

Attitudes Toward Mental Health Services and Illness Perceptions Among Adolescents with Mood Disorders

Michelle R. Munson · Jerry E. Floersch ·
Lisa Townsend

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Abstract The present study describes how adolescents perceive their mood disorders (MD; e.g., acute vs. chronic) and their attitudes toward mental health services. The study also explores the relationships between demographics, clinical characteristics, perceptions of illness and attitudes. Finally, we examine the psychometric properties of the Illness Perception Questionnaire-Revised (Moss-Morris et al. in *Psychology & Health* 17(1):1–16, 2002). Seventy adolescents were recruited from the greater Cleveland area. Structured interviews were conducted utilizing standardized instruments. Results show that adolescents with MD have fairly positive attitudes, with Caucasian youth reporting more positive attitudes than their non-white counterparts. Illness perceptions were related to psychological openness and indifference to stigma. Implications are discussed.

Keywords Adolescents · Attitudes toward mental health services · Illness perceptions · Mood disorders

M. R. Munson (✉) · J. E. Floersch
Mandel School of Applied Social Sciences, Case Western Reserve University,
10900 Euclid Avenue, Cleveland, OH, USA
e-mail: michelle.munson@case.edu; mrm43@case.edu

L. Townsend
Rutgers University School of Social Work, New Brunswick, NJ, USA

L. Townsend
Center for Education and Research on Mental Health Therapeutics, New Brunswick, NJ, USA

Introduction

Public Health Concern

Concern regarding mood disorders (MD) among adolescents has escalated, with scholars posing the question: are the rising numbers of youth with these disorders of epidemic proportions? (Costello et al. 2006). Researchers estimate that by the end of childhood almost one-fifth of adolescents will have experienced an episode of depression (Lewinsohn et al. 1993; Newman et al. 1996). Less research exists on rates of adolescent bipolar disorder; however, it is accepted that children are being diagnosed more and at increasingly younger ages (Moreno et al. 2007). Adding to the concern, studies reveal that depression in adolescence has been associated with substance use, academic underachievement, poor social relationships, unemployment, suicide, and teenage pregnancy (Diego et al. 2003; Fergusson and Woodward 2002; Lewinsohn et al. 2003). In fact, untreated depression is the most common cause of suicide among youth (Olfson et al. 2003). Growing evidence also suggests that individuals diagnosed with bipolar disorder early in life are likely to have poorer outcomes (Townsend et al. 2007); fewer inter-episode remissions than adults (Axelson et al. 2006); and, higher risk of psychosocial trauma (Wozniak et al. 1995). With regard to cost, unipolar depression ranks second only to heart disease when measured by disability adjusted life years (DALYs; Murray and Lopez 1996) and reports suggest that the economic burden of bipolar disorder alone in the United States is ~\$45 billion per year (Rice and Miller 1995). These costs, both financial and socio-emotional, are extremely high.

Mood disorders, however, are treatable and social workers are instrumental in facilitating referrals to psychiatric and psychological services, while also providing counseling to children themselves. However, underutilization of mental health services has been a problem for years (Burns et al. 1995; Keller et al. 1991; Leaf et al. 1996) with one study reporting that 5 out of every 6 children with a mental disorder did not receive specialty mental health care (Offord et al. 1987). Underuse occurs for many reasons, such as lack of access, no availability and/or beliefs that services are of no benefit. The present study focuses on the beliefs of adolescents themselves regarding their MD and how to treat them, as adolescents are moving toward more and more autonomy and their own views will increasingly influence their health care decisions.

Adolescence: A Critical Period

Adolescence is a critical period for individuals with chronic illnesses, as this developmental stage includes the individualization process (Cote and Levine 2002; Cote and Schwartz 2002), the dynamic formation of one's identity (Erikson 1968; Marcia 1980), and the desire for increased autonomy and independence (Brown et al. 2006). Initial onset of MD often occurs during this period (Burke et al. 1990; Merikangas et al. 2007), which adds complexity to the already daunting task of formulating a mature identity. In the case of MD, additional information and understanding regarding the particular disorder is suddenly necessary, as adolescents

strive to integrate a newly identified illness into their sense of self. Also, this transition includes learning to live with, or self-regulate, a new illness more on one's own. This can include renegotiating peer and family relationships, asking oneself questions, such as "*Who do I disclose to?*," mastering new coping strategies, and making decisions about whether to engage in treatment. Further, while health care decision making among adolescents is often influenced by caregivers, it is during adolescence that individuals begin to assert themselves more independently when making decisions, such as whether to show up at a therapist's office or take a pill. Weinman and Petrie (1997) support this assertion stating, "we need to understand them (children) as self-regulating individuals who are capable of making decisions and choices on the basis of their own representations of health threats and illness (p. 4)". Research has shown that children as young as 4 years of age understand the consequences of their illness and whether or not there is a cure (Goldman et al. 1991; Skinner et al. 2003). For these reasons, this study centers on understanding the beliefs of adolescents themselves.

Conceptual Framework

Within the framework of health behavior theories, research has shown a strong link between cognitive processes (e.g., attitudes, beliefs) and health behaviors (e.g., service use; Brown et al. 2001; Vogel and Wester 2003). The Theory of Reasoned Action (TRA; Fishbein and Ajzen 1975) proposes that health behaviors are influenced by an individual's intention to perform a specific behavior and that one's intention to perform a behavior is influenced by their beliefs and attitudes about the behavior. For example, an adolescent's intention to take their medication each day is influenced by their belief regarding how medication will impact their symptoms. The Self-Regulatory Model of Illness (SRM; Leventhal et al. 1992) suggests that an individual's cognitive and emotional representations of their illness guide their coping, appraisal of symptoms, and ultimately their health behaviors. For example, SRM suggests that how an individual thinks about, or cognitively represents the consequences of their illness, determines their help-seeking and medicine taking behaviors (Leventhal et al. 2003). These theories differ in their conceptualization of how cognitive processes influence health behaviors, but they are similar in that they focus on cognitive processes in understanding health behaviors. While the purpose of the present study is not to test these models per se, the study provides the necessary foundation for testing these theories in future research.

Previous Research

SRM has been explored extensively with regard to physical illnesses, such as diabetes (Griva et al. 2000) and coronary heart disease (Gump et al. 2001). Gump et al. (2001) found that illness perceptions differ as a function of age, reporting that older adults perceive they have less control over their coronary heart disease than their younger counterparts. Fewer studies have explored SRM in terms of mental illness. Two studies, however, have examined the illness models of those with

serious mental illness, finding that the dimensions of SRM applied to these individuals (Fortune et al. 2004; Lobban et al. 2003). Even fewer studies have examined what is related to illness perceptions among individuals with MD. One study of Hispanic adult immigrants found that those with 12 or more years of education perceived depression to have more consequences on their lives than those with <12 years (Cabassa et al. 2007). We are unaware of any studies examining illness perceptions among adolescents with MD. The present study addresses this gap by examining variations in illness perceptions among this group.

Due to the increasing awareness of the importance of understanding attitudes toward seeking help as they relate to service use, there have been a growing number of studies examining the correlates of attitudes. Studies across the lifespan consistently show that females report more positive attitudes towards seeking professional psychological help than their male counterparts (Chandra and Minkovitz 2006; Garland and Zigler 1994; Gonzalez et al. 2005; Kelly and Achter 1995; MacKenzie et al. 2006; Vogel and Wester 2003). Studies examining race have reported that non-white subjects experience more negative attitudes, especially with regard to stigma than white individuals (Copeland 2006). In a study of depressed adults receiving primary care services, Roeloffs et al. (2003) reported that African Americans were more concerned about stigma than their white and Hispanic counterparts. Finally, one study reported that less educated and lower income individuals were more likely than their counterparts to worry about what others think about their need to seek psychiatric help (Leaf et al. 1987). We are not aware of any studies examining the relationship between polypharmacy, or taking more than one medication, and attitudes or the relationships between how one perceives their mood disorder and their attitudes toward professional mental health services. The present study examines these questions.

Understanding the cognitive processes of adolescents must be a priority in social work practice and research, as large numbers of youth with MD are served by social workers in non-specialty settings. Results can inform practitioners regarding adolescent's views about their MD and how they view professional psychological services as a source of help. Findings can inform interventions, for example, if results show that female youth of color perceive their depression or bipolar disorder to be untreatable and acute, social workers can develop education modules on treatments that work and the chronicity of MD.

The Present Study

The present study asks the following research questions: (1) What do the attitudes towards seeking mental health services and illness perceptions of adolescents with MD look like? (2) Do attitudes and illness perceptions vary by demographic and clinical characteristics? (3) What is the relationship between illness perceptions and attitudes? and (4) Can we continue to utilize the Illness Perceptions Questionnaire-Revised (IPQ-R) with adolescents living with MD? Two hypotheses were proposed in the present study: (1) Females will have more positive attitudes than males; and (2) Caucasian youth will have more positive attitudes than youth of color.

Method

This study is based on data from a larger project funded by the National Institute of Mental Health aimed at building knowledge around the subjective experience of adolescents taking psychotropic medications (see Floersch et al. 2009).

Sample

The sample for the present study consists of 70 youths (mean age = 15; 74% Caucasian; 54% female) that were interviewed in person between 2005 and 2007 (see Table 1). All study procedures were approved by the Case Western Reserve University and University Hospitals of Cleveland Institutional Review Boards. The majority of participants had a diagnosis of either bipolar spectrum disorder (53%) or major depression (44%). Almost two-thirds (61%) of the adolescents reported they were in grades 9–12. Forty-two percent of the sample reported a yearly family income of less than \$50,000. Sixty-four percent were taking more than one psychotropic medication.

Participant Recruitment and Exclusion/Inclusion Criteria

Participants for the larger study were recruited through discussions with staff, posters and fliers aimed at patients seen within the outpatient clinic at University Hospitals of Cleveland, community mental health settings, and an alternative high

Table 1 Sample characteristics
(*N* = 70)

	Mean (SD)	Percent
Demographics		
Female		54
Caucasian		74
Age	15 (2)	
Education		
5–8		39
9–12		61
Yearly family income		
<50,000		42
>50,000		58
Clinical characteristics		
Primary diagnoses		
Bipolar spectrum		53
Major depression		44
Substance induced mood disorder		1
Dysthymia		1
Number of psychotropic medications		
1		36
>1 (Polypharmacy)		64

school. Criteria for participation included: age between 12 and 17 years; an Axis 1 diagnosis for which psychotropic medication was prescribed; ability to read questionnaires, and the availability of a guardian with whom the adolescent resided. Participants were excluded if they had not taken psychiatric medication in the past 30 days, if they had an IQ < 70, or if they had a pervasive developmental disorder, seizure disorder, or an organic brain disorder. The present study included youth from the larger study with a mood disorder diagnosis. This was determined a priori, as the purpose of the study is to understand how individuals perceive their MD. The larger sample included youth with eating disorders and Attention Deficit Disorder, which are considerably different illnesses. We compared the sample to the larger sample on major study variables. The groups differed on race, with a higher proportion of Caucasian youth ($\chi^2 = 7.19, p < .01$) in the MD sample. Also, adolescents with MD were taking more medications than those in the non mood disordered group ($t = -3.58, SE = .2, p < .001$).

Interview Procedures

In person interviews were conducted with all 70 youths in either the research study office or in the appropriate clinical setting. All interviews were conducted by doctoral students or faculty members in social work that were trained on the core quantitative instruments.

Instruments

Mental Disorder

Mental disorder was determined in two ways. For participants included in the qualitative segment of the larger study on subjective medication experiences ($N = 28$), the Kiddie Schedule for Affective Disorders for School-Age Children Present and Lifetime Version (K-SADS-PL; Kaufman et al. 1997) was used to determine participant diagnoses, along with parent report. The K-SADS-PL, a semi-structured research interview, has been used as a 'gold' standard to assign diagnostic categories. It assesses symptom constellations according to DSM-IV psychiatric diagnoses. The K-SADS-PL interviews were conducted by a researcher trained as a 'rater,' meaning she had met adequate inter-rater reliability standards ($\text{kappa} \geq .85$) on five consecutive interviews when compared to another rater. The K-SADS-PL has been found to have strong concurrent validity with standard self report scales and the test re-test reliability for the measure was in the good to excellent range for every mental disorder (Kaufman et al. 1997). The remaining participants' ($N = 42$) diagnoses were determined solely by parent report, as these participants were not included in the subjective experience study. We conducted an analysis on participants that received both the K-SADS-PL and parent report ($N = 28$). Of these youth, there was an exact match between the K-SADS-PL diagnosis and the diagnosis reported by the parent in twenty, or 71%, of the cases. If we include those that matched on major diagnostic category (e.g., mood disorder) an additional 4 matched (i.e., K-SADS-PL reports Bipolar and parent reports Major Depression). This brings the number of

matches to 86% of the cases. These data suggest that parents know the diagnoses their children meet criteria for, adding validity to the parent report data in the remaining forty-two cases.

Illness Perceptions

Participant's perceptions of their MD were measured by the Illness Perception Questionnaire-Revised (IPQ-R; Moss-Morris et al. 2002). The IPQ-R is a 38 item scale that examines seven clusters, or factors, of an individual's illness perceptions. The IPQ-R has now been utilized to study illness perceptions among individuals with MD (Brown et al. 2007; Cabassa et al. 2007). Timeline assesses whether participants perceive their illness as a chronic or acute condition. The consequences domain assesses how much subjects perceive their illness has consequences on their lives. Personal control taps participant's perceptions of whether they have control over their illness. Treatment control examines perceptions regarding whether treatment can control the illness. Illness coherence is a measure of participants understanding of the illness. Timeline cyclical measures participant's level of belief that their illness is cyclical. Emotional representations assess an individual's emotional response to their illness, such as experiencing feelings of shame, anger, or sadness regarding their illness. Moss-Morris et al. (2002) reported that the IPQ-R demonstrates good internal reliability, test re-test reliability and predictive validity. The scale utilizes Likert scale response options from 0 ("Strongly Disagree") to 4 ("Strongly Agree"). Youth were asked to indicate how much they agree or disagree with statements such as "I expect to have this illness for the rest of my life."

Attitudes

Attitudes were measured by the Inventory of Attitudes Toward Seeking Mental Health Services (IASMHS) scale. The IASMHS is a 24 item scale and has three internally consistent factors: psychological openness, help-seeking propensity, and indifference to stigma (MacKenzie et al. 2004). Psychological openness is openness to acknowledging psychological problems and the possibility of seeking help for them. Help-seeking propensity is the willingness and ability to seek help. Indifference to stigma is one's concern with how people in their lives would react to their seeking help. Response options range from 0 ("Somewhat Disagree") to 4 ("Agree"). Internal consistency reliability coefficients for the overall measure and the subscales have been found to be strong (MacKenzie et al. 2004) and MacKenzie et al. (2006) reported that the IASMHS demonstrated good convergent validity. Participants are asked to indicate which response best represents their level of agreement with statements such as, "Important people in my life would think less of me if they were to find out that I was experiencing psychological problems."

Demographics

We also collected adolescent demographic and clinical characteristics (i.e., age, gender, race/ethnicity, education, income, # of current medications). Parents were

asked to indicate their child's gender, race/ethnic group membership, grade in school, number of medications their child was taking, and their yearly family income.

Analysis

Analyses were conducted in a series of steps. There was minimal missing data and the data was missing at random. We utilized "hot-decking" as there was a small amount of missing data (Little and Rubin 2002) and the benefits of hot-decking have been shown to outweigh other single imputation methods (e.g., mean substitution; Saunders et al. 2006). Then, descriptive statistics were performed to examine the frequencies and measures of central tendency among study variables (see Tables 1, 3). Chi-squares, independent samples *t*-tests, and correlation analyses were performed to explore the bivariate relationships among study variables. Finally, Ordinary Least Squares regression, entering all variables in one step, was utilized to examine the relationships among study variables in the multivariate models, controlling for covariates.

Results

Attitudes Towards Seeking Mental Health Services

Participant responses to the attitudes scale, by question and sub-scale, are shown in Table 2. Adolescents had similar scores (mean score = 60) when compared to a study of young adult college students (mean score = 61; MacKenzie et al. 2004). Attitudes were fairly positive, especially with regard to the propensity to seek help and feeling indifferent to stigma. For example, the majority of adolescents reported that they agreed (49%) or somewhat agreed (33%) that if they were experiencing psychological problems they could get help if they wanted to. With regard to stigma, seventy percent reported that they disagreed (41%) or somewhat disagreed (29%) that they would feel uneasy going to a professional because of what people would think. These data suggest that the majority of adolescents with MD in our sample had positive attitudes towards professional psychological help.

Illness Perceptions

The mean scores of the illness perceptions sub-scales are presented in Table 3, along with the standard deviations and ranges. Of interest, the majority of participants (over 50%) perceived their mood disorder to be chronic and to have major consequences on their lives. A smaller group perceived their mood disorder to be cyclical and even fewer associated feelings, such as anger or fear with their MD. Over half of the participants strongly agreed or agreed that their own actions and the treatments that exist can influence, or control, whether they get better.

Table 2 Percentages on the subscales of the attitudes toward professional psychological help scale ($N = 70$)

Item	Agree, somewhat agree, undecided, somewhat disagree, disagree (%)
<i>Psychological openness</i>	
1. There are certain problems which should not be discussed outside of one's immediate family R ^a	27, 27, 24, 10, 11
4. Keeping one's mind on a job is a good solution for avoiding personal worries and concerns R	16, 26, 36, 16, 7
7. It is probably best not to know everything about oneself R	11, 9, 26, 24, 30
9. People should work out their own problems; getting professional help should be a last resort R	4, 11, 17, 26, 41
12. Psychological problems, like many things, tend to work out by themselves R	1, 13, 29, 29, 29
14. There are experiences in my life I would not discuss with anyone R	31, 21, 20, 20, 7
18. There is something admirable in the attitude of people who are willing to cope with their conflicts and fears without resorting to professional help R	9, 19, 37, 19, 17
21. People with strong characters can get over psychological problems by themselves and would have little need for professional help R	4, 10, 21, 34, 30
<i>Help-seeking propensity</i>	
2. I would have a very good idea of what to do and who to talk to if I decided to seek professional help for psychological problems	40, 24, 19, 10, 7
5. If good friends asked my advice about a psychological problem, I might recommend that they see a professional	24, 36, 23, 13, 4
8. If I were experiencing a serious psychological problem at this point in my life, I would be confident that I could find relief in psychotherapy	27, 27, 24, 11, 10
10. If I were to experience psychological problems, I could get professional help if I wanted to	49, 33, 17, 1, 0
13. It would be relatively easy for me to find the time to see a professional for psychological problems	17, 24, 29, 23, 7
15. I would want to get professional help if I were worried or upset for a long period of time	34, 33, 19, 10, 4
19. If I believed I were having a mental breakdown, my first inclination would be to get professional attention	29, 34, 19, 14, 4
22. I would willingly confide intimate matters to an appropriate person if I thought it might help me or a member of my family	27, 24, 27, 13, 9
<i>Indifference to stigma</i>	
3. I would not want my best friend to know if I were suffering from psychological problems R	11, 10, 17, 23, 39
6. Having been mentally ill carries with it a burden of shame R	10, 16, 19, 17, 39

Table 2 continued

Item	Agree, somewhat agree, undecided, somewhat disagree, disagree (%)
11. Important people in my life would think less of me if they were to find out that I was experiencing psychological problems R	6, 11, 14, 24, 44
16. I would be uncomfortable seeking professional help for psychological problems because people in my social circles might find out about it R	10, 14, 11, 16, 49
17. Having been diagnosed with a mental disorders is a blot on a person's life R	13, 20, 30, 17, 20
20. I would feel uneasy going to a professional because of what some people would think R	6, 9, 16, 29, 41
23. Had I received treatment for psychological problems, I would not feel that it ought to be "covered up"	17, 21, 34, 19, 9
24. I would be embarrassed if my neighbor saw me going into the office of a professional who deals with psychological problems R	6, 16, 20, 16, 43

^a R indicates the item is a reverse scored item, meaning disagree equates to positive attitudes

Table 3 Means, standard deviations, range for primary study variables ($N = 70$)

Cognitive processes	Mean (SD)	Obtained range	Possible range
Illness perceptions			
Timeline ($\alpha = 0.89$)	13.6 (5.9)	0–24	0–24
Consequences ($\alpha = 0.82$)	13.4 (5.7)	2–24	0–24
Personal control ($\alpha = 0.74$)	15.3 (4.6)	4–24	0–24
Treatment control ($\alpha = 0.66$)	13.1 (3.5)	2–20	0–20
Illness coherence ($\alpha = 0.85$)	12.7 (5.1)	0–20	0–20
Timeline cyclical ($\alpha = 0.74$)	8.6 (3.5)	0–16	0–16
Emotional representations ($\alpha = 0.85$)	10.5 (5.8)	0–23	0–24
Attitudes towards mental health services ($\alpha = 0.79$)	60.1 (12.3)	33–90	0–96
Psychological openness ($\alpha = 0.65$)	17.8 (5.2)	8–30	0–32
Help-seeking propensity ($\alpha = 0.74$)	21.4 (5.6)	8–32	0–32
Indifference to stigma ($\alpha = 0.74$)	20.9 (6.3)	8–32	0–32

Bivariate Relationships Regarding Illness Perceptions and Attitudes

Tables 4 and 5 illustrate the bivariate relationships among study variables. In summary, with regard to attitudes, data reveal that race/ethnicity, taking more than one medication, and illness perceptions (e.g., emotional representations, treatment control) were associated with adolescents' attitudes towards mental health services.

Table 4 Bivariate relationships between demographics and cognitive processes (*N* = 70)

Variable	Psychological openness	Help-seeking propensity	Indifference to stigma	Timeline	Consequences	Personal control	Treatment control	Illness coherence	Timeline cyclical	Emotional representations
Gender										
Female	18.4	21.9	20.5	13.1	14.2	15.7	13.4	12.3	9.2	11.6
Male	17 NS	20.8 NS	21.4 NS	14.3 NS	12.5 NS	15.0 NS	12.7 NS	13.2 NS	7.9 NS	<i>t</i> = -1.86 ⁺
Ethnicity										
Caucasian	18.8	21.7	22.1	14.6	13.6	15.5	13.4	12.9	8.0	10.1
Youth of Color	15	20.7 NS	17.4	10.7	13.1 NS	14.8 NS	12.2 NS	12 NS	10.1	11.6 NS
	<i>t</i> = 2.59*		<i>t</i> = 3.11***	<i>t</i> = 2.40*					<i>t</i> = -2.48*	
Age	<i>r</i> = .06 NS	<i>r</i> = .05 NS	<i>r</i> = .06 NS	<i>r</i> = -.02 NS	<i>r</i> = .17 NS	<i>r</i> = .23 ⁺	<i>r</i> = .12 NS	<i>r</i> = .19 NS	<i>r</i> = .03 NS	<i>r</i> = .18 NS
Education										
5-8	17.9	21.5	20.3	14.3	11.9	13.8	12.5	11.2	8.1	8.6
9-12	17.7 NS	21.4 NS	21.3 NS	13.2 NS	14.4	16.3	13.5 NS	13.7	8.8 NS	11.6
					<i>t</i> = -1.94 ⁺	<i>t</i> = -2.29*		<i>t</i> = -1.98*		<i>t</i> = -2.22*
Yearly family income										
<50,000	17.1	20.9	19.8	12.8	11.8	14.4	12.9	11.2	9.2	10.3
>50,000	18.3 NS	21.8 NS	21.7 NS	14.2 NS	14.6	16 NS	13.2 NS	13.7	8.1 NS	10.6 NS
					<i>t</i> = -2.08*			<i>t</i> = 2.02*		
Number of current medications										
1	16.8	19.6	20	12.7	14	15.9	13	12.4	9.5	11.2
>1	18.3 NS	22.4	21.4 NS	14.2 NS	13.1 NS	15.0 NS	13.2 NS	12.8 NS	8.0	1.01 NS
									<i>t</i> = 1.82 ⁺	

⁺ *p* < 0.10, * *p* < 0.05, ** *p* < 0.01

Table 5 Correlation matrix between illness perceptions and attitudes towards mental health services ($N = 70$)

	Psychological openness	Help-seeking propensity	Indifference to stigma	Timeline	Consequences	Personal control	Treatment control	Illness coherence	Timeline cyclical	Emotional representations
Psychological openness	1.0	0.25*	0.40****	0.22 ⁺	-0.01	0.09	0.27*	0.29*	-0.20 ⁺	-0.18
Help-seeking propensity		1.0	0.19	-0.09	-0.00	0.07	0.33**	0.08	-0.10	-0.11
Indifference to stigma			1.0	0.08	-0.27*	0.12	0.12	0.36**	-0.35**	-0.49****
Timeline				1.0	0.07	-0.20 ⁺	-0.29*	-0.01	0.08	0.07
Consequences					1.0	0.24*	0.01	-0.06	0.52****	0.56****
Personal control						1.0	0.29*	0.20 ⁺	0.10	0.17
Treatment control							1.0	0.16	-0.19	-0.18
Illness coherence								1.0	-0.28*	-0.27*
Timeline cyclical									1.0	0.50****
Emotional representations										1.0

⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, **** $p < 0.0001$

With regard to illness perceptions, we found that race/ethnicity, level of education and yearly family income were related to at least one dimension of illness perceptions. Gender and age were not significantly related to any of the dependent variables of interest ($p < 0.05$).

Inter-Correlations Among Illness Perceptions

The present study found negative correlations between timeline and the control dimensions of illness perceptions, meaning that the more participants perceived their MD to be chronic the less they perceived they had personal control over their symptoms. The more adolescents believed their mood disorder was chronic the less they believed that treatment could control their illness. There was a positive relationship between consequences and the amount of personal control one perceives they have over their MD and the level of emotional response to their MD. A higher level of personal control was related to a higher level of treatment control. These relationships are summarized in Table 5.

Multivariate Results Regarding Attitudes Towards Mental Health Services

Three simultaneous regression models were used to further uncover what is associated with positive attitudes toward mental health services (see Table 6). After controlling for demographic and clinical characteristics, race/ethnicity, polypharmacy, treatment control and emotional representations remained significantly associated with attitudes toward mental health services. More specifically, youth of color reported significantly lower scores on the indifference to stigma subscale ($\beta = -3.39$, $SE = 1.64$, $t = -2.06^*$). Also, the more individuals perceived that treatment could help control their MD the more willing they were to seek help ($\beta = 0.49$, $SE = 0.21$, $t = 2.29^*$). Youth taking more than one medication scored significantly higher on the propensity to seek help sub-scale ($\beta = 2.84$, $SE = 1.41$, $t = 2.01^*$). Finally, youths who reported higher levels of emotional representations, such as associating anger, fear, or shame with their depression or bipolar disorder, reported feeling more stigmatized than those that did not associate emotions with their illness ($\beta = -0.43$, $SE = 0.14$, $t = -3.01^{**}$).

Discussion

The present study describes how adolescents living with MD understand their illness (i.e., perceived consequences, timeline), along with their attitudes towards mental health services. The study also examines the relationships between demographic variables, clinical variables, illness perceptions and three distinct sub-dimensions of attitudes towards seeking professional help. Studies have yet to ask these questions among adolescents with MD.

The adolescents in the present study had positive attitudes toward seeking mental health services. It is important to keep in mind when interpreting these results that the sample was comprised of mental health service users. It is possible that young

Table 6 Predicting attitudes towards mental health services ($N = 70$)

	Psychological openness			Help-seeking propensity			Indifference to stigma		
	β	SE	t	β	SE	t	β	SE	t
Youth of color	-1.88	1.5	-1.26	-0.19	1.72	-0.11	-3.39	1.64	-2.06*
Polypharmacy	0.77	1.2	0.63	2.84	1.41	2.01*	0.59	1.34	0.44
Timeline (high = problems/illness is chronic)	0.22	0.11	1.94 ⁺	-0.04	0.13	-0.31	0.07	0.12	0.60
Consequences (high = consequences to problems/illness)	0.04	0.13	0.26	0.03	0.16	0.21	-0.09	0.15	-0.60
Personal control (high = personal control over P/I)	0.03	0.14	0.25	0.01	0.16	-0.07	0.26	0.15	1.68 ⁺
Treatment control (high = treatment can control P/I)	0.37	0.18	1.99 ⁺	0.49	0.21	2.29*	-0.11	0.20	-0.53
Illness coherence (high = understanding of P/I)	0.21	0.13	1.69 ⁺	0.02	0.14	0.11	0.24	0.14	1.77 ⁺
Time cyclical (high = problems are cyclical)	-0.07	0.22	-0.33	0.05	0.25	0.20	-0.03	0.24	-0.11
Emotional representations (high = emotional response to P/I)	-0.06	0.13	-0.46	-0.05	0.15	-0.36	-0.43	0.14	-3.01**
Model statistics	$F = 2.45^* R^2 = 0.27$			$F = 1.37 \text{ NS } R^2 = 0.17$			$F = 4.45^{***} R^2 = 0.40$		

⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

people that are already receiving services may feel more positive about them, as compared to non service users. While not statistically significant, there was a pattern that females reported higher scores on psychological openness and help-seeking propensity than males. They also reported higher scores on the emotional representations scale, meaning they report that they feel emotions, such as anger and sadness when they think about their MD more than males. It may be possible that among adolescents with MD, females are more open and willing to reach out for help and that they are more emotionally in touch with their mood difficulties, whereas males may feel that society expects them to be strong and get better on their own. Coping literature supports this assertion. A recent meta-analysis of coping studies found that females use more emotion-focused strategies, such as seeking emotional support from others than males (Tamres et al. 2002). With regard to coping, females may be more willing to look to others for help than males. One possible strategy that has shown promise is to implement education programs in schools to fight stigma. Such programs may increase knowledge about MD and treatment and thus, improve the attitudes towards mental health services among adolescents in general and males in particular, as knowledge has been associated with more positive attitudes (Chandra and Minkovitz 2006, 2007). Another suggestion is to utilize social marketing strategies geared toward teens to increase awareness and fight stigma among adolescents with MD (Warner 2005). This is an important fight to improve overall adolescent mental health.

Further, we found that white youth were more indifferent to stigma than youth of color, after controlling for other potential covariates. This finding corroborates Roeloffs et al. (2003) finding among adult primary care patients that nonwhite groups are increasingly concerned with the stigma associated with disclosing a history of depression. There are many potential explanations for Black youth (72% of the youth of color in the present study) reporting higher levels of stigma with regard to seeking professional help for psychological problems than their white counterparts. For one, research has shown that within Black culture informal sources of help, such as family, friends and even church members are commonly called upon for dealing with personal problems and linkage to professionals (see Taylor et al. 1996 for a review). Literature has also suggested that exhibiting symptoms of distress or illness is a sign of personal weakness in the black community, especially among males (Watkins and Neighbors 2007). Finally, historical mistreatment of blacks in the United States mental health system has created a powerful legacy of cultural mistrust in the black community (see Whaley 2001 for a Review; Thompson et al. 2004) and suspiciousness of mental health providers (Ayalon and Alvidrez 2007). The combination of these personal and systemic realities may explain the negative attitudes and more specifically higher levels of stigma with regard to seeking mental health services among the black adolescents in this study. These results point to the critical importance of training social workers in the knowledge and skills necessary to work with cultural competence, including class sessions revealing the historical realities that led to the mistrust of the medical profession among many people of color. The multicultural counseling movement and social work leaders in multicultural practice have provided some guidelines and suggestions for how to effectively practice in a multicultural world (American Psychological Association 2003; Lum 2004). Results

such as the ones found in the present study illuminate that these guidelines should be considered in both education settings and in continued training and supervisory relationships.

Also, we found that illness perceptions were associated with attitudes toward seeking mental health services among adolescents living with MD. After controlling for potential covariates, emotional representations were related to indifference to stigma. Among youth in the present study, those that reported higher emotional responses to their mood disorder, meaning they feel more angry, sad, and/or ashamed when they think about their mood disorder, experienced more stigma. One might expect that if an adolescent is more emotional about their MD, they may also feel that seeking help would be a particularly emotional experience, perhaps one filled with shame, anxiety, and fear. More research is needed to understand this relationship. The present study also found that illness coherence, a measure of how much one understands their illness, was marginally positively related to openness towards professional help and indifference to stigma. While these relationships were only approaching significance in the multivariate models ($p < .10$), it might be prudent to examine these relationships closer, as they have clinical implications. If adolescents are more open and feel less stigmatized the more they “understand” and do not feel “puzzled” about their MD, interventions should focus on psycho-education components geared toward educating adolescents about their MD. More research is needed to understand these relationships.

Finally, this study provides a starting point for utilizing the IPQ-R among adolescents with MD. In the present study, the reliability coefficients were adequate to strong for the illness perception dimensions with the exception of the control dimension (see Table 3). A recent study of illness perceptions utilizing the same measure among adults also found low reliability coefficients in the control dimension (Cabassa et al. 2008). Due to its marginal performance in two studies of participants with MD, it may be worthwhile to reexamine the items in the control sub-scales. Further, many of the inter-correlations among dimensions were consistent with previous research among adults with various health conditions, including depression (Cabassa et al. 2008; Moss-Morris et al. 2002). For example, similar to Moss-Morris et al. (2002) and Cabassa et al. (2008), we found a negative correlation between the timeline (acute/chronic) dimension and both control dimensions. Adolescents that reported their MD were chronic were more likely to perceive less personal control and have little belief that treatment can control their illness. Unlike Moss-Morris et al. (2002), the present study did not find a relationship between illness coherence and the control dimensions. This may be due to the poor performance of the control sub-scales in the present study. Also, this relationship may differ among those with MD and those with physical illnesses. Further studies are needed to confirm the non-significance of this relationship among adolescents with MD. These results provide evidence that the IPQ-R is a useful measure to explore the models of illness among adolescents with MD.

There are limitations to consider when interpreting the present results. The sample is a relatively small convenience sample of adolescents from one Midwestern city, which limits generalizability. Some of the youth mental disorder diagnoses were elicited through parent report. Further, the attitudes and illness perceptions explored

in the present study were those of service users. Thus, they are not generalizable to non-service users.

In summary, adolescence is a time when teenagers are moving toward making decisions more on their own. It is also a time when teenagers begin to take in their mental disorders as a part of who they are. In considering these developmental realities, the present study honed in on understanding the attitudes toward mental health services and the illness perceptions of a group of adolescents with MD. This area has been largely ignored. Mental health services research among adolescents has focused primarily on the views of caregivers. The present study focuses on adolescents themselves, as they are moving toward illness self-management.

The present study provides some understanding of the relationship between how adolescents understand their MD and how they view whether mental health services from social workers, psychologists, or psychiatrists can help them deal with these illnesses. Data suggest that it may be valuable to develop youth-oriented psycho-education programs to teach the etiology and course of MD, along with coping strategies to help adolescents understand their illness and how it can be treated. Also, youth of color may find interventions that utilize community role models particularly useful to combat the high levels of stigma that exists with regard to seeking professional mental health services among this group. For years, the Black church has provided community health programs to improve the overall well-being of the congregation, including youth (Levin 1984). Utilizing this strategy to connect with and engage youth of color living with MD may be useful, as researchers have suggested that churches provide counseling in a less stigmatizing way (Blank et al. 2002). Further, a recent study found that advertising support group information in the church bulletin may be an effective outreach strategy for engaging African American families (Pickett-Schenk 2002). With adolescents of color reporting higher levels of stigma, strategies such as these should be considered.

Data from the present study suggests the IPQ-R performs well with adolescents. Also, the results of the study suggest a need for future research examining the relationship between health beliefs and service use, along with replication studies to further examine relationships explored here.

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