to 38 years.

Previous mental health experience. Nearly 28% of the practitioners had live(d) with mental health issues(e.g., mood disorders), and 68% them reported somebody in their family live(d) with mental health issues.
Table 4. Socio-demographic characteristics of practitioners

<table>
<thead>
<tr>
<th></th>
<th>N(%)</th>
<th>M(SD)</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>227</td>
<td>81.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>52</td>
<td>18.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td>39.6</td>
<td>23</td>
<td>73</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>222</td>
<td>79.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>46</td>
<td>16.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>6</td>
<td>2.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>2</td>
<td>0.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>1.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community college</td>
<td>7</td>
<td>2.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelors</td>
<td>82</td>
<td>29.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Masters</td>
<td>181</td>
<td>64.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doctorate</td>
<td>8</td>
<td>2.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>0.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Job Title</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Therapist</td>
<td>113</td>
<td>40.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Case manager</td>
<td>57</td>
<td>20.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social worker</td>
<td>56</td>
<td>20.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supervisor</td>
<td>48</td>
<td>17.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychologist</td>
<td>3</td>
<td>1.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychiatrist</td>
<td>1</td>
<td>0.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Permanent position

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>15(5.4)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>264(94.6)</td>
<td></td>
</tr>
</tbody>
</table>

Years in field

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11.8(9.1)</td>
<td>1 38</td>
</tr>
</tbody>
</table>

Years in the organization

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5.7(6.3)</td>
<td>1 38</td>
</tr>
</tbody>
</table>

Previous mental health experience

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>200(71.7)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>79(28.3)</td>
<td></td>
</tr>
</tbody>
</table>

Previous mental health experience (family)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>89(31.9)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>190(68.1)</td>
<td></td>
</tr>
</tbody>
</table>

Characteristics of professional practice

Case load size. Average caseload size that practitioner reported treating in the past 3 months was 42 with a range of 1-112 cases. Almost half (49.5%) had less than 34 cases.

Service provision. Service provision, as a count variable, was assessed through questions about direct provision of 21 possible mental health services. On average, practitioners provided 8 different types of services on behalf of the youth, and ranged from 0 to 19. A practitioner who reported 0 for the service provision provided other types of service (i.e., art therapy) not in the 21 listed in the survey. Most commonly, practitioners provided individual treatment (82.6%) followed by use of referrals (78.1%), assessment (75.7%), crisis intervention (75.3%), case management (67.2%), teaching of
health and/or mental health (59.5%), family/couples treatment (40.5%), group treatment (38.9%), and life skills training (38.9%).

*In-service training.* In-service training hours (within a month) was marginally skewed (3.0), with almost half (52.7%) having spent 1 to 3 hours a month in in-service training. 16.1% of the practitioners reported 0 or less than 1 hour of training. The average hours for the in-service training a month was 4.7 (SD=7.6) and ranged from 0-40 hours. For the purpose of this study, the original score was utilized in the analysis as a continuous variable.

*Training topic.* Training topic was assessed from counts of topics covered in in-service training in the past 12 months. On average, practitioners received three topics of in service training on behalf of youth. Most commonly, practitioners received training related the subject to intervention skills (53.8%) followed by general mental health and adolescence (42.6%), assessment/diagnosis (41%), and alcoholism/drug abuse (40.2%).

*Resource knowledge.* Practitioners identified their resource knowledge with 30 service categories grouped into four major service domains; health and education, inpatient behavioral health care, outpatient treatment, and other service. On average, practitioners were familiar with 23 of the 30, or about 77% of the service categories. All the practitioners were familiar with at least five resources, and there were nine practitioners who were familiar with all 30 resources. In addition, practitioners familiar with almost five of the six health and education domain, six of the seven inpatient behavioral health care domain, seven of the eight outpatient treatment domain, and six of the nine ‘other’ service domain.
**Use of referrals.** When asked to what extent the practitioners provide youth with referrals to other services (e.g., drug, alcohol) 6.5% (n=18) of respondents reported “not at all”, 28.3% (n=79) reported “very little”, 36.9% (n=103) reported “somewhat”, and 28.3% (n=79) reported “to a great extent”.

**Coordination.** In terms of service coordination with other organizations in providing services to youth 6.8% (n=19) of practitioners reported “never/rarely”, 28% (n=78) reported “sometimes”, 37.3% (n=104) reported “often”, and 28% (n=78) reported “always”.

**Teamwork.** Teamwork was a summed score of the two items which was focused on frequency of individual and group meeting with colleague for receiving or providing supervision. The average was 4 and with a range of 2 to 8.

**Service barriers.** Service barriers were assessed from counts of potential gaps in continuity of services available to client at the organization. On average, practitioners perceived three barriers out of 10. There were 50 (17.9%) practitioners who indicated ‘no gaps’ versus, 3 (1.1%) practitioners checked all potential gaps listed in the survey question. Most commonly, practitioners perceived service barriers in transition between services (41%) followed by financial gaps (38.9%), gaps in filling basic needs (38.5%), client issues (35.7%), lack of programs or services (33.6%), coordinating services (32.4%), and agency function limited (27%).
Table 5. Characteristics of professional practice

<table>
<thead>
<tr>
<th></th>
<th>N(%)</th>
<th>M(SD)</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caseload size</td>
<td>42.2(36.2)</td>
<td>1 211</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service provisions</td>
<td>7.9(3.3)</td>
<td>0 19</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Individual treatment</em></td>
<td>230(82.6)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Referral out</em></td>
<td>218(78.1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Assessment</em></td>
<td>211(75.7)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Crisis intervention</em></td>
<td>210(75.3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Case management</em></td>
<td>187(67.2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Teaching of health and/or mental health</em></td>
<td>166(59.5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Family/couples treatment</em></td>
<td>113(40.5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Group treatment</em></td>
<td>109(38.9)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Life skills training</em></td>
<td>109(38.9)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>School consultation</em></td>
<td>105(37.7)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Educational/Vocational Guidance</em></td>
<td>92(32.8)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Diagnostic testing/evaluation</em></td>
<td>77(27.5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Teaching of cultural diversity</em></td>
<td>68(24.3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Drug and/or alcohol abuse treatment</em></td>
<td>67(23.9)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>In-home/Family preservation</em></td>
<td>62(22.3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Teaching/academic</em></td>
<td>51(18.2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Recreation therapy</em></td>
<td>37(13.4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Parenting groups</em></td>
<td>29(10.5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Psychopharmacological treatment/therapy</em></td>
<td>19(6.9)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Day treatment/partial hospitalization</em></td>
<td>17(6.1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Medical care</em></td>
<td>8(2.8)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In-service training (hrs/month)         | 4.7(7.6) | 0 40    |      |      |

Training topic                          | 3.0(2.2) | 0 8     |      |      |
<table>
<thead>
<tr>
<th>Topic</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention skills</td>
<td>150(53.8)</td>
</tr>
<tr>
<td>General mental health</td>
<td>119(42.6)</td>
</tr>
<tr>
<td>Adolescence</td>
<td>119(42.6)</td>
</tr>
<tr>
<td>Assessment/diagnosis</td>
<td>114(41.0)</td>
</tr>
<tr>
<td>Alcoholism/drug abuse</td>
<td>112(40.2)</td>
</tr>
<tr>
<td>Abuse/neglect</td>
<td>100(35.9)</td>
</tr>
<tr>
<td>Gangs/violence</td>
<td>40(14.3)</td>
</tr>
<tr>
<td>Financial issues</td>
<td>21(7.6)</td>
</tr>
<tr>
<td>Resource knowledge</td>
<td>23.3(4.4)</td>
</tr>
<tr>
<td>Health/Education</td>
<td>5.2(1.1)</td>
</tr>
<tr>
<td>Inpatient</td>
<td>5.7(1.3)</td>
</tr>
<tr>
<td>Outpatient</td>
<td>6.7(1.5)</td>
</tr>
<tr>
<td>Other</td>
<td>5.7(1.8)</td>
</tr>
<tr>
<td>Use of referral</td>
<td>1.9(0.9)</td>
</tr>
<tr>
<td>Not at all</td>
<td>18(6.5)</td>
</tr>
<tr>
<td>Very little</td>
<td>79(28.3)</td>
</tr>
<tr>
<td>Somewhat</td>
<td>103(36.9)</td>
</tr>
<tr>
<td>To a great extent</td>
<td>79(28.3)</td>
</tr>
<tr>
<td>Coordination</td>
<td>1.9(0.9)</td>
</tr>
<tr>
<td>Never/Rarely</td>
<td>19(6.8)</td>
</tr>
<tr>
<td>Sometimes</td>
<td>78(28.0)</td>
</tr>
<tr>
<td>Often</td>
<td>104(37.3)</td>
</tr>
<tr>
<td>Always</td>
<td>78(28.0)</td>
</tr>
<tr>
<td>Teamwork</td>
<td>4.0(1.3)</td>
</tr>
<tr>
<td>Service barriers</td>
<td>3.0(2.2)</td>
</tr>
<tr>
<td>Transition between services</td>
<td>114(41.0)</td>
</tr>
</tbody>
</table>
### Financial gaps
- Financial gaps 109 (38.9)
- Gaps in filling basic needs (e.g., housing) 107 (38.5)
- Client issues 100 (35.7)
- Lack of programs or services 94 (33.6)
- Coordinating services 90 (32.4)
- Agency function limited 75 (27.0)
- Staff times or training 57 (20.5)
- Problems too complicated or too many problems 47 (16.8)
- Lack of culturally specific services 38 (13.5)

---

**Organization characteristics**

**Type of organization.** All practitioners in this study reported working in private non-profit organizations (27 organizations).

**Location.** Almost three-fifths (59.3%, N=16) of organization in this study provided service to clients in urban areas. Of the remaining organizations, 41.7% (N=11) were serving client populations in suburban areas.

**Service setting.** Twenty one (77.8%) organizations were “outpatient” settings which included – (1) private therapist, psychologist, psychiatrist, social worker or counselor (n=2, 7.4%), (2) mental health clinic or center (n=18, 66.7%), (3) partial day treatment program (n=1, 3.7%). Six (22.2%) organizations were “outreach” settings which provided in-home therapy and counseling services.
Table 6. Organization characteristics ($N=27$)

<table>
<thead>
<tr>
<th>Type of organization</th>
<th>N(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>A private non-profit</em></td>
<td>27(100)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location</th>
<th>N(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suburban</td>
<td>11(40.7)</td>
</tr>
<tr>
<td>Urban</td>
<td>16(59.3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Service setting</th>
<th>N(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outpatients</td>
<td>21(77.8)</td>
</tr>
<tr>
<td>Outreach</td>
<td>6(22.2)</td>
</tr>
</tbody>
</table>

**Organizational culture**

The OCMH measured individuals’ interpretation of the basic assumptions, values, and behavioral norms and expectations found in their organization. Raw scores were summed for each of four subscales – professional support and trust (PST), professional values (PV), empowerment, avoidance, and control (EAC), and climate: organizational environment (OE). Lower scores on each OCMH subscales indicate a defensive organizational culture and higher scores indicate a constructive organizational culture. Skewness and kurtosis were within the acceptable range of skew $<$ 2 and kurtosis $<$ 7 on all subscales, and there were no significant normality violations for any of the subscales. An examination of normal probability plots of residuals revealed no violations of normality, linearity, or homoscedasticity of residuals. The mean and standard deviation for each subscale is shown in Table 7. Scale responses are summarized below:
**Professional support and trust (PST).** Responses to items on the PST subscale suggested that practitioners generally had positive perceptions about atmosphere of openness, responsiveness to feedback from both staff and clients, and responsiveness to individual needs. Scores were above the mid-point of the scale for all items. Mean score of the subscale was also above the mid-point of the possible range of scale for PST (M=48.0, SD=14.8).

**Professional values (PV).** Mean score of PV was above the mid-point of the possible range (M=58.5, SD=11.3). Ratings of each item were also above the mid-point. In general, the practitioners had constructive perceptions on the belief in the dignity and worth of people, and clients’ ability to change.

**Empowerment, avoidance, & control (EAC).** The EAC dealt with issues of power and control that create dysfunction in the organization. Since the EAC was reverse coded, organizations scoring high on this subscale had constructive culture. Sum score of responses to these items was above the scale mid-point (M=41.7, SD=10.6). Practitioners expressed less concern about hierarchical decision making, managerial responsiveness to employ concerns, response to criticism, willingness to adopt new technology, and readiness to make administrative decisions in a timely fashion.

**Climate: Organizational environment (OE).** The climate scale dealt with aspects of physical environment that ensure the workplace is comfortable and physically approachable. Above the scale mid-point mean (M=19.5, SD=5.0) on OE indicated that in general the practitioner’s perceptions were positive about their workplace.

Cronbach’s alpha (Cronbach, 1951), which examines the intercorrelation of all items in each subscale, was used as an index of a scale’s internal consistency. A higher
Cronbach’s alpha means that the questions in the scale are a consistent measure of a concept. Cronbach’s alpha of .70 or above was considered acceptable for reproducible results (Nunnally & Bernstein, 1998). Cronbach’s alpha for the PST ($\alpha = .92$), PV ($\alpha = .90$), and EAC ($\alpha = .86$) subscales were in the acceptable range. The OE yielded lower Cronbach’s alpha ($\alpha = .63$) suggesting that results should be interpreted cautiously. The results of the internal reliability analysis supports the use of each subscale. The mean and standard deviation for each subscale and alpha coefficient are shown in Table 7.

Table 7. Descriptive statistics and reliability of OCMH subscales

<table>
<thead>
<tr>
<th>OCMH</th>
<th>Possible Range</th>
<th>M(SD)</th>
<th>Min.</th>
<th>Max.</th>
<th>Cronbach’s $\alpha$</th>
</tr>
</thead>
<tbody>
<tr>
<td>PST</td>
<td>0 ~ 80</td>
<td>48.0(14.8)</td>
<td>11</td>
<td>80</td>
<td>.92</td>
</tr>
<tr>
<td>PV</td>
<td>0 ~ 80</td>
<td>58.5(11.3)</td>
<td>21</td>
<td>80</td>
<td>.90</td>
</tr>
<tr>
<td>EAC</td>
<td>0 ~ 60</td>
<td>41.7(10.6)</td>
<td>5</td>
<td>60</td>
<td>.86</td>
</tr>
<tr>
<td>OE</td>
<td>0 ~ 30</td>
<td>19.5(5.0)</td>
<td>7</td>
<td>30</td>
<td>.63</td>
</tr>
</tbody>
</table>

Within-group interrater agreement ($r_{wg}$)

According to Klein and Kozlowski (2000), when assessing shared unit constructs, researchers must demonstrate substantial within-group agreement before using the mean of unit members’ scores to represent the unit. Consensus within organizations was analyzed through the use of the $r_{wg}$ statistic for within group consistency concerning the level of consensus that exists among organization members concerning organizational culture specific variables (Glisson & James, 2002).

Within-group consistency was assessed with $r_{wg}$. The $r_{wg}$ was an index of the agreement or consensus across perceivers in a common setting. The $r_{wg}$ was calculated by
comparing an observed group variance to an expected random variance. It provided a measure of agreement for each group rather than an omnibus measure for the groups as a whole. The values of $r_{wg}$ vary between 0 and 1 with a high value indicating agreement among raters and a low value indicating a lack of agreement among raters. Generally, a $r_{wg}$ of .70 or higher is acceptable (Klein & Kozlowski, 2000). For J parallel items assessing a variable, the $r_{wg}$ is given by the following equation (James, Demaree, & Wolf, 1993):

$$r_{wg}(J) = J[1 - \frac{(Sx_j^2/\sigma^2_E)}{J[1 - (Sx_j^2/\sigma^2_E)] + (Sx_j^2/\sigma^2_E)}]$$

where

$r_{wg}(J) =$ the within-group interrater agreement
$Sx_j^2 =$ the mean of the observed variance on the J parallel items
$\sigma^2_E =$ the variance on $x_j$ that would be expected if all judgments were due excessively to random measurement error, where $\sigma^2_E = (A^2 - 1) / 12$ (A is the number of alternatives in the response scale for the item $x_j$ which is presumed to vary from 1 to A)

The $r_{wg}$ indices for OCMH subscales are given in Table 8. The $r_{wg}$ indices were sufficiently large to justify aggregation. Average $r_{wg}$ scores >.70 indicated consensus within groups in the sample concerning the variables in question (James et al. 1993). Though there was substantial variation in within group consistency concerning some variables (especially OE subscale) the organization averages were all well above the >.70 guideline suggested by James et al. (1993). Thus, this provided evidence that there was a high degree of agreement within each organization on OCMH subscales and these variables could be aggregated to represent each organization (James et al., 1993). Consensus emerged concerning all four of the subscales that were included as level-2 variables in the HLM analyses.
Table 8. Within-group interrater agreement ($r_{wg}$) of OCMH subscales

<table>
<thead>
<tr>
<th>Subscale</th>
<th>No of items</th>
<th>Minimum $r_{wg}$</th>
<th>Maximum $r_{wg}$</th>
<th>Average $r_{wg}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>PST</td>
<td>16</td>
<td>.69</td>
<td>.98</td>
<td>.90</td>
</tr>
<tr>
<td>PV</td>
<td>16</td>
<td>.90</td>
<td>.99</td>
<td>.96</td>
</tr>
<tr>
<td>EAC</td>
<td>13</td>
<td>.75</td>
<td>.98</td>
<td>.90</td>
</tr>
<tr>
<td>OE</td>
<td>6</td>
<td>.63</td>
<td>.94</td>
<td>.81</td>
</tr>
</tbody>
</table>

**Between-group intraclass correlation coefficient (ICC)**

In addition to within-group consistency, a between-group analysis using type-one intraclass correlation coefficient (ICC), type-two ICC, and eta-squared was conducted (Bliese, 2000). Between group tests were accomplished using one-way ANOVA analysis in SPSS to produce subsequent calculations across all groups. ICC(1) was the information of the proportion of variance between organizations explained by organization membership and calculated with the Bartko (1976) formula (Hofmann et al., 2000):

\[
ICC(1) = \frac{MSB - MSW}{MSB + [(k-1)*MSW]}
\]

where

- $MSB$ = the between-group mean square
- $MSW$ = the within-group mean square
- $k$ = the group size (In most cases one can use average group size for $k$ if group sizes differ. In this research, the average number of participants (10.7) was used.)

ICC(2) provided an estimate of the reliability of the group means. ICC(1) and ICC(2) were related to each other as a function of group size. ICC(2) calculated by the following formula (Hofmann et al., 2000):

...
ICC(2) = k(ICC(1))/1+(k-1)ICC(1)

As Klein and Kozlowski (2000) pointed out, the significance of eta-squared values are affected by total sample size. So, the larger the sample, the more likely eta-squared values are to be significant. However, ICC(1) scores are not affected by sample size. This provided a corrective to the effect of the large sample size in this study on the eta-squared statistic. The equation that completed the eta-squared calculation was (Newton & Rudestam, 1999):

\[ \eta^2 = \frac{SS \text{ between organizations}}{\text{total SS}} \]

Table 9 shows that all ICC(1), ICC(2), and eta-squared values of OCMH subscales. The ICC(1) was .21 for PST, .23 for PV, .26 for EAC, and .25 for OE, suggesting that about 20% and above the variance in OCMH was between organizations. ICC(2) value of each subscale was over .70 (PST: .74, PV: .76, EAC: .79, OE: .78). The group effect (i.e., the F value for the ANOVA) was significant at \( p = .001 \). The significant eta-squared figures combined with significant and lower ICCs indicated acceptable levels of variability between organizations for four of the OCMH subscales.

In summary, the \( r_{wg} \) value was falling below the traditional cutoff recommended for forming groups of .70, and all ICC(1), ICC(2), and eta-squared values of OCMH subscales supported aggregation. Thus, they were included as organization level variables in the HLM analyses in this study.
Table 9. ICC(1), ICC(2), and eta-squared of OCMH subscales

<table>
<thead>
<tr>
<th>Subscale</th>
<th>ICC(1)</th>
<th>ICC(2)</th>
<th>Eta-squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>PST</td>
<td>.21</td>
<td>.74</td>
<td>.28***</td>
</tr>
<tr>
<td>PV</td>
<td>.23</td>
<td>.76</td>
<td>.30***</td>
</tr>
<tr>
<td>EAC</td>
<td>.26</td>
<td>.79</td>
<td>.32***</td>
</tr>
<tr>
<td>OE</td>
<td>.25</td>
<td>.78</td>
<td>.32***</td>
</tr>
</tbody>
</table>

*** p < .001

Service engagement

The SES measured practitioners’ perception on the level of youth’s service engagement. The SES includes four subscales; (1) availability for treatment, (2) collaboration, (3) help seeking behaviors, and (4) treatment adherence. Lower scores on each SES subscale and total scale indicate a lower level of service engagement and higher scores indicate a higher level of engagement. Skewness and kurtosis value were all in a range of +1 to -1, and there were no significant normality violations for any of the subscale. An examination of normal probability plots of residuals revealed no violations of normality, linearity, or homoscedasticity of residuals.

The mean scores for the SES subscales and total scale were above the mid-point of the scale. Average scores for availability for treatment (M=5.8), collaboration (M=5.7), help seeking behaviors (M=6.4), treatment adherence (M=7.5), and total SES (M=25.4) suggested, in general, practitioners of this study perceived above the mid-level of engagement among the TAY client in the mental health services.
Cronbach’s alpha was computed to assess the internal consistency of the SES total and subscales for this study. Cronbach’s alpha was acceptable for the total SES ($\alpha = .73$). Cronbach’s alpha for the availability ($\alpha = .53$), collaboration ($\alpha = .57$), help seeking ($\alpha = .55$), and treatment adherence ($\alpha = .48$) subscales suggested that these subscales did not have an adequate level of internal consistency. Since this measure reflects the multiple dimensions of engagement with mental health services that are conceptually related (range of subscales correlations: $r = .48 \sim .66$), the total SES score was utilized in the hypothesis testing model. Table 10 presents the mean and standard deviation for each SES item, grouped by subscale.
Table 10. Service engagement total and subscales score

<table>
<thead>
<tr>
<th>Items</th>
<th>M(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Availability</strong> (Cronbach’s $\alpha = .53$; Range 0-9)</td>
<td></td>
</tr>
<tr>
<td>The clients seem to make it difficult to arrange appointments*</td>
<td>1.9(.6)</td>
</tr>
<tr>
<td>When a visit is arranged, the clients are available</td>
<td>1.9(.8)</td>
</tr>
<tr>
<td>The clients seem to avoid making appointments*</td>
<td>2.0(.6)</td>
</tr>
<tr>
<td><strong>Collaboration</strong> (Cronbach’s $\alpha = .57$; Range 0-9)</td>
<td>5.7(1.5)</td>
</tr>
<tr>
<td>If you offer advice, do the clients usually resist it?*</td>
<td>1.8(.6)</td>
</tr>
<tr>
<td>The clients take an active part in the setting of goals or treatment plans</td>
<td>2.2(.8)</td>
</tr>
<tr>
<td>The clients actively participate in managing his/her illness</td>
<td>1.7(.7)</td>
</tr>
<tr>
<td><strong>Help seeking</strong> (Cronbach’s $\alpha = .55$; Range 0-12)</td>
<td>6.4(1.6)</td>
</tr>
<tr>
<td>The clients seek help when assistance is needed</td>
<td>1.6(.7)</td>
</tr>
<tr>
<td>The clients find it difficult to ask for help*</td>
<td>1.6(.7)</td>
</tr>
<tr>
<td>The clients seek help to prevent a crisis</td>
<td>1.2(.6)</td>
</tr>
<tr>
<td>The clients do not actively seek help*</td>
<td>1.9(.6)</td>
</tr>
<tr>
<td><strong>Treatment adherence</strong> (Cronbach’s $\alpha = .48$; Range 0-12)</td>
<td>7.5(1.5)</td>
</tr>
<tr>
<td>The clients agree to take prescribed medication</td>
<td>1.8(.7)</td>
</tr>
<tr>
<td>The clients are clear about what medications he/she is taking and why</td>
<td>1.8(.8)</td>
</tr>
<tr>
<td>The clients refuse to co-operate with treatment*</td>
<td>2.0(.4)</td>
</tr>
<tr>
<td>The clients have difficulty in adhering to the prescribed medication*</td>
<td>1.8(.5)</td>
</tr>
</tbody>
</table>

**Service engagement total** (Cronbach’s $\alpha = .73$; Range 0-42) | 25.4(4.0) |

*Note. * indicates reverse coded item*
Correlational analysis

In order to achieve a preliminary understanding of the relationships between the variables in the current study, all composite variables were analyzed in terms of their correlations with the other variables included in the hypothesis testing model. Pearson’s $r$ or zero-order correlations appear in Table 11.

Correlation of the OCMH subscale

Results indicated all subscale correlations were in the modest to large range based on criteria reported by Cohen (1988). The highest correlation was a positive relationship between PST and PV subscales ($r = .80$), and the lowest correlation was a positive relationship between EAC and OE subscales ($r = .47$). This pattern of subscale correlations supported Schiff’s (2009) findings that the OCMH measured a single underlying construct, organizational culture.

Correlation of the OCMH and demographic characteristics

Correlations of the OCMH with characteristics of practitioners were also examined. Male practitioners were correlated with lower scores of PV ($r = -.18; t = 2.965, M = 54.3$ for male vs. $59.4$ for female), EAC ($r = -.14; t = 2.372, M = 38.5$ for male vs. $42.4$ for female), and OE ($r = -.17; t = 2.917, M = 17.7$ for male vs. $20.0$ for female). The ethnicity of non-Whites was correlated with higher scores of PST ($r = .14; t = -2.406, M = 46.9$ for white vs. $52.2$ for non-white). Practitioners who had a “Masters or above” level of education were correlated with lower scores of OE ($r = -.13; t = 2.104, M = 20.5$ for “Bachelors or below” vs. $19.1$ for “Masters or above”). Older practitioners were correlated with lower scores of OE ($r = -.14$). Longer years in the organization was correlated with lower scores of EAC ($r = -.16$) and OE ($r = -.23$).
Correlation of the OCMH and professional characteristics

A higher score of service coordination was associated with higher scores of PST ($r = .18$), PV ($r = .22$), and OE ($r = .17$). Resource knowledge also had positive associations with all four OCMH subscales ($r = .20$ for PST; .30 for PV; .17 for EAC; .31 for OE). There was a negative relationship between case load size and PST ($r = -.16$) and between service barriers and three OCMH subscales ($r = -.18$ for PV; -.14 for EAC; -.12 for OE). Race of non-White had more service training hour ($r = .37; t = -3.690, M= 3.5$ for White vs. 9.5 for non-White), greater resource knowledge ($r = .12; t = -2.004, M = 23.1$ for White vs. 24.4 for non-White), and lower case load size ($r = -.12; t = 2.059, M = 44.5$ for White vs. 33.5 for non-White).

Correlation of demographic and professional characteristics

Males were associated with higher scores on teamwork ($r = .26; t = -3.976, M = 4.7$ for male vs. 3.8 for female) and related to lower scores of resource knowledge ($r = -.14; t = 2.034, M = 22.0$ for male vs. 23.6 for female). Older practitioners with more years in the organization were correlated with less service coordination with other organizations ($r = -.12, r = -.15$, respectively). “Masters or above” education was associated with a greater case load size ($r = .13; t = -2.229, M = 35.2$ for “Bachelors or below” vs. 45.5 for “Masters or above”).

Correlation of the SES and independent variables

The total score of SES had positive correlations with all OCMH subscales besides EAC ($r = .16$ for PST; .17 for PV; .17 for OE). This result suggested that a higher level of service engagement was associated with constructive organizational culture in general, and appeared to be consistent with the conceptual model for this study. More service
barriers and a lower score on teamwork were associated with a lower level of service engagement ($r = -.18$, $r = -.20$, respectively). Male practitioners were associated with lower levels of service engagement ($r = -.15$; $t = 2.507$, $M = 24.1$ for male vs. 25.7 for female) than females.
|       | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1. Gender |      |      |      |      |      |      |      |      |      | 1    |      |      |      |      |      |      |      |      |      |
| 2. Race  | .054 | 1    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 3. Education | .213" | .148" | 1    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 4. Yrs in org | -.067 | -.054 | .251" | 1    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 6. In-service training | -.092 | .317" | .072 | .028 | -.088 | 1    |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 7. Use of referrals | .048 | .073 | -.020 | -.047 | -.027 | .101 | 1    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8. Coordination | -.071 | .116 | -.123" | -.069 | -.146" | .144" | .487" | 1    |      |      |      |      |      |      |      |      |      |      |      |
| 9. Teamwork | .264" | .007 | -.099 | -.071 | -.100 | .005 | .129" | .096 | 1    |      |      |      |      |      |      |      |      |      |      |
| 10. Case load | -.104 | -.123" | .110 | .133" | .045 | -.034 | .011 | -.108 | -.062 | 1    |      |      |      |      |      |      |      |      |      |
| 11. Resource knowledge | -.143" | .120" | .023 | .017 | -.034 | .010 | .381" | .521" | .027 | -.031 | 1    |      |      |      |      |      |      |      |      |
| 12. Service provision | .017 | .043 | -.068 | -.010 | -.037 | .126" | .326" | .283" | .055 | -.099 | .266" | 1    |      |      |      |      |      |      |
| 13. Service barriers | -.018 | -.003 | .074 | .035 | -.001 | .085 | -.013 | -.002 | .016 | .019 | -.126" | .092 | 1    |      |      |      |      |      |      |
| 14. Location | -.026 | -.085 | .191 | .197" | .049 | .032 | -.105 | -.280" | -.136" | .111 | -.237" | .007 | .097 | 1    |      |      |      |      |      |
| 15. Service setting | -.057 | .135 | .113 | .144" | .159" | .140" | .029 | .062 | -.068 | -.014 | -.006 | .085 | .008 | .136" | 1    |      |      |      |      |
| 16. PST | -.092 | .143" | -.003 | -.030 | -.085 | .032 | .006 | .183" | -.009 | -.161" | .204" | .099 | -.109 | -.146" | -.136" | 1    |      |      |      |
| 17. PV | -.175" | .086 | -.036 | .018 | -.002 | .042 | .060 | .224" | .012 | -.052 | .297" | .110 | -.184" | -.193" | .007 | .801" | 1    |      |      |
| 18. EAC | -.141" | .109 | -.087 | .009 | -.161" | .002 | .006 | .113" | .005 | -.063 | .173" | -.021 | .141" | -.164" | -.083 | .713" | .603" | 1    |      |
| 19. OE | -.173" | .075 | -.135" | -.125" | -.230" | -.016 | .043 | .174" | -.025 | -.063 | .316" | .071 | -.118" | -.122" | -.121" | .593" | .549" | .472" | 1    |
| 20. Service engagement | -.149" | -.046 | .018 | .067 | .077 | -.031 | -.065 | -.046 | -.196" | -.110 | .033 | -.099 | -.175" | .062 | .158" | .171" | .115 | .168" |      |

Note. 1=male for gender; 1=non-white for race; 1=masters or above for education; 1= urban for location; 1=outreach setting for service setting
*p<.05, **p<.01, ***p<.001
Multicollinearity test and centering decisions

Multicollinearity refers to a strong linear relationship between two or more of the predictors (Lomax, 2001, p. 62). When independent variables are highly correlated, they might convey essentially the same information. The easiest way to detect multicollinearity is to examine the bivariate correlations between independent variables, looking for big values, for example, .80 and above (Allison, 1999). In this study, the correlations of OCMH subscales were a minimum of .47 and maximum of .80. Some of them were not large enough to imply the possibility of multicollinearity. However, further inspection with preliminary hierarchical regression analyses revealed that Tolerance and Variance Inflation Factor (VIF) were out of the acceptable range of tolerance > .4 and VIF < 2.5 (Allison, 1999).

One way of dealing with this problem is by centering predictors entered into the model. In particular, centering of practitioner-level predictors around the respective group means may lower some of the correlations among the variables involved. When group mean centering is used, the correlations between organization-level variables and both practitioner-level variables and cross-level interactions are equal to zero (Raudenbush & Bryk, 2002). That is, a benefit of the centering strategy is that for each subscale, the practitioner-level score is orthogonal to the organization-level aggregate score (Raudenbush & Bryk, 2002). Therefore, in this study, group mean centering was used for practitioner-level variables (i.e., the value of the predictor is the deviation of each practitioner’s report from his/her organization average), and grand mean centering was used for organization-level (i.e., the deviation of each organization average practitioner level score from the organization grand mean). Finally, HLM results of the random part
of the model in the Tau matrix confirmed that there were no multicollinearity problems in this study.

Hypothesis Testing

Hierarchical linear modeling (HLM)

Unconditional model (one-way analysis of variance)

The first step in evaluating an HLM is equivalent to a one-way ANOVA test of dependent variables and yields variance component estimates and significance tests of the within- and between-group variance (Hofmann et al., 2000). An unconditional model did not include covariates at either the practitioner or organizational level. The unconditional model provided a baseline against which other models that included independent variables could be compared. In the current study, the following model was performed to determine whether there were significant within- and between-organization differences in service engagement, which is the dependent variable in this study:

Level-1:

\[(\text{Service engagement})_{ij} = \beta_{0j} + r_{ij}\]

Level-2:

\[\beta_{0j} = \gamma_{00} + U_{0j}\]

where

\[(\text{Service engagement})_{ij} = \text{the predicted service engagement of an individual practitioners (i) within a given organization (j)}\]

\[\beta_{0j} = \text{mean service engagement for organization j}\]

\[\gamma_{00} = \text{grand mean service engagement}\]

\[r_{ij} = \sigma^2 = \text{within-organization variance in service engagement}\]

\[U_{0j} = \tau_{00} = \text{between-organization variance in service engagement}\]
The estimates for the unconditional model are shown in Table 12. The ICC or the ratio of between-group variance to total variance \((\tau_{00} / (\tau_{00} + \sigma^2))\) indicated that approximately 6% of the overall variance in service engagement lies between organizations. The variance component \(U_{0j}\) was statistically significant \((\chi^2 = 44.38, p = .014)\), indicating that there was sufficient variability in the average levels of service engagement in different organizations to warrant further modeling. The significant fixed effect for the \(\gamma_{00}\) parameter estimate indicates that the mean service engagement for all practitioners across all organizations was significantly different from zero.

Table 12. Unconditional model for within- and between-group variance

<table>
<thead>
<tr>
<th>Fixed effect</th>
<th>Coefficient</th>
<th>SE</th>
<th>t-ratio</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept, (\gamma_{00})</td>
<td>25.455</td>
<td>0.304</td>
<td>83.709</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Random effect</th>
<th>Variance component</th>
<th>(\chi^2)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level-2 intercept, (u_0)</td>
<td>0.989</td>
<td>44.378</td>
<td>0.014</td>
</tr>
<tr>
<td>Level-1, (r)</td>
<td>15.068</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Random-coefficient regression model**

To test hypotheses 1 and 2, the random-coefficient regression model was used. In this model, covariates at the practitioner level were added to the Level-1 equation. The model was written in the following way:

Level-1:

\[(\text{Service engagement})_{ij} = \beta_{0j} + \beta_{1j}(\text{gender}) + \beta_{2j}(\text{age}) + \beta_{3j}(\text{yrs in organization}) + \beta_{4j}(\text{in service training}) + \beta_{5j}(\text{use of referrals}) + \beta_{6j}(\text{coordination}) + \beta_{7j}(\text{resource knowledge}) + \beta_{8j}(\text{service provisions}) + \beta_{9j}(\text{service barriers}) + \beta_{10j}(\text{race}) + \beta_{11j}(\text{education}) + \beta_{12j}(\text{case load size}) + \beta_{13j}(\text{teamwork}) + r_{ij}\]

Level-2:
\[
\begin{align*}
\beta_{0j} &= \gamma_{00} + U_{0j} \\
\beta_{1j} &= \gamma_{10} + U_{1j} \\
\beta_{2j} &= \gamma_{20} + U_{2j} \\
\beta_{3j} &= \gamma_{30} + U_{3j} \\
\beta_{4j} &= \gamma_{40} + U_{4j} \\
\beta_{5j} &= \gamma_{50} + U_{5j} \\
\beta_{6j} &= \gamma_{60} + U_{6j} \\
\beta_{7j} &= \gamma_{70} + U_{7j} \\
\beta_{8j} &= \gamma_{80} + U_{8j} \\
\beta_{9j} &= \gamma_{90} + U_{9j} \\
\beta_{10j} &= \gamma_{100} + U_{10j} \\
\beta_{11j} &= \gamma_{110} + U_{11j} \\
\beta_{12j} &= \gamma_{120} + U_{12j} \\
\beta_{13j} &= \gamma_{130} + U_{13j}
\end{align*}
\]

where

(Service engagement)_{ij} = the predicted service engagement of an individual practitioners (i) within a given organization (j)

\(\beta_{0j}\) = mean service engagement for organization j

\(\beta_{1j} \sim \beta_{13j}\) = slopes for organization j

\(\gamma_{00}\) = mean of the intercepts across organizations

\(\gamma_{10} \sim \gamma_{130}\) = means of the slopes across organizations (Hypotheses 1 & 2)

\(\tau_{ij}\) = Level-1 residual variance

\(U_{0j}\) = variance in the intercepts

\(U_{1j} \sim U_{13j}\) = variances in the slopes

The values of \(t\)-ratio provided in Table 13 suggested that the grand mean intercept (\(p < .001\)) and mean slopes of service barriers (\(p = .004\)) and case load size (\(p = .001\)) were significantly different from zero. Two hypotheses were supported (Hypothesis 2f and 2g), suggesting that, on average, practitioners who had higher perceptions of service barriers and greater case load size were associated with lower levels of perceived youth service engagement.

In addition, the magnitude of the relationship between service engagement and level-1 variables was calculated. From the unconditional model, the within organization variance in service engagement was estimated (\(\sigma^2 = 15.07\)) and from the random-
coefficient regression model the residual within-organization variance after controlling for level-1 variables was estimated \((\sigma^2 = 8.41)\). Comparing these two variance estimates provided \(R^2\) for service engagement by computing the following ratio (Hofmann et al., 2000):

\[
\text{Level-1 model } R^2 = \frac{(\sigma^2 \text{ unconditional model} - \sigma^2 \text{ random coefficient regression})}{\sigma^2 \text{ unconditional model}}
\]

The \(R^2\) was 0.44 and this ratio represented 44% of the level 1 within-group variance in service engagement that is accounted for by level-1 variables.

The value of \(\chi^2\) in Table 13 shows that the variance component in service engagement associated with the grand mean intercept \((U_{0j})\) was statistically significant \((p \leq .001)\). Namely, the intercepts varied significantly for service engagement, thus satisfying a precondition for the testing of hypotheses 3 and 4. There was also significant between-group variance across organizations in practitioner gender \((p \leq .001)\), age \((p \leq .001)\), years in organization \((p = .002)\), in-service training hours \((p \leq .001)\), use of referrals \((p = .005)\), coordination \((p = .029)\), resource knowledge \((p \leq .001)\), service barriers \((p = .004)\), education \((p = .004)\), and case load size \((p = .024)\). These significant findings suggest that these practitioners’ demographic and professional attributes varied across the population of organizations.
Table 13. Random-coefficient model for hypotheses 1 and 2

<table>
<thead>
<tr>
<th>Fixed effect</th>
<th>Coefficient</th>
<th>SE</th>
<th>t-ratio</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level-1: Practitioner</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept, $\gamma_{00}$</td>
<td>25.111</td>
<td>0.368</td>
<td>68.322</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Gender (1=male), $\gamma_{10}$</td>
<td>-1.622</td>
<td>0.985</td>
<td>-1.647</td>
<td>0.112</td>
</tr>
<tr>
<td>Age, $\gamma_{20}$</td>
<td>-0.004</td>
<td>0.040</td>
<td>-0.097</td>
<td>0.924</td>
</tr>
<tr>
<td>Yrs in organization, $\gamma_{30}$</td>
<td>0.024</td>
<td>0.038</td>
<td>0.654</td>
<td>0.519</td>
</tr>
<tr>
<td>In-service training, $\gamma_{40}$</td>
<td>0.018</td>
<td>0.034</td>
<td>0.521</td>
<td>0.607</td>
</tr>
<tr>
<td>Use of referrals, $\gamma_{50}$</td>
<td>-0.178</td>
<td>0.287</td>
<td>-0.620</td>
<td>0.541</td>
</tr>
<tr>
<td>Coordination, $\gamma_{60}$</td>
<td>-0.069</td>
<td>0.368</td>
<td>-0.187</td>
<td>0.853</td>
</tr>
<tr>
<td>Resource knowledge, $\gamma_{70}$</td>
<td>-0.012</td>
<td>0.059</td>
<td>-0.208</td>
<td>0.836</td>
</tr>
<tr>
<td>Service provisions, $\gamma_{80}$</td>
<td>0.092</td>
<td>0.049</td>
<td>1.870</td>
<td>0.073</td>
</tr>
<tr>
<td>Service barriers, $\gamma_{90}$</td>
<td>-0.363</td>
<td>0.114</td>
<td>-3.175</td>
<td>0.004</td>
</tr>
<tr>
<td>Race (1=non-white), $\gamma_{100}$</td>
<td>-0.263</td>
<td>0.634</td>
<td>-0.415</td>
<td>0.681</td>
</tr>
<tr>
<td>Education (1=maters or above), $\gamma_{110}$</td>
<td>0.781</td>
<td>0.448</td>
<td>1.745</td>
<td>0.093</td>
</tr>
<tr>
<td>Case load size, $\gamma_{120}$</td>
<td>-0.017</td>
<td>0.005</td>
<td>-3.605</td>
<td>0.001</td>
</tr>
<tr>
<td>Teamwork, $\gamma_{130}$</td>
<td>-0.079</td>
<td>0.279</td>
<td>-0.283</td>
<td>0.780</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Random effect</th>
<th>Variance component</th>
<th>$\chi^2$</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level-2 intercept, $u_0$</td>
<td>1.269</td>
<td>20.025</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Gender slope, $u_1$</td>
<td>18.218</td>
<td>33.490</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Age slope, $u_2$</td>
<td>0.031</td>
<td>24.282</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Yrs in organization slope, $u_3$</td>
<td>0.023</td>
<td>16.892</td>
<td>0.002</td>
</tr>
<tr>
<td>In-service training slope, $u_4$</td>
<td>0.015</td>
<td>24.136</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Use of referrals slope, $u_5$</td>
<td>0.748</td>
<td>15.172</td>
<td>0.005</td>
</tr>
<tr>
<td>Coordination slope, $u_6$</td>
<td>1.649</td>
<td>10.727</td>
<td>0.029</td>
</tr>
<tr>
<td>Resource knowledge slope, $u_7$</td>
<td>0.029</td>
<td>18.571</td>
<td>0.001</td>
</tr>
<tr>
<td>Service provisions slope, $u_8$</td>
<td>0.028</td>
<td>3.323</td>
<td>&gt;0.500</td>
</tr>
<tr>
<td>Service barriers slope, $u_9$</td>
<td>0.153</td>
<td>15.539</td>
<td>0.004</td>
</tr>
<tr>
<td>Race slope, $u_{10}$</td>
<td>5.947</td>
<td>8.094</td>
<td>0.087</td>
</tr>
<tr>
<td>Education slope, $u_{11}$</td>
<td>2.482</td>
<td>15.506</td>
<td>0.004</td>
</tr>
</tbody>
</table>

118
Intercepts-as-outcomes model

Based on significant variance in the intercept terms across organization assessed from the random-coefficient regression model, to test hypotheses 3 and 4, the intercepts as outcomes model was performed. The purpose of this model is to see whether the between organization variance was significantly related to organization characteristics and organizational culture. In this model, six organizational-level predictors (PST, PV, EAC, OE, location, service setting) were added. Table 14 provides a summary of the results of the intercepts-as-outcomes model and the following set of equation was tested:

Level-1 Model:

\[
\text{(Service engagement)}_{ij} = \beta_{0j} + \beta_{1j}(\text{gender}) + \beta_{2j}(\text{age}) + \beta_{3j}(\text{yrs in organization}) + \\
\beta_{4j}(\text{inservice training}) + \beta_{5j}(\text{use of referrals}) + \beta_{6j}(\text{coordination}) + \beta_{7j}(\text{resource knowledge}) + \\
\beta_{8j}(\text{service provisions}) + \beta_{9j}(\text{service barriers}) + \beta_{10j}(\text{race}) + \beta_{11j}(\text{education}) + \beta_{12j}(\text{case load size}) + \beta_{13j}(\text{teamwork}) + r_{ij}
\]

Level-2 Model:

\[
\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{PST}) + \gamma_{02}(\text{PV}) + \gamma_{03}(\text{EAC}) + \gamma_{04}(\text{OE}) + \gamma_{05}(\text{location}) + \gamma_{06}(\text{setting}) + u_{0j} \\
\beta_{1j} = \gamma_{10} + u_{1j} \\
\beta_{2j} = \gamma_{20} + u_{2j} \\
\beta_{3j} = \gamma_{30} + u_{3j} \\
\beta_{4j} = \gamma_{40} + u_{4j} \\
\beta_{5j} = \gamma_{50} + u_{5j} \\
\beta_{6j} = \gamma_{60} + u_{6j} \\
\beta_{7j} = \gamma_{70} + u_{7j} \\
\beta_{8j} = \gamma_{80} + u_{8j} \\
\beta_{9j} = \gamma_{90} + u_{9j} \\
\beta_{10j} = \gamma_{100} + u_{10j} \\
\beta_{11j} = \gamma_{110} + u_{11j} \\
\beta_{12j} = \gamma_{120} + u_{12j} \\
\beta_{13j} = \gamma_{130} + u_{13j}
\]
(Service engagement)\(ij = \) the predicted service engagement of an individual practitioners \((i)\) within a given organization \((j)\)
\(\beta_{0j} = \) mean service engagement for organization \(j\)
\(\beta_{1j} \sim \beta_{13j} = \) slopes for organization \(j\)
\(\gamma_{00} = \) Level-2 intercept
\(\gamma_{01} \sim \gamma_{06} = \) Level-2 slopes (Hypotheses 3 and 4)
\(\gamma_{10} \sim \gamma_{130} = \) means of the slopes across organizations (Hypotheses 1 and 2)
\(\tau_{ij} = \sigma^2 = \) Level-1 residual variance
\(U_{0j} = \tau_{00} = \) variance in the intercepts
\(U_{1j} \sim U_{13j} = \tau_{11} \sim \tau_{1313} = \) variances in the slopes

Hypothesis 3 predicted that organization characteristics (e.g., location and service setting) are related to service engagement. As Table 14 indicates, the \(\gamma_{05} \) parameter was significant \((p = .003)\), implying that the practitioners who provided service to urban populations perceived higher levels of service engagement. Hypothesis 4 predicted that organizational culture is related to service engagement. The \(\gamma_{01} \) parameter in Table 14 revealed that service engagement was significantly associated with PST \((p = .022)\). Even though the relationship between service engagement and EAC \((\gamma_{03})\) was close to significant \((p = .057)\), it showed the anticipated direction. This finding indicated that in an organization where the level of professional support and trust was higher and issues of power and control in the workplace were fewer, practitioner perceived that their youth clients were more engaged in mental health service.

In order to obtain the amount of intercept variance accounted for by organizational variables, the variance in the \(\tau_{00}\) from the random-coefficient regression model \((\tau_{00} = 1.27, \) the total between-organization variance in the intercept term across organizations) with the variance in the \(\tau_{00}\) for the current model \((\tau_{00} = 2.80,\) the residual
variance in the intercept after accounting for level-2 variables) was compared.

Specifically, the $R^2$ was obtained by computing the following ratio:

$$\text{Level-2 model } R^2 = \frac{(\tau_{00} \text{ random coefficient regression} - \tau_{00} \text{ intercepts-as-outcomes})}{\tau_{00} \text{ random coefficient regression}}$$

The $R^2$ indicated that organizational level variables accounted for 21% of between-group variance in the intercepts.

The results of the $\chi^2$ test ($\chi^2 = 23.11, p > 0.500$) indicate that there was no more sufficient variability in the average levels of service engagement in different organizations. However, the variance components of some of the slopes were still significant; years in organization ($p = .002$), in-service training hours ($p \leq .001$), use of referrals ($p = .004$), coordination ($p = .026$), resource knowledge ($p = .001$), service barriers ($p = .005$), education ($p = .004$), and case load size ($p = .021$). This warranted further modeling because one of the purposes of this study was to test a cross-level moderator or cross-level interaction (testing of hypotheses 5).
Table 14. Intercepts-as-outcomes model for hypotheses 3 and 4

<table>
<thead>
<tr>
<th>Fixed effect</th>
<th>Coefficient</th>
<th>SE</th>
<th>t-ratio</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level-2: Organization</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept, $\gamma_{00}$</td>
<td>24.803</td>
<td>0.510</td>
<td>48.589</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>PST, $\gamma_{01}$</td>
<td>0.077</td>
<td>0.031</td>
<td>2.483</td>
<td>0.022</td>
</tr>
<tr>
<td>PV, $\gamma_{02}$</td>
<td>-0.001</td>
<td>0.050</td>
<td>-0.019</td>
<td>0.985</td>
</tr>
<tr>
<td>EAC, $\gamma_{03}$</td>
<td>0.060</td>
<td>0.030</td>
<td>2.019</td>
<td>0.057</td>
</tr>
<tr>
<td>OE, $\gamma_{04}$</td>
<td>-0.117</td>
<td>0.071</td>
<td>-1.642</td>
<td>0.116</td>
</tr>
<tr>
<td>Location (1=urban), $\gamma_{05}$</td>
<td>0.939</td>
<td>0.275</td>
<td>3.420</td>
<td>0.003</td>
</tr>
<tr>
<td>Service setting (1= outreach), $\gamma_{06}$</td>
<td>-0.475</td>
<td>0.310</td>
<td>-1.531</td>
<td>0.141</td>
</tr>
<tr>
<td><strong>Level-1: Practitioner</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender (1=male), $\gamma_{10}$</td>
<td>-1.344</td>
<td>0.916</td>
<td>-1.468</td>
<td>0.154</td>
</tr>
<tr>
<td>Age, $\gamma_{20}$</td>
<td>-0.009</td>
<td>0.044</td>
<td>-0.199</td>
<td>0.844</td>
</tr>
<tr>
<td>Yrs in organization, $\gamma_{30}$</td>
<td>0.024</td>
<td>0.039</td>
<td>0.617</td>
<td>0.543</td>
</tr>
<tr>
<td>In-service training, $\gamma_{40}$</td>
<td>0.020</td>
<td>0.037</td>
<td>0.539</td>
<td>0.595</td>
</tr>
<tr>
<td>Use of referrals, $\gamma_{50}$</td>
<td>-0.188</td>
<td>0.301</td>
<td>-0.627</td>
<td>0.536</td>
</tr>
<tr>
<td>Coordination, $\gamma_{60}$</td>
<td>-0.042</td>
<td>0.379</td>
<td>-0.110</td>
<td>0.913</td>
</tr>
<tr>
<td>Resource knowledge, $\gamma_{70}$</td>
<td>-0.011</td>
<td>0.060</td>
<td>-0.181</td>
<td>0.857</td>
</tr>
<tr>
<td>Service provisions, $\gamma_{80}$</td>
<td>0.102</td>
<td>0.050</td>
<td>2.037</td>
<td>0.052</td>
</tr>
<tr>
<td>Service barriers, $\gamma_{90}$</td>
<td>-0.323</td>
<td>0.118</td>
<td>-2.727</td>
<td>0.011</td>
</tr>
<tr>
<td>Race (1=non-white), $\gamma_{100}$</td>
<td>-0.283</td>
<td>0.594</td>
<td>-0.476</td>
<td>0.638</td>
</tr>
<tr>
<td>Education (1=masters or above), $\gamma_{110}$</td>
<td>0.707</td>
<td>0.513</td>
<td>1.378</td>
<td>0.180</td>
</tr>
<tr>
<td>Case load size, $\gamma_{120}$</td>
<td>-0.017</td>
<td>0.005</td>
<td>-3.015</td>
<td>0.006</td>
</tr>
<tr>
<td>Teamwork, $\gamma_{130}$</td>
<td>-0.085</td>
<td>0.277</td>
<td>-0.305</td>
<td>0.762</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Random effect</th>
<th>Variance component</th>
<th>$\chi^2$</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level-2 intercept, $u_0$</td>
<td>2.798</td>
<td>23.109</td>
<td>&gt;0.500</td>
</tr>
<tr>
<td>Gender slope, $u_1$</td>
<td>15.684</td>
<td>33.992</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Age slope, $u_2$</td>
<td>0.040</td>
<td>24.885</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Yrs in organization slope, $u_3$</td>
<td>0.024</td>
<td>17.455</td>
<td>0.002</td>
</tr>
<tr>
<td>In-service training slope, $u_4$</td>
<td>0.017</td>
<td>25.143</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>
In the slopes-as-outcomes model, it was examined whether the variance in Level-1 slopes across organizations was significantly related to organizational culture (Hypothesis 5). Hypothesis 5 represented a cross-level moderation effect, in which organizational culture variables (e.g., PV, EAC) were hypothesized to moderate the relationship between practitioner level variables (e.g., coordination, resource knowledge) and service engagement. Using the series of slopes-as-outcomes model based on the hypotheses, a more parsimonious model was developed. Interactions terms that failed to reach levels of significance were trimmed from the model. The final hierarchical linear modeling model was rewritten below:

**Level-1 Model**

\[
(Service\ engagement)_{ij} = \beta_{0j} + \beta_{1j}(gender) + \beta_{2j}(age) + \beta_{3j}(yrs\ in\ organization) + \beta_{4j}(inservice\ training) + \beta_{5j}(use\ of\ referrals) + \beta_{6j}(coordination) + \beta_{7j}(resource\ knowledge) + \beta_{8j}(service\ provisions) + \beta_{9j}(service\ barriers) + \beta_{10j}(race) + \beta_{11j}(education) + \beta_{12j}(case\ load\ size) + \beta_{13j}(teamwork) + r_{ij}
\]

**Level-2 Model**

<table>
<thead>
<tr>
<th>Slopes-as-outcomes model</th>
<th>(u_5)</th>
<th>(u_6)</th>
<th>(u_7)</th>
<th>(u_8)</th>
<th>(u_9)</th>
<th>(u_{10})</th>
<th>(u_{11})</th>
<th>(u_{12})</th>
<th>(u_{13})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of referrals slope, (u_5)</td>
<td>0.942</td>
<td>15.742</td>
<td>0.004</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordination slope, (u_6)</td>
<td>1.739</td>
<td>11.041</td>
<td>0.026</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource knowledge slope, (u_7)</td>
<td>0.034</td>
<td>19.183</td>
<td>0.001</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service provisions slope, (u_8)</td>
<td>0.027</td>
<td>3.609</td>
<td>&gt;0.500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service barriers slope, (u_9)</td>
<td>0.172</td>
<td>14.818</td>
<td>0.005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race slope, (u_{10})</td>
<td>4.855</td>
<td>8.406</td>
<td>0.077</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education slope, (u_{11})</td>
<td>3.125</td>
<td>15.890</td>
<td>0.004</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Case load size slope, (u_{12})</td>
<td>0.001</td>
<td>11.521</td>
<td>0.021</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teamwork slope, (u_{13})</td>
<td>1.211</td>
<td>4.064</td>
<td>0.398</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level-1, (r)</td>
<td>8.142</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
\[ \beta_{0j} = \gamma_{00} + \gamma_{01}(PST) + \gamma_{02}(PV) + \gamma_{03}(EAC) + \gamma_{04}(OE) + \gamma_{05}(location) + \gamma_{06}(setting) + u_{0j} \]
\[ \beta_{1j} = \gamma_{10} + u_{1j} \]
\[ \beta_{2j} = \gamma_{20} + u_{2j} \]
\[ \beta_{3j} = \gamma_{30} + u_{3j} \]
\[ \beta_{4j} = \gamma_{40} + u_{4j} \]
\[ \beta_{5j} = \gamma_{50} + u_{5j} \]
\[ \beta_{6j} = \gamma_{60} + \gamma_{61}(PV) + u_{6j} \]
\[ \beta_{7j} = \gamma_{70} + \gamma_{71}(EAC) + u_{7j} \]
\[ \beta_{8j} = \gamma_{80} + u_{8j} \]
\[ \beta_{9j} = \gamma_{90} + u_{9j} \]
\[ \beta_{10j} = \gamma_{100} + u_{10j} \]
\[ \beta_{11j} = \gamma_{110} + u_{11j} \]
\[ \beta_{12j} = \gamma_{120} + u_{12j} \]
\[ \beta_{13j} = \gamma_{130} + u_{13j} \]

where

(Service engagement)\textsubscript{ij} = the predicted service engagement of an individual practitioners (i) within a given organization (j)
\( \beta_{0j} \) = mean service engagement for organization j
\( \beta_{1j} \sim \beta_{13j} \) = slopes for organization j
\( \gamma_{00} \) = Level-2 intercept
\( \gamma_{01} \sim \gamma_{06} \) = Level-2 slopes (Hypotheses 3 and 4)
\( \gamma_{10} \sim \gamma_{130} \) = means of the slopes across organizations (Hypotheses 1 and 2)
\( \gamma_{61}, \gamma_{71} \) = Level-2 slope (Hypotheses 5)
\( \sigma^2 \) = Level-1 residual variance: within organization variance in service engagement
\( \tau_{00} \) = variance in the intercepts: between organization variance in service engagement
\( \tau_{11} \sim \tau_{1313} \) = variances in the slopes

Results presented in Table 15 indicate that two of the Level-2 slopes (PV, \( \gamma_{61} \); EAC, \( \gamma_{71} \)) were significant both at \( p < .001 \) level, thereby supporting a moderation hypotheses.

This positive parameter estimate for PV (\( \gamma_{61} = 0.226 \)) suggests that the slope relating coordination to service engagement became stronger (steeper). That is, in an organization which has higher level of professional values, the relationship between coordination with other organizations and service engagement became stronger.

Interestingly, this negative parameter estimate for EAC (\( \gamma_{71} = -0.032 \)) suggests that the
slope relating resource knowledge to service engagement became weaker (flatter). Namely, fewer issues of power and control in the organization weakened the positive relationship between resource knowledge and levels of service engagement.

Using the following equation, the proportion of variance accounted for by the coordination and resource knowledge to the total variance in the service engagement slopes across groups is:

\[
\text{Level-2 Slope model } R^2 = \frac{(\tau_{11 \text{ intercepts-as-outcomes}} - \tau_{11 \text{ slopes-as-outcomes}})}{\tau_{11 \text{ intercepts-as-outcomes}}}
\]

The \( R^2 \) indicated that 63% of variance in the relationship between coordination and service engagement is accounted for by PV and 77% of variance in the relationship between resource knowledge and service engagement is accounted for by EAC.

The \( \chi^2 \) test demonstrated that the remaining variance in the \( \beta_{6j} \) and \( \beta_{7j} \) parameters remained significantly different from zero (\( p = .043; p = .001 \)), which was an indication that there was still a statistically significant amount of unexplained variance in coordination and resource knowledge as it was related to service engagement. In this final model, additional Level-1 and Level-2 predictors were significantly related to service engagement. For the Level-1 predictor, the practitioner who provided various types of service provision (\( p = .005 \)) perceived higher level of service engagement. For the Level-2 predictors, in an organization where the issues of hierarchy and controls were fewer (\( p = 0.048 \)) and mental health clinic setting (\( p=0.031 \) (vs. outreach setting) practitioners perceived higher levels of TAYengagement in mental health service.
Table 15. Slopes-as-outcomes model for hypotheses 5

<table>
<thead>
<tr>
<th>Fixed effect</th>
<th>Coefficient</th>
<th>SE</th>
<th>t-ratio</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level-2: Organization</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept, $\gamma_{00}$</td>
<td>24.972</td>
<td>0.503</td>
<td>49.673</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>PST, $\gamma_{01}$</td>
<td>0.079</td>
<td>0.030</td>
<td>2.634</td>
<td>0.016</td>
</tr>
<tr>
<td>PV, $\gamma_{02}$</td>
<td>-0.013</td>
<td>0.048</td>
<td>-0.277</td>
<td>0.785</td>
</tr>
<tr>
<td>EAC, $\gamma_{03}$</td>
<td>0.068</td>
<td>0.032</td>
<td>2.105</td>
<td>0.048</td>
</tr>
<tr>
<td>OE, $\gamma_{04}$</td>
<td>-0.120</td>
<td>0.066</td>
<td>-1.823</td>
<td>0.083</td>
</tr>
<tr>
<td>Location (1=urban), $\gamma_{05}$</td>
<td>0.752</td>
<td>0.272</td>
<td>2.762</td>
<td>0.012</td>
</tr>
<tr>
<td>Service setting (1= outreach), $\gamma_{06}$</td>
<td>-0.709</td>
<td>0.306</td>
<td>-2.316</td>
<td>0.031</td>
</tr>
<tr>
<td><strong>Level-1: Practitioner</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender (1=male), $\gamma_{10}$</td>
<td>-1.570</td>
<td>0.969</td>
<td>-1.620</td>
<td>0.117</td>
</tr>
<tr>
<td>Age, $\gamma_{20}$</td>
<td>-0.002</td>
<td>0.044</td>
<td>-0.050</td>
<td>0.961</td>
</tr>
<tr>
<td>Yrs in organization, $\gamma_{30}$</td>
<td>0.001</td>
<td>0.035</td>
<td>0.035</td>
<td>0.973</td>
</tr>
<tr>
<td>In-service training, $\gamma_{40}$</td>
<td>0.023</td>
<td>0.040</td>
<td>0.582</td>
<td>0.566</td>
</tr>
<tr>
<td>Use of referrals, $\gamma_{50}$</td>
<td>-0.091</td>
<td>0.308</td>
<td>-0.295</td>
<td>0.771</td>
</tr>
<tr>
<td>Coordination, $\gamma_{60}$</td>
<td>0.100</td>
<td>0.287</td>
<td>0.350</td>
<td>0.729</td>
</tr>
<tr>
<td>PV, $\gamma_{61}$</td>
<td>0.226</td>
<td>0.032</td>
<td>6.996</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Resource knowledge, $\gamma_{70}$</td>
<td>-0.041</td>
<td>0.046</td>
<td>-0.887</td>
<td>0.383</td>
</tr>
<tr>
<td>EAC, $\gamma_{71}$</td>
<td>-0.032</td>
<td>0.008</td>
<td>-4.071</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Service provisions, $\gamma_{80}$</td>
<td>0.144</td>
<td>0.047</td>
<td>3.040</td>
<td>0.005</td>
</tr>
<tr>
<td>Service barriers, $\gamma_{90}$</td>
<td>-0.310</td>
<td>0.126</td>
<td>-2.452</td>
<td>0.021</td>
</tr>
<tr>
<td>Race (1=non-white), $\gamma_{100}$</td>
<td>-0.367</td>
<td>0.589</td>
<td>-0.624</td>
<td>0.538</td>
</tr>
<tr>
<td>Education (1=maters or above), $\gamma_{110}$</td>
<td>0.732</td>
<td>0.514</td>
<td>1.425</td>
<td>0.166</td>
</tr>
<tr>
<td>Case load size, $\gamma_{120}$</td>
<td>-0.014</td>
<td>0.006</td>
<td>-2.551</td>
<td>0.017</td>
</tr>
<tr>
<td>Teamwork, $\gamma_{130}$</td>
<td>-0.139</td>
<td>0.268</td>
<td>-0.519</td>
<td>0.608</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Random effect</th>
<th>Variance component</th>
<th>$\chi^2$</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level-2 intercept, $u_0$</td>
<td>2.827</td>
<td>22.832</td>
<td>&gt;0.500</td>
</tr>
<tr>
<td>Gender slope, $u_1$</td>
<td>18.829</td>
<td>35.285</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Age slope, $u_2$</td>
<td>0.042</td>
<td>25.746</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>
Summary of hypotheses testing results

HLM analyses employing a random intercepts model were used to estimate cross-level relationships between practitioner-level professional characteristics and organization-level dimensions of culture on TAY mental health service engagement. Each HLM analysis was conducted in a hierarchical fashion, and the summary of hypotheses testing results was presented in Table 16.

In the unconditional model, only the organization “random effects” were included. This provided estimates of the organization variance (i.e., variance in the service engagement attributable to organizations) and residual variance without practitioner-level or organization-level constructs in the model. A significant chi-square showed that between organization variance is significantly different from zero, indicating that the intercept term varied across groups.
To test hypotheses 1 and 2, practitioner-level predictors were then added to the model at Level-1. Only case load size and service barriers scores significantly predicted service engagement (supporting hypotheses H2f and H2g, respectively). Specifically, a practitioner who had lower case loads and lower perceptions of service barriers perceived a higher level of TAY service engagement. None of the practitioner demographic predictors (H1a ~ H1e) had a significant effect on service engagement although it is important to keep in mind that gender (female) and service engagement were positively correlated at the bivariate level (See Table 11).

To test hypotheses 3 and 4, organization characteristics and organizational culture predictors were added at Level-2. The PST and location significantly predicted TAY service engagement (supporting hypotheses H4a, H3a, respectively). Results revealed that the practitioners who provided service to an urban population perceived higher levels of service engagement. In an organization where the level of professional support and trust was higher, practitioners perceived that their TAY clients were more engaged in mental health services.

In addition, cross-level interaction between practitioner professional characteristics and organizational culture was tested (hypotheses 5). Coordination × PV and Resource knowledge × EAC interactions were significantly greater than zero. These results supported hypotheses H5d and H5b, although the hypothesis of H5b was supported with the opposing direction. Specifically, in an organization which has a higher level of professional values, the relationship between the frequency of coordination with other organizations and service engagement became stronger. Also, practitioners who perceived more controls of hierarchy in the organization had a stronger relationship
between resource knowledge and service engagement, which supports the conclusion that resource knowledge is a better predictor of a service engagement score in the organizations with more hierarchical control. In this final model, service provision, EAC, and service setting had a significant effect on service engagement once the interaction effect was taken into account. Namely, practitioners who provided more service provision, felt fewer hierarchy problems in an organization, and worked at a mental health clinic setting (vs. outreach setting) perceived a higher level of TAY service engagement. These results supported hypotheses H2e, H3a, and H4a.
Table 16. Summary of hypotheses testing results

<table>
<thead>
<tr>
<th>Fixed effect</th>
<th>Unconditional</th>
<th>Random-coefficient</th>
<th>Intercept-as-outcomes</th>
<th>Slopes-as-outcomes</th>
<th>Hypothesis</th>
<th>Accepted</th>
<th>Rejected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>t-ratio</td>
<td>Coefficient</td>
<td>t-ratio</td>
<td>Coefficient</td>
<td>t-ratio</td>
<td>Coefficient</td>
</tr>
<tr>
<td>Constant</td>
<td>25.455</td>
<td>83.709***</td>
<td>25.111</td>
<td>68.322***</td>
<td>24.803</td>
<td>48.589***</td>
<td>24.972</td>
</tr>
<tr>
<td>Age</td>
<td>-0.004</td>
<td>-0.097</td>
<td>-0.009</td>
<td>-0.199</td>
<td>-0.002</td>
<td>-0.050</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-1.622</td>
<td>-1.647</td>
<td>-1.344</td>
<td>-1.468</td>
<td>-1.570</td>
<td>-1.620</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>0.781</td>
<td>1.745</td>
<td>0.707</td>
<td>1.378</td>
<td>0.732</td>
<td>1.425</td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td>-0.263</td>
<td>-0.415</td>
<td>-0.283</td>
<td>-0.476</td>
<td>-0.367</td>
<td>-0.624</td>
<td></td>
</tr>
<tr>
<td>Yrs in organization</td>
<td>0.024</td>
<td>0.654</td>
<td>0.024</td>
<td>0.617</td>
<td>0.001</td>
<td>0.035</td>
<td></td>
</tr>
<tr>
<td>In-service training</td>
<td>0.018</td>
<td>0.521</td>
<td>0.020</td>
<td>0.539</td>
<td>0.023</td>
<td>0.582</td>
<td></td>
</tr>
<tr>
<td>Resource knowledge</td>
<td>-0.012</td>
<td>-0.208</td>
<td>-0.011</td>
<td>-0.181</td>
<td>-0.041</td>
<td>-0.887</td>
<td></td>
</tr>
<tr>
<td>Use of referrals</td>
<td>-0.178</td>
<td>-0.620</td>
<td>-0.188</td>
<td>-0.627</td>
<td>-0.091</td>
<td>-0.295</td>
<td></td>
</tr>
<tr>
<td>Coordination</td>
<td>-0.069</td>
<td>-0.187</td>
<td>-0.042</td>
<td>-0.110</td>
<td>0.100</td>
<td>0.350</td>
<td></td>
</tr>
<tr>
<td>Service provision</td>
<td>0.092</td>
<td>1.870^</td>
<td>0.102</td>
<td>2.037^</td>
<td>0.144</td>
<td>3.040**</td>
<td></td>
</tr>
<tr>
<td>Case load size</td>
<td>-0.017</td>
<td>-3.605***</td>
<td>-0.017</td>
<td>-3.015**</td>
<td>-0.014</td>
<td>-2.551*</td>
<td></td>
</tr>
<tr>
<td>Service barriers</td>
<td>-0.363</td>
<td>-3.175**</td>
<td>-0.323</td>
<td>-2.727*</td>
<td>-0.310</td>
<td>-2.452*</td>
<td></td>
</tr>
<tr>
<td>Teamwork</td>
<td>-0.079</td>
<td>-0.283</td>
<td>-0.085</td>
<td>-0.305</td>
<td>-0.139</td>
<td>-0.519</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>0.939</td>
<td>3.420**</td>
<td>0.752</td>
<td>2.762*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service setting</td>
<td>-0.475</td>
<td>-1.531</td>
<td>-0.709</td>
<td>-2.316*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PST</td>
<td>0.077</td>
<td>2.483*</td>
<td>0.079</td>
<td>2.634*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PV</td>
<td>-0.001</td>
<td>-0.019</td>
<td>-0.013</td>
<td>-0.277</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EAC</td>
<td>0.060</td>
<td>2.019^</td>
<td>0.068</td>
<td>2.105*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OE</td>
<td>-0.117</td>
<td>-1.642</td>
<td>-0.120</td>
<td>-1.823</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordination × PV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource knowledge × EAC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between variance ((\hat{\rho}^2))</td>
<td>0.989 (44.378**)</td>
<td>1.269 (20.025***</td>
<td>2.789(23.109)</td>
<td>2.827(22.832)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within variance</td>
<td>15.068</td>
<td>8.413</td>
<td>8.142</td>
<td>7.957</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. 1=male for gender; 1=non-white for race; 1=masters or above for education; 1=urban for location; 1=outreach setting for service setting
(-) indicates negative direction against anticipation; *p<.05, **p<.01, ***p<.001
CHAPTER 5

This chapter summarizes the findings of this study and links them to the results of previous research. This is followed by a discussion of the contributions and limitations of the study. Finally, a discussion of the implications for the mental health service delivery system and practice and suggested directions for future research are presented.

DISCUSSION

Relationship between Practitioner Characteristics and Service Engagement

The Gateway Provider Model of access to mental health service offers a framework for organizing findings about practitioner level predictors of service engagement. Under this framework, the predictors for service engagement can be viewed as a joint function of predisposing demographic factors and professional practice factors. Specifically, this research hypothesized that practitioner socio-demographic and professional characteristics are related to practitioners’ perceptions of service engagement of TAY. Accepted hypotheses are presented below along with a brief discussion of findings. Rejected hypotheses are also discussed.

Hypothesis 2a: A higher score on the amount of individual service provision will be associated with a higher level of service engagement.

As it was hypothesized, the results indicated that the amount of individual service provision was positively related to service engagement. From the descriptive statistic result, over half of the practitioners provided youth with individual treatment (82.6%) followed by use of referrals (78.1%), assessment (75.7%), crisis intervention (75.3%),
case management (67.2%), and teaching of health and/or mental health (59.5%). On average, the practitioners provided eight different types of service actions. That is, TAY clients received multiple types of care. Having more service types involved in their care increases the likelihood that a greater number of service needs are addressed. Also, correlation analysis revealed that a higher amount of service provision was associated with more in-service training hours, a greater use of referrals, more frequent service coordination, and more resource knowledge. This result reinforced the importance of practitioners’ multiple roles as gateways to care for TAY.

Hypothesis 2f: A greater case load size will be associated with a lower level of service engagement.

As it was hypothesized, a greater case load size was associated with a lower level of service engagement. This finding is concordant with the existing research. Cunningham and Henggeler (1999) discussed that the size of the practitioner’s caseload or the burden of other priorities can affect how much time and effort a practitioner can commit to engaging a challenging client. Henggeler et al. (1996) noted that multisystemic therapy (MST) results in low rates of service discontinuity because practitioners have lower caseloads and the needed time to develop relationships with clients. As Staudt (2007) indicated, many settings do not provide optimal conditions for practitioners to successfully engage clients. For example, some mental health organizations may require practitioners to schedule seven or eight clients a day. It is not likely that practitioners will
be predisposed to follow up with clients who miss appointments when “no-shows”
require much needed time to complete paper work and return phone calls.

_Hypothesis 2g: A lower number of perceived service barriers will be associated with
higher level of service engagement._

As it was hypothesized, a practitioner’s perception of a low number of service
barriers was associated with a higher level of service engagement. This finding is
consistent with Kazdin et al.’s (1997) evidence that therapists’ perceptions of barriers
predicted client treatment continuation more strongly than did the client’s own self-
report. In the current study, one of the most frequently reported service barriers perceived
by practitioners was a service delay - “transition between services (41%)”. In other
words, organizations which helped TAY with transitional services may have a greater
chance of continuity of care. For example, some organizations provided specific types of
services which could promote transitions for TAY with mental health problems: case
management, transition planning, follow-up on referrals, and long-term planning.
Realistically, for the TAY population, service delay is frequent because the services they
received from the child welfare system are no longer available. For instance, in the
attrition study of Barrett et al. (2003), service delays of more than 1 day were reported by
clients as a significant influence on their decision to leave treatment. Moreover, the
longer a client has to wait for services, the more likely the patient is to withdraw,
particularly if the wait is more than 1 week. These factors may prove especially
influential for clients referred by hospitals or other service organizations. Therefore,
anything that can be done to respond promptly to clients and reduce the length of time a person has to wait before beginning treatment is likely to increase the level of engagement.

Although some of the hypotheses were not supported, it is useful to link the results to previous research and consider any discrepancy of the results. First of all, none of practitioners’ socio-demographic characteristics were significantly related to service engagement (H1a ~ H1e). In regards to H1b, the hypothesis was not supported, but the bivariate level analysis revealed that female practitioners were significantly related to a higher level of service engagement. The reasons for this are unclear, although the bivariate level analysis also showed that as compared to males in this study, females were younger, had greater resource knowledge, and had more constructive perceptions of organizational culture.

It was expected that White/Caucasian practitioners would display a higher level of youth service engagement than non-White practitioners (H1d). However, practitioner race-ethnicity had no association with service engagement. Non-Whites, however, were significantly more likely than Whites to have in-service training and resource knowledge. In light of prior work by Winstersteen and colleagues (2005) with this same population of adolescents, a racial match between youth client and therapist was highly associated with retention, although race itself was not a predictor of service engagement.

It was hypothesized that older practitioners would display a lower level of service engagement than younger practitioners (H1a). However, a practitioner’s age also was not significantly associated with overall service engagement, although young age was associated with a lower amount of service coordination. In regards to education, it was
expected that a higher level of education would predict a higher level of service engagement (H1c). Education was not related to overall service engagement; on the other hand, Masters or a higher level of education was associated with higher caseloads and urban organizations.

Having more working experience at the organization was not associated with the youth level of service engagement. It was expected that more experienced practitioners would be more aware of the many challenges facing practitioners in engaging the youth client (H1e), but the hypothesis was not supported.

It was expected that a higher score on the amount of in-service training would be associated with the level of service engagement (H2a). Results indicated that the amount of in-service training the practitioners received about working with youth was not related to TAY service engagement.

While it was predicted that a greater use of referrals would be associated with a higher level of service engagement (H2c), the use of referrals was not related to TAY service engagement in this study. However, several studies have addressed both positive and negative aspects of service referrals in the delivery of services to youth clients. As Darbyshire et al. (2006) pointed out, the use of referrals is a necessary process for involving youth clients in services, but many youth experienced negative aspects of referrals. The frustration associated with the situation were not only in having to deal with logistics of time and transport, but also in having to repeat one’s story again and again at every place visited.

Although it was expected that having more service coordination with other organizations would be associated with a higher level of service engagement, the
hypothesis was not supported (H2d). Since many mental health services are dispersed and fragmented, clients’ needs cannot be met with existing resources. Many organizations create relationships with other organizations, such as interagency treatment planning teams and targeted case management services. Although the hypothesis of main effect of service coordination was not supported in this study, a cross-level interaction effect was supported.

The level of teamwork was not related to service engagement. This relationship had not been the focus of previous research, since many studies focused on the relationship between practitioners and clients (e.g., therapeutic alliance) on service engagement, not the relationship among practitioners. It was suggested that the frequency of a practitioner’s individual/group meeting with supervisors or supervisees for receiving/providing supervision would be related to the level of TAY service engagement (H2h). However, the hypothesis was not supported.

Even though it was hypothesized that a greater amount of resource knowledge would be associated with a higher level of service engagement (H2b), the hypothesis was not supported. While not statistically significant, the wide range of reported resource knowledge within TAY-serving organizations suggests that practitioners vary in the way they are connected with the full inter-organizational network of organizations. Understanding these variations in resource knowledge is important because practitioners’ connections to resources can facilitate the youth’s receipt of services. As the bivariate analysis showed, practitioners who perceived more service barriers were more likely to have resource knowledge. It may be possible that among practitioners with more service barriers at the organization, they are more open and willing to reach out to other
resources to obtain help for their client. The results provide an opportunity to advance a practice-oriented research agenda focusing on individual practitioner characteristics, practices, and skills that help bridge multiple service delivery systems.

**Relationship between Organization Characteristics and Service Engagement**

Based on the socio-technical theory a second aim of this study was to explore the organization level predictors and their association with perceived service engagement. Under the framework, predictors for perceived service engagement were considered a predisposing organization’s structure characteristics and organization culture factors. Accepted hypotheses are presented below along with a brief discussion of findings. Rejected hypotheses are also discussed.

*Hypothesis 3a: The location of organization will be related to the practitioner’s perceptions of the level of youth service engagement, such that an organization serving an urban population will have a higher level of service engagement than rural or suburban.*

As it was hypothesized, an organization serving an urban population had a higher level of service engagement than suburban. Sixteen organizations in this study provided service to TAY clients in urban areas. Eleven organizations were servicing a suburban population. A number of understandable accessibility issues related to organization location are common to most studies of service engagement (Mitchell & Selmes, 2007). Most frequently, transportation problems are cited, and distance travelled is another correlate. The studies’ assertion is that rural or suburban areas with less public
transportation may produce barriers of service engagement. Interestingly, results in the study of Mitchell and Selmes (2007) indicated that service providers in urban areas were more likely to accept parent involvement in decision-making, so differences in perceptions of family involvement by community type had been anticipated. Barrett and colleagues (2009) suggest that “although the research about environmental influences on attrition is less conclusive than that on other domains, factors such as the accessibility of the clinic and the office environment are important considerations in seeking ways to increase client retention.” In addition, research has shown that most mental health care professionals tend to be concentrated in urban areas and are less likely to be found in the most rural sections of the country (Barrett et al., 2009). Therefore, consistent with the above studies, this study also supported the assertion that the problem of accessibility may be intensified depending on where youth live. TAY in suburban areas in need of mental health care may not be able to engage well in the services and locate appropriate services.

*Hypothesis 3b: Organization’s service setting will be related to practitioner’s perceptions of level of service engagement, such that a mental health clinic setting will have a higher level of service engagement than other types of service settings.*

As HLM results indicated, the type of service setting was a significant predictor for TAY service engagement. Consistent with this prediction, mental health clinic settings had higher levels of service engagement than outreach service settings. In this study, four types of service settings were collapsed into two categories: “outpatient
and “outreach (22.2%)”. Six organizations were in the categories of “outreach”, and those organizations provided both regular outpatient services and home-based intervention as well. Home-based intervention is an intensive type of mental health counseling designed to help stabilize difficult family situations so that youth with severe disorders can continue to live at home and families can remain intact (Henggeler et al., 1999). This finding is consistent with O’Mahen and Flynn’s (2008) study that women with depression indicated that they had greater confidence in treatments delivered in a professional office or clinic versus at home. Although some studies have shown that the type of outreach intervention (e.g., Assertive-outreach Community Teams) is more successful at engaging clients (Davidson & Campbell, 2007; Tait et al., 2002), the study samples were all “high-risk” adult client populations (e.g., clients with severe mental disorders, schizophrenia). Another possible reason why the clinic setting had a positive relationship with engagement is that the programs designed to facilitate educational and vocational advancement and other supportive relationships besides interventions that improve functioning and symptoms are more attractive for the youth population. Also, it may be the a perfect place for sharing information regarding the system of care communities for supporting youth experiencing many challenges with transitioning from the child service system to the adult service system.

*Hypothesis 4a: Practitioners who perceive constructive organizational culture will perceive a higher level of service engagement after the practitioner level predictors are controlled.*
As it was hypothesized, constructive organizational culture was related to a higher level of perceived service engagement. These results support a growing literature that finds positive relationships between constructive organizational culture and staff appraisals of agency functioning and programming (Glisson & James, 2006; Hemmelgarn et al., 2001; Schein, 1992). Specifically, in terms of professional support and trust (PST), freedom of expression and management openness to feedback from all levels of the organization were more likely to have a higher level of engagement. The professional support touches upon issues such as positive feedback for a job well done and public recognition of accomplishments. Trust provides the basis for honest and open feedback, positive response to criticism, and a two-way evaluation process (Schiff, 2009). This openness extends to soliciting feedback from clients and responding in an acceptable manner to criticism and opposing views. Consistent with the prediction in this study, professional support and trust was an important predictor for TAY service engagement.

In terms of empowerment, avoidance, and control (EAC), consistent with the hypothesis prediction, fewer issues of power and control in the organization were more likely to be associated with a higher level of engagement. EAC was concerned with issues of power and control such as hierarchical decision making and readiness to make administrative decisions in a timely fashion. The informal power structure of the organization is reflected in the organization’s handling of conflict among staff and the avoidance of conflict. Organizations scoring low on this subscale are difficult places to work and are organizations that are more likely to have low levels of service engagement.

The environment scale (OE) deals with aspects of the physical environment that ensures the workplace is comfortable and physically approachable (Schiff, 2009). In the
study of Barrett and colleagues (2009), many patients complained that the building was uninviting, with waiting rooms congested and uncomfortable, all patients (adults, children, psychotic patients, etc.) waited in a single room, and treatment rooms small and poorly ventilated. It was demonstrated in that study that physical environment changes can make a difference in retention. Although environmental factors may be important considerations in seeking ways to increase client engagement (Barrett et al., 2009), the analysis of the influences of organizational environment (OE) on service engagement was not significant in this study; the hypothesis for OE subscale was not supported.

Professional attitudes and values (PV) is about the belief in the dignity and worth of people. Ethical issues abound in this professional values scale. It was expected that a higher score on PV would predict a higher level of service engagement, but the hypothesis for PV subscale was not supported. One of the possible reasons why the PV has no main effect is that clients have a prejudice or mistrust of the relationship with professionals (Munson et al., 2011). Although PV had no main effect on service engagement, it had a moderator effect on the relationship between service coordination and service engagement. The result is discussed below.

**Cross-Level Moderation Relationship on Service Engagement**

Based on organizational culture theory, a third aim of this study was to explore the moderating role of organizational culture on practitioner-level characteristics that affect youth service engagement. Among seven hypotheses, only one hypothesis was supported.
Hypothesis 5d: Constructive organizational culture will increase the effect of practitioners’ coordination with other organizations on service engagement, while defensive organizational culture will decrease the effect of practitioners’ coordination on service engagement.

As it was predicted, the result indicated that a higher score on professional values strengthened the positive relationship between service coordination with other organizations and the level of TAY service engagement. The core values such as the belief in the clients’ ability to change have always been at the heart of the counseling process, and it is fundamental in human interactions that involve people changing behaviors. Practitioners’ values clearly influence the kinds of relationships they have with clients, colleagues, and members in other service categories (Reamer, 2006). Practitioners make choices about the people with whom they want to work and collaborate. Practitioners’ values also influence their decisions about the intervention methods they will use in their work with clients and co-workers. For example, some practitioners choose to devote their careers to clients they perceive as victims among TAY with mental illness, such as victims of domestic violence and child abuse. The practitioners may prefer to use service coordination such as individual family-based supportive services in their collaboration with other organizations, believing that these are the most effective services for improving the situation. Therefore, in the organization which has a higher score on professional values, service coordination is more likely to influence the level of service engagement.
Hypothesis 5b: Constructive organizational culture will increase the effect of practitioners’ resource knowledge on service engagement, while defensive organizational culture will decrease the effect of practitioners’ resource knowledge on service engagement.

Originally it was suggested that practitioners who perceived less control of the hierarchy in the organization had a stronger relationship between resource knowledge and service engagement, but the hypothesis was not supported. Although the hypothesis was not supported, interestingly, there was statistically significant relationship indicating that resource knowledge is a better predictor of service engagement in the organization with more hierarchical control. According to Schiff (2009), organizations scoring high on EAC are difficult places to work because of issues in hierarchy and control. Senior administrators are in command and staff are given little input in the decision making process and things are slow to change. The organization can be bureaucratic and respond slowly to changing client needs and the setting within the mental health system. Communication across various sections can be poor especially horizontal communication. In this type of organization, a practitioner’s resource knowledge and familiarity with other organizations which provide necessary service for TAY clients may be more effective for engaging the client. This is an important finding because TAY in the mental health system have multiple behavioral health and environmental problems requiring services from multiple service sectors (Bunger et al., 2009). For example, while multiple services may not promptly be available for a client at the organization due to the dysfunctions in the organization, more resource knowledge of other service sectors may
increase the likelihood that a greater number of service needs are addressed, which is the ultimate goal of the continuity of service.

On the other hand, some of the moderation effect hypotheses were not supported. First of all, it was expected that constructive organizational culture would strengthen the effect of practitioners’ in-service training on service engagement (H5a), and the effect of practitioners’ use of referrals on service engagement (H5c). However, the moderating relationships were not significant. Even at the bivariate level, in-service training and use of referrals were not correlated with either organizational culture or service engagement in this study.

Also, it was expected that constructive organizational culture would strengthen the effect of practitioners’ service provision on service engagement (H5e), and weaken the effect of practitioners’ case load size on service engagement (H5f) and the effect of practitioners’ perception of service barriers on service engagement (H5g). However, those moderating relationships were not significant. The reasons for this are unclear, although HLM results showed that the main effects of service provision, case load size, and service barriers on service engagement were statistically significant.

**Practitioners Perspectives on Service Engagement of TAY**

Engagement is a complex process. There are no accepted statistics describing the proportion of TAY clients with mental health problems disengaging from services. Research in the area has produced varying figures, presumably because of the lack of a precise and accepted definition of engagement and because there is no generally accepted method of measuring it. If engagement is measured simply in terms of contact with services then poor engagement is a relatively common outcome.
In this study, however, the Service Engagement Scale (SES) was used as a “multidimensional measure” to assess the level and quality of TAY clients’ engagement with mental health services. Specifically, the SES assessed practitioner perceptions about their clients’ 1) availability, which refers to the client being available for arranged appointments, 2) collaboration, which refers to the client actively participating in the management of illness, 3) help-seeking, which refers to the client seeking help when needed, and 4) treatment adherence, which refers to the client’s attitude toward taking medication and treatment. Although the SES does not provide a sense of the many “twists and turns” that treatment and engagement take, both across and within sessions, the combination of those dimensions represent different but considerable aspects of service engagement.

The results revealed that the mean score of total engagement in this study was 25.4, and it was above the med-point (median = 21) of the scale range (0-42). Also, the results indicated that the mean score of each item was over the mid-point (1.5) of the response option range (0-3). However, the mean score was a little lower compared to other studies (e.g., Tait et al., 2002; Davison & Campbell, 2007). The Tait et al.’s study reported a mean SES score of 29.7 (SD = 9.11) which they used to assess sixty-six clients (age range of 18-40, M=25.3) with schizophrenia receiving support from a well established Assertive Outreach service. The Davison and Campbell’s study reported a mean SES score of 27.3 for Assertive Outreach group and 26 for Community Mental Health Teams with 78 clients (age range of 20-69, M=35.4) with a diagnosis of schizophrenia, schizo-affective disorder, and/or bi-polar disorder. One sample t-test comparing SES score in this study to those studies indicated that there were significant
differences between current study participants and those three participant groups at p<.01 level. Although this result did not provide the evidence of serious concerns in service engagement of TAY in this sample, it suggested that there might be issues of difficulty in arranging and keeping appointments, in developing a collaborative relationship with mental health service staff, in seeking help in a crisis and in adhering to prescribed treatment.

When it comes to the mean SES of the 27 organizations in this study, the maximum score for practitioners perceived to engage well with services was 28.6 and the minimum score for practitioners rated to have the most difficulty engaging with services was 21.8. Fourteen organizations were above the mean SES scores. There was statistically different between-organization variance on service engagement. Namely, the results indicated that some organizations might deal better with TAY service engagement as compared with others.

Some have placed the duty for service engagement straight on the shoulders of practitioners (Liddle, 1995). This is reasonable since professionals are ultimately responsible for the course of treatment. However, practitioners need the support of employing organizations to successfully implement behaviors that will increase the likelihood of client engagement.

**Contribution of this Research**

This study makes several contributions to the existing literature. The desired contribution of this study to mental health service engagement was to combine service provider perspectives with the existing client perspectives-based approaches in order to
gain a better understanding of what factors (e.g., practitioner level, organization level) contribute to higher levels of perceived youth service engagement.

First, this study is the first to focus specifically on mental health service practitioners’ perspectives on service engagement of transition age youth. Developmentally, TAY with mental disorders experience typical demands of the transition years, while coping with symptoms they experience, making more independent choices about help seeking, deciding whether to engage in and/or continue utilizing services, and trying to meet their basic needs for survival.

Second, although the very definition of the service engagement is not clearly agreed upon, nor is there a standard approach to measuring it, this study engagement was conceptualized by capturing multiple dimensions on the continuum of engagement. When client engagement emerges in empirical studies, conceptual definitions vary broadly and frequently refer to clients keeping appointments and staying in treatment (Littell, Alexander, & Reynolds, 2001). Also different studies utilize a variety of measurement strategies to measure the various dimensions of the construct. For example, the outcomes that were measured were initial appointment keeping, return rate for second and third appointment, treatment attendance more than a certain number of times, number of clients who came for their first scheduled intake appointment, proportion of appointments rescheduled or cancelled, and the number of appointments that were kept or skipped (Kim, Munson, & McKay, under review). This study is useful in thinking about how engagement is something more than just keeping an appointment.

Third, there is a dearth of research examining factors beyond client individual and family level factors. This study addresses this gap by honing in on the organizational
level factors to further understand engagement. Most engagement research has focused on client characteristics (e.g., demographic, diagnostic characteristics) and there has been little attention paid to the role of the service provider (e.g., practitioner-level, organization-level) in regards to client engagement. The approach used in analyzing these data offers a clearer indication of the magnitude of the effect of service provider level characteristics as predictors of service engagement. Consistent with the Gateway Provider Model, this study highlights how mental health service providers affect youth’s engagement of mental health services.

Fourth, though some studies have focused on service attrition and retention, none of those studies have investigated organizational culture in mental health organizations or the relationship between organizational culture and service engagement. Consistent with the socio-technical theory and organizational culture theory, this study provided evidence of how organizational culture is important to mental health service engagement. Also this study suggests the possibility that improving providers’ organizational culture, resource knowledge and service coordination with organizations in their community, mental health systems may enhance youth’s service engagement for mental health services. These findings are critical for social workers and other allied human service professionals who are responsible for working across systems with youth and young adults in transition.

Finally, this study also has contributed to the methodology of human service organization research. By introducing a multilevel analysis, the expanded scope of analytical methods was adopted to organizational research. This study was a typical example of multilevel research in that it gathered and summarized individual-level data to operationalize organizational-level constructs. According to Klein and Kozlowski (2000),
when researchers collect data from individuals to research organizational constructs, the levels issue is unavoidable. In the absence of careful theoretical work and subsequent statistical analyses, higher-level findings using data gathered in lower levels are likely to be illusory (James, 1982). Recalling Klein et al. (1994)’s convincing argument that no construct is level free in organizational research, there are still many organizational studies not considering being the subject of multilevel analysis. This study tried to fill this gap by adopting the multilevel analysis method from organizational studies.

Limitations of the Study

Measurement limitations

This study included several limitations of the measure of engagement that support the need for continued research on the service engagement scale (SES). First, previous use of the SES showed that it is a reasonably good measure of a provider’s perception of client service engagement. Because the premise of this study was that service engagement was a complex area, with multiple dimensions of service engagement, using the total score was reasonable for the purpose of this study. However, while the total score of SES had good reliability, internal consistency of subscales was low. It may due to the fact that this study was conducted with practitioners from the adolescent mental health treatment, whereas the instrument had been used previously with adult treatment.

Second, service engagement only measured by perceptions of workers. Without considering the discrepancies of engagement scores between client and workers, this presents some challenges for construct validity in this study. Another issue is that because the perception of engagement was retrospectively assessed (e.g., “within the past 3 months”), the results may be subject to recall bias. Additional study supporting its
validity and reliability is needed. Results of the SES should still be interpreted cautiously until it can be tested on a wider range of populations.

Third, there are issues of self-report measure and scope of measure. For example, this survey only asked respondents to indicate the amount of time they spent in training related to serving youth. This study did not examine if specific engagement strategies training would have been more effective in eliciting higher level of perceived service engagement. In addition, the survey did not ascertain the extent to which this training was self-selected by the practitioner. This is an important factor because motivation and interest can play key roles in the effectiveness and use of training (Stiffman et al., 2001).

**Generalizability of results**

The study sample in the present study was a sample of practitioners from county contracted mental health organizations in Ohio. Although a strength of the study is the high response rate (89.8%) of practitioners among the organizations participating in the study, a limitation of the study is the low participation rate (38.3%) by organizations. Therefore, a limitation of these study findings is their generalizability to other state and local organizations. For example, the survey questionnaires were related to practitioners’ perception of service engagement and organizational culture; different states with different organizational structures and initiative for service engagement are likely to produce different results. Likewise, since the sample was mostly private non-profit organizations, different types of organizations (e.g., private for-profit organization, public organization) might likely produce different results. Since many systems of care initiatives are operating in generally homogeneous communities, the effects of organizational cultures in mental health systems might be similar across states. On the
contrary, there may be differences associated with any number of system characteristics
dependent on the type of organizations. For example, the effects of county-based versus
state-based systems, non-profit versus public mental health organizations, and differences
by community and region of the country are likely to be important sources of variation.
The findings should not be generalized to all practitioners and organizations, and should
still be interpreted carefully.

**Implications of the Study**

The findings of this study also suggest implications for policy, practice, and
administration in mental health service systems. It is interesting to consider why some
practitioners/organizations might better engage TAY with services compared with others.
The implications of this study contain useful information for policy makers, practitioners
and administrators in regards to mental health service engagement.

**Implications for policy**

First, policies to address the disparity between mental health service delivery and
its barriers must target the organizational context in which providers work. When service
engagement is considered in an organizational context and organizations are considered
in the context of a service delivery system, it becomes easier to see how service
engagement reflects systemic influences (Weissert, 1994; Martin, Peters, & Glisson
1998). For example, based on the result of this study indicating that the highest
proportion of service barriers was “transition between services”, policy makers need to be
aware that there are a series of gaps in the transition services for TAY. Because this study
showed that resource knowledge and service coordination with other organizations were
predictors of service engagement, policies that enhance provider connections with other
resources would likely affect service engagement. Social service, juvenile justice, education, and health care systems targeting TAY should consider establishing mutual relationships.

Second, because this study showed that more service barriers were associated with lower level of service engagement, supports to reduce systemic barriers (e.g., financial gaps), are urgently needed. As a result of increased health care costs and limited resources for social programs, funders of behavioral health care are placing a greater emphasis on performance in order to control costs – service engagement is directly related to cost efficacy. Although, the U.S. government requires groups that provide mental health services to have accreditation from the council or another accrediting body in order to receive federal insurance reimbursements, many mental health organizations are still in the process of achieving accreditation or having trouble in maintaining accreditation. Policies can provide support to eligible organizations for first time accreditation to help overcome essential barriers to achieving accreditation, as well as accredited organizations already seeking to maintain their accreditation.

**Implications for social work practice**

First, consistent with the theoretical models, the findings indicate that practitioner’s level of efforts (e.g., resource knowledge, service coordination) could enhance the level of service engagement. To improve service engagement, this study suggests potential providers become acutely aware of the importance of their roles in TAYs’ engagement in mental health services, and identification of TAYs’ service engagement barriers and needs. Age-appropriate care for TAYs would involve general practitioners working together with mental health and relevant support agencies, such as
accommodation, education and employment services. There is evidence that age-
appropriate care leads to increased help-seeking behavior among young people
(Vanheusden et al., 2008).

Second, this study’s results indicated that practitioners’ demographic
characteristics were not related to the service engagement. That is, professional practice
behaviors of practitioners may be more likely to engage TAYs with services, and
subsequently, more able to influence attachments with clients. Service practitioners who
know the service community may be more likely to both identify TAY problems and
refer youth to needed services. If practitioner knowledge of and contact with other
resources can be enhanced, provider ability to offer services may increase and clients
may be more involved with the services.

Third, to ensure more effective service delivery, interventions targeted at
practitioner individual barriers (e.g., lack of resource knowledge, coordinating services)
could be suggested. The types of barriers identified in the study’s instruments are
modifiable within the treatment process, in contrast to the more commonly examined
client demographic characteristics. Further, these findings suggest that all practitioners
should be educated about the broad spectrum of engagement strategies that can improve
client participation as such strategies have proven effective for improving attendance and
decreasing dropout rates.

Fourth, given the present findings, constructive organizational culture as a
potential predictor of service engagement may be a good, though under-estimated
predictor for building a higher level of engagement. The strategies may target the
dimensions (e.g., PST, PV, EAC) of organizational culture with a focus on service
provision by the teams/units within organizations. The activities geared toward sharing knowledge and opinions may impact perceptions of influence among staffs in the mental health sector, and these staffs may benefit from team building exercises. As Glisson (2006) indicated, constructive cultures support motivated and positive behaviors that lead to interactions and relationships that have higher levels of personal and inter-personal satisfaction.

Fifth, the present findings add to these studies by showing that constructive organizational cultures encourage the service coordination efforts that result in TAY’s higher level of service engagement. Also another finding suggests that even though an organization might have dysfunction, practitioners’ resource knowledge can improve service engagement. That is, the practitioners could adjust their core technologies (e.g., resource knowledge, service coordination) to their unique culture, and discover effective ways to provide their services. For practitioners, these findings contribute to a better understanding of the role played by organizational culture in the effectiveness of mental health systems and of the impact of organizational culture on service engagement.

**Implications for organization management and administration**

First, administrators need to be aware of barriers to service engagement in their organization and also need to be aware whether the barriers are from the organizational level, practitioner level, or client level. Although different studies suggest that existing mental health services have multiple gaps in engaging TAYs, to ensure more effective service delivery, interventions targeted at organization barriers (e.g., financial gaps (38.9%), lack of programs or services (33.6%) in this study) could be suggested from the results of this study. In addition, because this study showed that a greater case load size is
associated with a lower level of service engagement, administrators could also mandate or suggest a maximum caseload for practitioners working with the difficult to engage population.

Second, although there was no association between in-service training and service engagement in this study, in-service training was significantly correlated with service provisions and coordination which are important predictors of service engagement. Administrators should recognize that in-service training should go farther than the usual training concerning initial and ongoing engagement of problems. If in-service training increases providers’ knowledge of engagement strategies for youths, it may enhance providers’ ability working with the difficult to engage population.

Third, although provider organizations cannot easily change their basic attributes, they can innovate their organizational social context (e.g., organizational culture) with various types of training or strategies to facilitate youths’ engagement to services. In order to improve organizational culture, interventions must target the specific factors in the organizational context in mental health agencies that tend to deleteriously affect practitioner work attitudes and the associated level of service engagement. Greater numbers of effective organizational interventions, such as Glisson’s Availability, Responsiveness and Continuity (ARC) intervention, will emerge and develop into useful tools administrators may employ for this purpose (Glisson et al., 2006). Optimal interventions will reduce dysfunction of organization, by clarifying roles and maximizing professional support, while simultaneously improving the personal accomplishment and work environment.
Fourth, on the other side of the spectrum, the organizations could adjust their core technologies (e.g., engagement strategies) to their unique structure, culture, or climate. There has been evidence that core technologies in human service organizations are soft, malleable, and more often than not adopted to fit their organizations’ existing social contexts. That is, the fit between the organization’s culture and engagement strategies is achieved by adapting or reinventing the engagement strategies rather than by changing the organizational culture to support the core technology (Glisson, 1992). Therefore, administrators may need to consider interventions designed and tested to improve engagement and decrease attrition. Examples include programs that include motivational enhancement components (e.g., Miller & Rollnick, 2002).

Fifth, it is particularly important to educate practitioners on evidence concerning the effects of organizational dynamics on the service engagement of TAY. Current and future mental health administrators and supervisors may be able to use this study as evidence for the importance of targeted change efforts that reduce the issues of hierarchy and improve professional support in the organizational culture.

**Considerations for Future Research**

First, the operational definitions of “engagement” may need fine tuning. Engagement is widely defined in mental health literature with little consistency. As was mentioned earlier, service engagement and other terms (e.g., attendance, adherence, retention, attrition, maintain service, drop-out, premature termination, and compliance) appear interchangeably in the literature. Development of more widely accepted definitions, even those that differ across service settings (i.e., in-home service vs. mental health clinics) or type of services (i.e., case management, pharmacological management,
individual therapy), would provide a uniform language for researchers and practitioners and would facilitate the application of research findings to the population for which they are relevant (Miller et al., 2008).

Second, because of the complex nature of service engagement and the lack of significant progress in improving the level of engagement, innovative ways to conceptualize and study service engagement are needed. Research efforts may start from developing gold standard measures to better capture the concept of engagement and comparisons across studies. There is no widely used standardized measure for mental health service engagement. Many of the studies reviewed utilized a unique measure of engagement (e.g., attend the intake session, number of session attendance), which makes it difficult to compare results across studies. Therefore, future study is needed to develop and support strong reliability and validity of standardized service engagement measures.

Third, further research is required to measure service engagement by multiple means not just practitioner observation. Also it is required to investigate the client-level and provider-level predictors for service engagement simultaneously. That is, it is important to have both client and practitioner perceptions of the client’s engagement, as they are often different. In Gillespie and colleagues’ (2004) study, they used both client and practitioner ratings for engagement, but client ratings did not show predictive validity. The study suggested the reasons that practitioners may hold a more general and stable view of client’s engagement, whereas clients’ perceptions of engagement may be more sensitive to outside factors (e.g., life event) (Gillespie et al., 2004). In other words, it could be that staff have a more fixed view of engagement and are rating engagement more generally than clients. Clients’ views of engagement may be a reflection of what is
going on in their life and how they are feeling on that day, rather than an overall view of engagement. This study solely focused on practitioner level predictors, and the service engagement scores were averaged across all cases. Therefore, studies using multiple informant designs are required to further investigate the factors influencing engagement.

Fourth, in terms of research methods, greater consideration and use of qualitative research methods are needed to clarify whether what represents “engagement” to TAY is the same as what represents “engagement” for the practitioner. This would help to assess whether the self-report version of the engagement measure has face validity for clients. In the same manner, qualitative research may help to explore the influences of organizational culture and climate on client/practitioner perceptions of mental health service engagement. Studies that use interviews with current or previous service users can offer a wealth of ideas about engagement and disengagement from treatment. Similarly, focus groups of practitioners in community mental health organization can also offer unique perspectives on why patients leave treatment. From these data, quantitative studies can be designed that more specifically assess the needs, perceptions, and expectations of patients.

Fifth, in terms of research designs, random sampling and experimental or quasi-experimental designs would strengthen future research in this area and may promote the production of causal inferences that are not possible due to the sampling method and design of this study. It may also be interesting to carry out a series of longitudinal studies to understand how changes in service engagement can be accomplished and examine how they are related to organizational culture. Likewise, much more research is needed to understand the changes in organizational culture and climate over time. These research
designs may prove a more fruitful direction in improving service engagement and may address whether there should be organizational change strategies for improving mental health service delivery systems.

Conclusion

The premise of the current study was that service providers can influence TAY service engagement by their socio-demographic, professional, organizational characteristics and perceptions of organizational culture. Previous studies provided some evidence that practitioner and organizational level factors predicted client treatment continuation beyond clients’ individual factors. What the present study adds is the link between such practitioners’ professional characteristics and organizational characteristics inducing organizational culture and level of service engagement, and the finding of a significant interaction between organizational culture and professional characteristics.

These findings may give important leads as to which interventions might result in improvements in TAY service engagement. It was encouraging that it was not the static demographic variables that predicted service engagement, but potentially modifiable factors, including various types of service provision, service barriers, case load size, resource knowledge, service coordination, and organizational culture. It is thus possible that by working on improving the practitioner’s professional resources and organizational culture that service engagement and ultimately treatment outcomes can be improved.

The findings of this study highlight the importance of research to understand the clinical significance of service engagement, especially for transition age youth. Progress in this area will require a broadening of the concept of service engagement, to consider the value of services provided or discontinued across multiple, often uncoordinated
sectors. Further research is needed to replicate the present findings for other states and settings.
APPENDICES
Hello. My name is HyunSoo Kim. I am calling from Case Western Reserve University in Cleveland Ohio. I am requesting the participation of your agency in a research study about mental health stakeholders’ views on service engagement among transition age youth with mental health problems. I am calling you because you direct an agency providing mental health service for this population. The name of the study is *Organizational Culture and Mental Health Service Engagement of Transition Age Youth: Service Provider Perspectives*. The purpose of this research is to better understand how professionals who work with transition age youths view their service engagement and what kinds of barriers influence service engagement. Researchers at Case Western Reserve University are conducting this study.

If you agree to allow your staff to participate, ten to fifteen employees (i.e., practitioners) will be asked to complete a survey packet. This process is estimated to take about 30 minutes to complete. I would mail the survey to you and you could give it to staff. I would contact the employees once by email to remind them that I was requesting the information. Otherwise, there will be no follow-up or additional requests for information after this survey packet is completed. I am seeking employees who 1) have worked in the agency for more than one year and 2) offer transition age youth (age between 18 and 30) mental health services and those who work directly with them. The broader categories include (clinical) social workers, mental health counselors, case managers, supervisors, therapists as well as many other professionals who have similar job titles. Executive directors or administrators will be excluded from among the study participants.

This research has no foreseeable risks or benefits to you or any member of your agency as a participant. The records of this research will be kept private. Your participation and/or the participation of individual employees are completely voluntary. Each packet would include $10.00 as a way of thanking participants. The practitioners would be free to keep the $10.00. Are you interested in collaborating/participating in the study?

*(Possible Director Responses)*

1. **Answer:** No. **Investigator response:** That’s fine. I appreciate your time. Thank you.
2. **Answer:** Maybe. I’m not sure. I want to think about it. **Investigator response:** Sure. Please let me know if I can answer any questions you have. Is it ok to call you back about this research? If so, when would be a good time to call?
3. **Answer:** Yes. **Investigator response:** Great. I really appreciate it. What I need from you is your assistance in suggesting some workers for the study and a date and time that would work for your agency and your staff.
(If the answer is Okay): I will forward the surveys to you by mail. Once you receive them, you can distribute them to employees, and I will follow-up with the employees. The mailing should be arriving in about one week. I will call you to ensure that you have received the mailing about one week after I send it. I need to verify that you agree to participate, so I will also include a letter of agreement for you to sign and send back.

If you have questions or would like to talk further, you may contact us at the following number: 216-789-5451 or hyunsoo.kim@case.edu and Elizabeth.tracy@case.edu. Thank you.
Sample Letter of Cooperation

[The collaborating organization’s letterhead]

(DATE)

Elizabeth M. Tracy, Ph.D., LISW
HyunSoo Kim, Ph.D. Candidate
Mandel School of Applied Social Sciences
Case Western Reserve University
11235 Bellflower Rd.,
Cleveland, Ohio 44106-7164
216.789.5451

Re: Letter of Cooperation

Dear Dr. Tracy and HyunSoo Kim,

At _____(Name of Agency)____, we value research. Our agency is excited about collaborating on a project that is interested in learning from professionals working with transition age youths about what helps successful engage with youth.

This letter confirms our willingness to take part in the research study, “Organizational Culture and Mental Health Service Engagement of Transition Age Youth: Service Provider Perspectives” to be conducted by you and your research team. We have been informed that the purpose of the study is to better understand how professionals who work with transition age youths view their service engagement and what kinds of barriers influence service engagement.

It is our understanding that surveys from ten to fifteen staff members will be completed. In collaboration with you and your team, we will ask employees at our agency if they are willing to be part of a survey. They will be assured that it is voluntary and it will not impact their work relationships at all if they decline or participate.

Please feel free to contact ____ (Name, Official Title, Email and Phone number) ____ , as this process unfolds. We look forward to working with you and receiving a summary of the research results.

Sincerely,

[A signature is required]

Name of Authorized Representative
Official title
Name of Agency
Letter to Prospective Participants

Elizabeth M. Tracy, Ph.D., LISW
HyunSoo Kim, Ph.D. Candidate
Case Western Reserve University
Mandel School of Applied Social Science
11235 Bellflower Rd.
Cleveland, OH 44106-7164

Dear Prospective Participant:

My name is HyunSoo Kim. Dr. Elizabeth Tracy and I are the researchers conducting this study. Your Director has forwarded this survey to you on our behalf. I am asking you to participate in a research study about mental health stakeholders’ views on service engagement among transition age youth with mental health problems. Specifically, the present study aims to build understanding around the stakeholders’ perspective on service engagement and barriers influencing service engagement to help prevent transition age youth from dropping out or not becoming active in their treatment.

If you agree to be a participant in this research, you will be asked a series of questions focusing on worker engagement with transition age youths. The survey will take approximately 30 minutes to complete. There will be no follow-up or requests for information after this survey packet is completed. There are no known risks to participating in this study. Participation is voluntary and there are no direct benefits to you for participating in the study. However, you will be offered $10 as a way of thanking of you for participating in this research.

Are you interested in participating in this study? If you
1) have worked in the agency for more than one year
2) offer transition age youth (age between 18 and 30) mental health services and those who work directly with them, you are eligible to participate!

Please let your directors/supervisors/etc know you are willing to participate in this study. As soon as we receive a list of prospective participants, we will send survey packet to your agency. I will be happy to answer any questions you have about the research. You may contact us at the following number: 216-789-5451 or hyunsoo.kim@case.edu and Elizabeth.tracy@case.edu. I may contact you to see if you have questions and to confirm whether you are willing to participate.

Thank you,
HyunSoo Kim, Ph.D. Candidate
Dear Potential Participant:

My name is HyunSoo Kim. Dr. Elizabeth Tracy and I are the researchers conducting this study. Your Director has forwarded this survey to you on our behalf. I am asking you to participate in a research study about mental health stakeholders’ views on service engagement among transition age youth with mental health problems. You were selected as a possible participant because you 1) have worked in the agency for more than one year and 2) offer transition age youth (age between 18 and 30) mental health services and those who work directly with them. The survey is estimated to take about 20 minutes to complete.

There will be no follow-up or additional requests for information after this survey packet is completed. This research has no foreseeable risks or benefits to you as a participant. Enclosed in your packet you will find 1) this Introductory Letter to Potential Participants, 2) Informed Consent Document (ICD), 3) $10.00 as a way of thanking you for participating in this research, and 4) the survey developed for this study. Please complete the survey and return it in the pre-addressed stamped envelope. You are free to keep the $10.00, introductory letter, and ICD for your record.

The records of this research will be kept private. Any kind of report that might be published will not include any information that will make it possible to identify you as a participant. You will not be allowed to change your answers after you mail the form, as it would be quite difficult for the investigators to link you to a particular survey form. Remember, if you choose to participate, do not write your name on the survey. Your participation is voluntary. If you choose not to participate, it will not affect your current or future relations with the Case Western Reserve University or with your place of employment. I will be happy to answer any questions you have about the research. You may contact us at the following number: 216-789-5451 or hyunsoo.kim@case.edu and Elizabeth.tracy@case.edu. I may contact you to see if you have questions and as a reminder to complete the survey.

Thank you,
HyunSoo Kim, Ph.D. Candidate
Informed Consent Document

Organizational Culture and Mental Health Service Engagement of Transition Age Youth: Service Provider Perspectives

You are being asked to participate in a research study examining stakeholders’ perspectives on service engagement when working with transition age youths with mental health problems. Researchers at Case Western Reserve University are conducting the study. You were selected as a possible participant because of your work as a service provider. Please read this form and ask any questions that you may have before agreeing to be in the study.

Background Information

The present study aims to build understanding around the stakeholders’ perspective on service engagement and barriers influencing service engagement to help prevent transition age youth from dropping out or not becoming active in their treatment.

Procedures

If you agree to be a participant in this research, you will be asked a series of questions focusing on worker engagement with transition age youths. The survey will take approximately 20 minutes to complete. There will be no follow-up or requests for information after this survey packet is completed. Enclosed in your packet, you will find a pre-addressed stamped envelope. Please use this envelope to return your completed forms to us.

Risks and Benefits to Being in the Study

There are no known risks to participating in this study. Participation is voluntary and may be terminated by the participant at any time during completion of the questionnaire. There are no direct benefits to you for participating in the study. You might enjoy learning more about client engagement strategies and your views will help us to better understand how to engage transition age youths in their mental health care.

Compensation

The packet will include $10.00 as a way of thanking participants. You are free to keep the $10.00.
**Confidentiality**

Your responses to the survey will be anonymous. No one working at your agency, including administrators or supervisors will know how you answered the questionnaire unless you choose to tell them. The records of this research will be kept private. Paper and pencil survey data will be kept in a locked file cabinet in the Principal Investigator’s (PI) project office at the Mandel School of Applied Social Sciences (MSASS). Data will not be individually identifiable. Electronically stored data (e.g., datasets) pertaining to demographics of participants (see survey protocol) will be kept on secured servers in MSASS. Access to these servers will be made to the PI through terminal services at MSASS. Data from this study will be destroyed within three years after the final use or publication of the data. In any sort of report we might publish, we will not include any information that will make it possible to identify a participant. Access to research will be limited to the researchers, the University review board responsible for protecting human participants, and regulatory agencies.

**Voluntary Nature of the Study / Privacy**

Your participation is voluntary. If you choose not to participate, it will not affect your current or future relations with Case Western Reserve University. Furthermore, your relationship with the organizations that you work for will not be affected by your decision to participate in the study or not. There is no penalty or loss of benefits for not participating or for discontinuing your participation in the study at any time.

**Contacts & Questions**

Dr. Elizabeth M. Tracy and HyunSoo Kim (doctoral fellow) are the researchers conducting the study. You may ask any questions you have now. If you have any questions later, you may contact them at: 216-789-5451 or hyunsoo.kim@case.edu and Elizabeth.tracy@case.edu.

If the researchers cannot be reached, or if you would like to talk to someone other than the researcher about; (1) concerns regarding this study, (2) research participant rights, (3) research-related injuries, or (4) other human subjects issues, please contact Case Western Reserve University’s Institutional Review Board at (216) 368-6925 or write: Case Western Reserve University, Institutional Review Board, 10900 Euclid Ave., Cleveland, OH 44106-7230.

**Statement of Consent**

- ✓ I have read the above information.
- ✓ I have received answers to the questions I have asked.
- ✓ I consent to participate in this research.
- ✓ I have worked at least 12 months at this organization.

***PLEASE KEEP THIS FORM FOR YOUR RECORDS.***
[APPENDIX B]

Survey Questionnaire

Today’s date _____/_____/_____

1. What ethnicity do you identify with most?
   1) Black/African American
   2) White/Caucasian
   3) Asian
   4) Hispanic/Latino
   5) Native American
   6) Other (Please Specify): ___________________

2. What is your gender? 0) Female   1) Male

3. Current age…………………………………… l__l__l

4. Highest level of formal schooling you have completed
   1) High school graduate or GED
   2) Community College
   3) Bachelors
   4) Masters
   5) Doctorate
   6) Other: __________

5. Are you currently enrolled in an educational program in any of the following?
   0) Not enrolled currently
   1) Certificate level
   2) Bachelor’s level
   3) Master’s level
   4) Doctoral level

6. My title in the agency is closest to the following:
   1) Social Worker (or Social Service Worker)
   2) Case Manager
   3) Psychologist
   4) Therapist
   5) Psychiatrist
   6) Staff Analyst of Administrative Assistant
   7) Supervisor
   8) Other ________________
7. How many years have you worked
   a. in the mental health field…………………………………………………. l l l years
   b. at this agency……………………………………………………………… l l l years
   c. in your current position……………………………………………………… l l l years

8. Do you have a permanent position (not temporary or contract)?  0) No  1) Yes

9. I live(d) with mental health issues (e.g., mood disorders)  0) No  1) Yes

10. Somebody in my family live(d) with mental health issues  0) No  1) Yes

11. In the last 12 months, have you had any in-service or other training for work with youth mental health issues?
   0) No (IF CIRCLED, SKIP TO 12)
   1) Yes

11a. What topics were covered?  [CHECK ALL THAT APPLY]
   Alcoholism/Drug abuse…………………………………………………………
   Assessment/diagnosis…………………………………………………………
   Intervention skills……………………………………………………………
   General mental health………………………………………………………
   Adolescence………………………………………………………………
   Financial issues………………………………………………………………
   Abuse/Neglect………………………………………………………………
   Gangs/Violence……………………………………………………………..
   Other, (SPECIFY): ______________________________________________

12. Hours of in-service training (on the job & workshop experience) you have about working with youth with mental health issues within a month (average)………………… l l l hours

13. Frequency of individual meetings with supervisors/supervisees (e.g., receiving supervision)
   1) Daily
   2) Several times per week
   3) Weekly
   4) Monthly

14. Frequency of group staff meetings
   1) Daily
   2) Several times per week
   3) Weekly
   4) Monthly

14a. approximately, how many workers are in your group? ………… l l l
15. The following list names a number of different categories of mental health, substance use, or other resources.

- Please check any agencies or organizations that you are familiar with. (“Familiar” means that you know the names and functions of at least one of that category of agency or individual well enough to refer your clients.)
- If you are not familiar with any agency or organization in a category, check “no” in the column.

<table>
<thead>
<tr>
<th>RESOURCE CATEGORY</th>
<th>I am familiar with this type of resource</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HEALTH &amp; EDUCATION</strong></td>
<td></td>
</tr>
<tr>
<td>1. Any Public Health Clinic with Mental Health Services</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>2. Planned Parenthood, Reproductive Health Services, or similar resources</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>3. A school social worker, guidance counselor or school psychologist</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>4. Any special schools in the area</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>5. Job training resources</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>6. Educational resources (e.g., tutoring)</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td><strong>INPATIENT RESOURCES</strong></td>
<td></td>
</tr>
<tr>
<td>7. Psychiatric hospital or psychiatric or medical units in a general hospital for emotional or behavioral problems</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>8. Drug or Alcohol treatment units</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>9. Residential treatment centers</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>10. Group or foster homes</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>11. Detention center/Prison or jails</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>12. Emergency shelters for emotional or behavioral problems</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>13. Other places like summer treatment programs or boarding schools</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td><strong>OUTPATIENT RESOURCES</strong></td>
<td></td>
</tr>
<tr>
<td>14. Community mental health center or other outpatient mental health clinics</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>15. Professionals (e.g., psychologist, psychiatrist, social worker or marriage or family counselor) not mentioned</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>16. Day treatment programs</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>17. Family preservation services</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>18. Emergency room that treats emotional/behavioral problems</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>19. Pediatrician/family doctors for emotional or behavioral problems</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>20. Probation or juvenile corrections services</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>21. Self-help groups (e.g., AA, 12-step programs, or peer youth counseling program)</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td><strong>OTHER</strong></td>
<td></td>
</tr>
<tr>
<td>22. Crisis intervention services (e.g., suicide hotlines)</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>23. Social services</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>24. Religious providers of services (e.g., churches, ministers)</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>25. Traditional healers</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>26. Talking circles</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>27. Life skills programs for teens</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>28. Family or parenting programs</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>29. Victim's programs</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>30. Any other resources which serve the drug/alcohol/mental health needs of adolescents</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>30a. If yes, names of other resources:</td>
<td></td>
</tr>
</tbody>
</table>
16. To what extent is providing youth with referrals to drug/alcohol/mental health/other services (the resources listed above) a part of your job?
   0) Not at all
   1) Very little
   2) Somewhat
   3) To a great extent

17. When you work with a youth, how often do you coordinate with other agencies in providing services?
   0) Never/rarely
   1) Sometimes
   2) Often
   3) Always

18. In your service setting, which of the following services do you personally provide to clients?
   [CHECK ALL THAT APPLY]
   Assessment………………………………………………………………………………
   Referral out………………………………………………………………………………
   Individual treatment……………………………………………………………………
   Group treatment………………………………………………………………………
   Family/couples treatment……………………………………………………………
   Teaching/academic……………………………………………………………………
   Teaching of health and/or mental health…………………………………………
   Teaching of cultural diversity…………………………………………………………
   Educational/Vocational Guidance…………………………………………………
   Parenting groups……………………………………………………………………
   In-home/Family preservation…………………………………………………………
   Case management……………………………………………………………………
   Crisis intervention……………………………………………………………………
   School consultation……………………………………………………………………
   Diagnostic testing/evaluation………………………………………………………
   Life skills training……………………………………………………………………
   Recreation therapy……………………………………………………………………
   Drug and/or alcohol abuse treatment………………………………………………
   Psychopharmacological treatment/therapy…………………………………………
   Day treatment/partial hospitalization………………………………………………
   Medical care…………………………………………………………………………
   Other, (SPECIFY): ________________________________________________________

19. How many clients are served by you in this program (best estimation)
   a. in a day (average number)…………………………………………………………
   b. over a one-month period (average number)……………………………………
   c. over a one-year period (annually)………………………………………………
      c1) How many of them are program premature terminators [“a client who terminated unilaterally or against your advice, that is, was in need of continued treatment at termination,” Pekarik, (1992)] ……………………………………………………………
20. How many clients have you treated in the past 3 months (i.e., your caseload)?

TOTAL of a, b, c | l l l

a. Under 18 years of age (children and adolescents) ........................................... l l l
b. 18 to 30 years of age (transition age youth).......................................................... l l l
c. Over 30 years of age (adults) ................................................................................. l l l
d. Dual diagnosis clients (e.g., mental health & substance abuse) .............................. l l l

21. Client service engagement

Please answer the questions below focusing on the transition age youth clients served in the PAST 3 MONTHS.

Instructions: To the right of each statement, circle the number that best indicates your agreement.

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Sometimes</th>
<th>Often</th>
<th>Most of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The clients seem to make it difficult to arrange appointments</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. When a visit is arranged, the clients are available</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. The clients seem to avoid making appointments</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. If you offer advice, do the clients usually resist it?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. The clients take an active part in the setting of goals or treatment plans</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. The clients actively participate in managing his/her illness</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. The clients seek help when assistance is needed</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. The clients find it difficult to ask for help</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. The clients seek help to prevent a crisis</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10. The clients do not actively seek help</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11. The clients agree to take prescribed medication</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12. The clients are clear about what medications he/she is taking and why</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13. The clients refuse to co-operate with treatment</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14. The clients have difficulty in adhering to the prescribed medication</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

21a. What factors do you think increase engagement with your clients? What barriers do you think decrease engagement with your clients?

___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________

173
22. Concerning the availability and continuity of services available to youths at your agency, do you feel there are:

0) No gaps in service (IF CIRCLED 0, SKIP TO 23)
1) Some gaps in service
2) Many gaps in service

22a. What are the gaps? [CHECK ALL THAT APPLY]
- Transition between services
- Coordinating services
- Agency function limited
- Staff times or training
- Lack of programs or services
- Client issues
- Financial gaps
- Gaps in filling basic needs (e.g., housing)
- Problems too complicated or too many problems
- Lack of culturally specific services
- Other, (SPECIFY): ____________________________

23. Is this facility operated by
1) A private for profit organization
2) A private non-profit organization
3) State government
4) Local, county, or community government
5) Tribal government
6) Federal government
7) Other, (SPECIFY): ____________

24. Which best describes the location of the population you serve?
1) Rural    2) Suburban    3) Urban

25. In which of the following service organization settings do you work?
1) Private Therapist, Psychologist, Psychiatrist, Social worker, or Counselor
2) Mental health clinic or center
3) Partial day hospital or day treatment program
4) In-home therapist, counselor, or family preservation worker
5) Other, (SPECIFY): ________________
26. Every organization has spoken and unspoken values, attitudes and beliefs about how its members behave. Please use the response options to the right to indicate:

<table>
<thead>
<tr>
<th>In your organization to what extent (Response options: 0=Not at all, 1=To a slight extend, 2=To a moderate extend, 3=To a great extend, 4=To a very great extend, and 5=Always)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do requests and suggestions require a memo</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>2. Are clients empowered to solve their own problems</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>3. Is everyone scrupulous about client confidentiality</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>4. Does the organization provide coffee, tea and tissues for staff</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>5. Is socializing with colleagues during working hours discouraged</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>6. Does management routinely evaluate the quality of services rendered</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>7. Are members of the organization reluctant to learn new ways of doing things</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>8. Do supervisors arrange a lighter workload when life stressors threaten performance</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>9. Is freedom of expression encouraged</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>10. Does management change ways of doing things quickly in response to external pressures</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>11. Do superiors delegate both authority and responsibility</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>12. Does management respond to criticism in ways acceptable to a majority of staff</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>13. Do decisions come from the top down</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>14. Is there an atmosphere of trust, sincerity and mutual respect</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>15. Are ethical issues discussed in staff meetings</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>16. Do superiors provide emotional support for staff</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>17. Is professional development an integral part of clinical supervision</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>18. Is good performance rewarded with greater autonomy</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>19. Does management neglect necessary repairs, refurbishing and replacements</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>20. Does everyone believe that most clients can benefit from clinical services</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>21. Are clinicians encouraged to use a variety of theoretical approaches in clinical practice</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>22. Is performance evaluation two-way: supervisor to staff and staff to supervisor</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>23. Do staff show equal respect for all clients they serve</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>24. Are clinicians encouraged to explain treatment evaluations and diagnoses completely to clients</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>25. Does management procrastinate over administrative decisions</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>26. Do superiors try to keep assignments interesting and challenging</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>27. Is there a continual search for new and better ways of serving clients</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
<tr>
<td>28. Does management solicit feedback from clients</td>
<td>Not at all 1 2 3 4 5</td>
</tr>
</tbody>
</table>
In your organization to what extent (Response options: 0=Not at all, 1=To a slight extend, 2=To a moderate extend, 3=To a great extend, 4=To a very great extend, and 5=Always)  
<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>To a slight extend</th>
<th>To a moderate extend</th>
<th>To a great extend</th>
<th>To a very great extend</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>29. Is conflict among staff ignored in the hope that it will disappear</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>30. Are staff encouraged to try new treatment approaches</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>31. Do clinicians exchange current professional material</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>32. Do staff give colleagues support with clinical problems</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>33. Do superiors lack the skills to do a top rate job</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>34. Is the size and décor of meeting rooms, offices and staff areas adequate</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>35. Do staff believe that their clients are capable of change</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>36. Are waiting room magazines available in the languages of the clients</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>37. Are staff encouraged to take a mental health day when needed</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>38. Is management “always right”</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>39. Are there cliques that compete for power, preference and control</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>40. Do supervisors value ventilation of personal reactions to client problems as clinically important</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>41. Is management slow in adopting new technology</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>42. Are organizational decisions made without staff input</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>43. Does staff burnout exist</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>44. Are flexible arrangements such as job-sharing or longer hours/fewer days allowed</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>45. Does management encourage expression of opposing views by staff</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>46. Are people expected to keep secret the fact that they are personally seeing a therapist</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>47. Are specified work hours negotiable</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>48. Does the organization have a reputation for high quality services</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>49. Do staff get public recognition for accomplishments</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>50. Does everyone make their work space as attractive and comfortable as possible</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>51. Is there age-appropriate reading material for the waiting room</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>52. Do staff lack the skills to do a top-rate job</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>53. Are clinicians required to get supervisory approval for treatment decisions</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>54. Is the organization as good as management believes</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>55. Is there a balance of positive and negative feedback</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>56. Do new ideas come from all levels of the organization</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>57. Does management react to criticism in a way that is constructive and satisfactory to a majority of staff</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>58. Is burnout a neglected problem</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>59. Are services to clients the primary concern of employees</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>60. Are staff told when a job is well done</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

You are finished! Thank you so much for your participation.
References


engagement: Influences on alcohol treatment satisfaction and outcomes.

*Psychology of Addictive Behaviors, 19*, 71-78.


Glisson, C., Landsverk, J., Schoenwald, S., Kelleher, K., Hoagwood, K. E., Mayberg, S.,


Kim, H., Munson, M. R., & McKay, M. M. under review. Engagement in mental health
treatment among adolescents and young adults: A systematic review. *Health & Social Work.*

Kim, H., Munson, M. R., & Tracy, E. M. (2010, March). Social support networks among transitioning young adults with psychiatric needs. 23rd Annual Conference: *A Systems of Care for Children’s Mental Health, Tampa, FL.*


Kokotovic, A. M. & Tracey, T. J. (1990). Working alliance in the early phase of


Prochaska, J. O. (1999). How do people change, and how can we change to help many


mental health services for young people aged 16-19 years. *Journal of Interprofessional Care, 18*(2), 115-128.


Rumbaut, G. R. & Komaie, G. (2007). *Young Adults in the United States: A Mid-Decade*


a critical juncture in the course of psychopathology and mental health.

*Development and Psychopathology, 16*, 799-806.

Shortell, S. M., Zimmerman, J. E., Rousseau, D. M., Gillies, R. R., Wagner, D. P.,
care units: Does good management make a difference? *Medical Care, 32*(5), 508-525.

and change during drug abuse treatment. *Journal of Substance Abuse, 7*(1), 117-134.


Snowden, L.R. (2001). Barriers to providing effective mental health services for African
Americans. *Mental Health Services Research, 3*, 181-188.

Snowden, L.R. (2003). Bias in mental health assessment and intervention: Theory and

Sparks, W. A., Daniels, J. A., & Johnson, E. (2003). Relationship of referral source, race,
and wait time on pre-intake attrition. *Professional Psychology: Research &
Practice, 34*, 514-518.

(2009). Fewer symptoms vs. more side-effects in schizophrenia? Opposing
pathways between antipsychotic medication compliance and quality of life.

*Schizophrenia Research, 113*(1), 27-33.


Stroul, B. & Friedman, R. (1986). A system of care for children and youth with severe


