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EVALUATION OF THE ACCEPTABILITY AND UTILITY OF A DECISION AID FOR THE
TREATMENT OF ADULT DEPRESSION

by

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Master of Arts, Ryerson University, 2009

Bachelor of Arts, Wilfrid Laurier University, 2007

A Dissertation

presented to Ryerson University

in partial fulfillment of the
requirements for the degree of
Doctorate of Philosophy
in the Program of
Psychology

Toronto, Ontario, Canada, 2013

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Abstract

Evaluation of the Acceptability and Utility of a Decision Aid for the Treatment of Adult

Depression

Doctorate of Philosophy, 2013

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Decision aids communicate the best available evidence on treatment options to patients in order to facilitate informed decision-making. Research suggests that decision aids improve patients' treatment knowledge, reduce decisional conflict, and promote more active decision-making. Despite evidence of the utility of decision aids in physical health conditions, they are both understudied and rarely used for mental health problems. The present study evaluated the acceptability and utility of a decision aid for the treatment of depression and its relationship to participants' knowledge and decision-making. Undergraduate students ($N = 144$) completed self-report measures assessing demographic characteristics and a baseline knowledge test regarding depression treatment. Participants were randomly assigned to receive information about pharmacological treatments first or psychological treatments first. After reviewing a vignette asking them to imagine experiencing symptoms of depression, they read the decision aid and were asked to make a hypothetical decision about which treatment option they would choose. Participants completed a follow-up knowledge test, along with a series of questionnaires assessing acceptability of the decision aid and other variables of interest (e.g., decisional conflict, preparation for decision-making). One month later, participants completed the knowledge test for the third time. Overall, a majority of participants rated the decision aid as highly acceptable and useful. There was a significant increase in participants' knowledge of depression treatment from

prior to reading to after reading the decision aid. Although participants' knowledge scores decreased slightly at the 1-month follow-up, they were still significantly higher than their baseline scores. The hypothesis that participants' treatment choice would be influenced by the order in which treatment options were presented to them within the decision aid was partially supported. However, this effect was eliminated when the few participants who selected the "no treatment" option were excluded, as well as when participants were given the additional option of selecting a combined treatment (i.e., medication and psychotherapy). This is one of the few studies aimed at expanding the use of decision aids to mental health conditions. Future research should evaluate the utility of this decision aid with a clinical sample. Additionally, the methodology used in this study can be translated to the evaluation of other decision aids.

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Dedication

This dissertation is dedicated first and foremost to my mom and dad, Elena and Dmitri Rogojanski. Without their courage to take risks and bountiful sacrifices in order to give Daniel and I the best life possible, none of this would be achievable. I also want to give special thanks and dedicate this work to my closest friend and colleague, Taryn Moss Atlin, who has been by my side since we were 14 and has always been my biggest cheerleader. Her encouragement and understanding has gotten me through the trials and tribulations of graduate school. Finally, I dedicate this dissertation to my wonderful husband, Shawn Abramovitz. Without his support and humour, I wouldn't have made it through.

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Introduction

Patient decision aids are tools designed to communicate the best available evidence on treatment options for various disorders to patients, in a way that encourages patients to engage with their providers in order to choose an intervention that is consistent with the evidence and their personal values (O'Connor et al., 1999). Decision aids are available in various formats, but are most often multimedia or paper-based. Typically, decision aids are used for disorders for which the relative benefit-harm ratio for several treatments is uncertain, which is often the case when more than one treatment alternative is reasonable from the standpoint of efficacy (Holmes-Rovner, 2007). In such cases, decision aids allow patients to make treatment choices depending on their evaluation of the treatments' potential benefits and risks, and the patient's own values and preferences, while also taking into account practical considerations related to the various treatment options (e.g., cost and availability). Notably, decision aids are designed to complement, rather than replace, counseling from a health care provider, and are in line with the collaborative shared decision-making process (O'Connor, Llewellyn-Thomas, & Flood, 2004).

Research has shown that decision aids do a better job than usual care interventions in improving patients' knowledge regarding treatment options, reduce their decisional conflict related to feeling uninformed and unclear about personal values, decrease the proportion of patients remaining undecided about treatment, and encourage patients to take a more active role in decision-making (O'Connor et al., 1999; O'Connor et al., 2009). However, despite there being clear evidence for the benefits of utilizing decision aids, there has not yet been widespread adoption of the shared decision-making process in the medical community, and furthermore, there is virtually no use of decision aids in mental health care. As such, the purpose of the current study was to evaluate the acceptability and utility of a decision aid that was recently developed

for the treatment of adult depression. Results from this study provide important descriptive information regarding the acceptability of this tool (e.g., its clarity, utility for decision-making, length, burden of use), which will provide an opportunity for further refinement of this decision aid. Additionally, this study provides valuable information regarding whether there are any differential effects related to the order in which treatments are described within the decision aid, in order to ensure that this decisional tool is balanced and unbiased.

The current investigation is one of very few studies to examine the potential utility of a decision aid developed for the treatment of adult depression, and is one of few studies aimed at expanding the use of decision aids to mental health conditions. Additionally, the evaluation and refinement of this decision aid based on findings of the current study will have significant implications from an ethical perspective, such that this tool may prove to be a useful way of obtaining informed consent from patients who are considering beginning treatment for depression. Furthermore, the results of this study have important implications for the dissemination of empirically supported treatments for depression. Specifically, although considerable efforts have been made by the mental health research community to foster more widespread adoption and delivery of evidence-based treatments for depression, successful transfer of these interventions to clinicians in the community has been limited (McHugh & Barlow, 2010). As such, an unbiased decision aid for the treatment of adult depression will provide a unique opportunity to disseminate information concerning empirically supported interventions for depression directly to the consumers of these treatments, in turn promoting the provision of such services at the front-line of treatment delivery.

Dissemination and Implementation of Empirically Supported Treatments

Evidence-based practice emphasizes the importance of ensuring that treatment decisions are derived from evidence that is grounded in rigorous scientific research indicating that the particular treatment is likely to lead to improved outcomes. Within the medical health care system, evidence-based practice has been incorporated as a central principle guiding the delivery of services (Institute of Medicine, 2001; Romanow, 2002). A similar push toward evidence-based practice has also been established within mental health care, particularly with the development of specific criteria for identifying empirically supported psychological treatments for various mental health conditions (Chambless et al., 1998). However, despite a promise to raise the standard of health care, evidence-based practice has been confronted with many of the same challenges as other known knowledge transfer efforts, and the adoption of empirically supported interventions has been relatively slow in both medical and mental health care (McHugh & Barlow, 2010; Rogers, 1995).

Although there is extensive evidence and agreement on what constitutes efficacious treatment for individuals suffering from most mental health conditions, research suggests that mental health programs are not delivering evidence-based practices to the majority of patients with these disorders (Leff, Mulkern, Lieberman, & Raab, 1994). This is corroborated by research findings indicating low levels of successful transfer of evidence-based treatments in clinical practice (e.g., Goisman, Warshaw, & Keller, 1999; Stewart & Chambless, 2007), and across graduate and internship training programs (e.g., Crits-Christoph, Frank, Chambless, Brody, & Karp, 1995; Weissman et al., 2006). Furthermore, despite the burgeoning development of efficacious treatments for depression over the past decade, epidemiological research indicates that the population-level burden resulting from depressive disorders has remained relatively

stable (Kessler et al., 2005). This is likely a consequence of patients failing to receive treatments that have known efficacy, receiving costly treatments that provide little or no benefit, or even receiving treatments that cause them harm (Institute of Medicine, 2006). For example, Grasso and colleagues (2003) reviewed the charts of 31 randomly selected psychiatric inpatients and identified 2,194 medication errors as having been made during the patients' collective 1,448 admission days because of nonadherence to established treatment guidelines. Importantly, 58% of those errors were judged to have the potential to cause severe harm to patients. Furthermore, a review of research assessing the quality of care for various mental health conditions including depression revealed that only 27% of studies report adequate adherence rates to established clinical practice guidelines (Bauer, 2002). Moving forward, it is therefore critical that the significant gap between research-based evidence and the care of the average patient be narrowed through the development of innovative initiatives aimed at translating empirically supported interventions into effective clinical and public health practices (Unutzer, 2008).

The concepts of dissemination and implementation can be differentiated as progressively more active steps in the process of transferring validated and reliable research evidence into clinical practice (Lomas, 1993). Dissemination can be defined as the targeted distribution of information and intervention resources to a specific public health or clinical practice audience, while implementation refers to the use of strategies to adopt and integrate evidence-based health interventions and change practice patterns within specific settings (Lomas, 1993). Several models have been proposed for the successful dissemination and implementation of empirically supported interventions (e.g., Fixsen, Naoom, Blase, Friedman, & Wallace, 2005; Greenhalgh, Robert, Bate, Macfarlane, & Kyriakidou, 2005; Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004; Grol, Bosch, Hulscher, Eccles, & Wensing, 2007). However, there remains a

dearth of evidence regarding the efficacy and cost-effectiveness of these strategies for enhancing the transport of evidence-based practices (Schoenwald, 2012).

Given the importance of disseminating evidence-based practices in mental health care, scholars have attempted to develop an understanding of possible mechanisms that may account for the significant gap between research and practice, so as to inform the development of more effective models of dissemination and implementation. Some key issues contributing to this gap include stigma related to mental health problems and various treatment approaches, problems related to access to training in empirically supported interventions, and organizational and systemic factors that interfere with successful implementation of evidence-based approaches, including poor leadership, bureaucratic constraints, a change-averse culture, and lack of funding and support for implementation efforts (Geddes, Reynolds, Streiner, Szatmari, & Haynes, 1998). The implementation of evidence-based practices can be controversial given differences in the views of various mental health disciplines. Furthermore, there is often a lack of interdisciplinary collaboration among these disciplines, particularly given that general practitioners, psychiatrists, clinical psychologists, social workers, and mental health nurses tend to be trained in unidisciplinary environments and often experience interdisciplinary rivalry (Geddes et al., 1998).

In addition to the aforementioned barriers to successful dissemination and implementation of empirically supported interventions, it has also been noted that there is little demand for empirically validated treatments from both the consumers of mental health services and service payers, which provide very few incentives for practitioners and health care systems to restructure their practices in order to provide these services to patients (Unutzer, 2008). From an implementation perspective, many of the efforts have focused primarily on the providers of

mental health services and the organizations that house them. However, there may be additional benefits derived from directly targeting the consumers of these services. Recently, Santucci and colleagues (2012) articulated some of the potential benefits of disseminating evidence-based practices directly to consumers. One key benefit described by these researchers is that “direct-to-patient” dissemination efforts may create “pull demand” for evidence-based interventions. This term, originally adopted from the marketing literature, refers to the idea that the demand for a product or service from one consumer group can subsequently increase demand for the same product or service from another group. In this case, by targeting dissemination efforts at patients and giving them the opportunity to become more aware of the benefits of evidence-based practices, patients may begin to request these services from their providers, which would in turn increase the demand among clinicians and clinical service organizations to offer such treatments (Santucci et al., 2012).

Another potential benefit of dissemination efforts that are aimed at the consumers of mental health services is that these efforts may reduce some common barriers to the access of care (McHugh & Barlow, 2012). For example, one study found that the attitudes and perceptions of patients were greater obstacles to receiving treatment than were logistical barriers, such as financial factors (Mojtabai et al., 2011). Interestingly, of those individuals studied who perceived a need for treatment, only 16% reported believing that the treatment would be effective (Mojtabai et al., 2011). Although these findings do not diminish the importance of dissemination efforts that directly target organizational and systemic barriers to treatment access, they emphasize the importance of also targeting patient treatment perceptions, as these can be critical for increasing access to care. Poor mental health literacy has been shown to limit the implementation of evidence-based care and the degree of support in the community for

individuals who are affected by mental health difficulties (Jorm, Christensen, & Griffiths, 2006; Jorm, 2000). Thus, interventions aimed at improving patients' mental health literacy and increasing their awareness of the availability and efficacy of available treatment services may be critical to enhancing the dissemination and implementation of evidence-based treatments in mental health care.

Empirically Supported Treatments for Adult Depression

Major depressive disorder (referred to as depression in the remainder of this paper) is characterized by one or more major depressive episodes without a history of manic or hypomanic episodes (American Psychiatric Association, 2013). The major depressive episode is a period of at least 2 weeks during which the individual reports experiencing depressed mood or a loss of interest or pleasure in nearly all activities. These symptoms are accompanied by changes in appetite or weight, sleep, and psychomotor activity; fatigue; feelings of worthlessness or inappropriate guilt; concentration difficulty; and/or recurrent thoughts about death or suicidal ideation, plans, or attempts (American Psychiatric Association, 2013). Depression is ranked as the fifth most common cause of death and disability worldwide, and is the second leading cause of death and disability after heart disease among women (Michaud, Murray, & Bloom, 2001). Depression has also been linked to physical health problems. For example, it has been reported that one-fifth of patients hospitalized for a heart attack suffer from major depression, and evidence from multiple studies indicates that depression following a heart attack triples the risk of death from a future heart attack or another heart condition (e.g., Bush et al., 2001; Lespérance, Frasere-Smith, Talajic, & Bourassa, 2002).

In 2010, the American Psychiatric Association published treatment guidelines for depression based on a thorough review of the literature. According to these guidelines, the

primary recommended treatment modalities for depression include pharmacological treatments and psychological interventions. The initial selection of treatment modality is influenced by several factors, including the symptom profile, the presence of co-occurring disorders or psychosocial stressors, the patient's prior treatment experience, and the patient's preference. Antidepressant medications are recommended for the initial treatment of mild to moderate depression, and for the treatment of severe depression unless there are plans for the patient to undergo electroconvulsive therapy (ECT). Given that the efficacy of antidepressant medicines has been found to be comparable between and within various classes of medications, the initial selection of an antidepressant is largely based on the individual patient's tolerability of potential side effects and the pharmacological properties of the medication. First line pharmacological medications for depression include selective serotonin reuptake inhibitors (SSRI), serotonin norepinephrine reuptake inhibitors (SNRI), mirtazapine, and bupropion. It is recommended that the use of monoamine oxidase inhibitors (MAOI) are restricted only to patients who do not respond to other treatments, as these medications require adherence to dietary restrictions and have the potential for significant side effects and drug interactions (American Psychiatric Association, 2010).

Psychotherapeutic approaches for depression are recommended for the initial treatment of mild to moderate depression, or in combination with pharmacological treatment for the management of severe depression (American Psychiatric Association, 2010). The specific treatments recommended within the guidelines include cognitive behavioural therapy (CBT), interpersonal therapy, brief psychodynamic psychotherapy, and problem-solving therapy. Notably, since 2008, the Society of Clinical Psychology (Division 12 of the American Psychological Association) has published an online version of its original list of empirically

supported psychological treatments, so that the list could be regularly updated as new research evidence becomes available (Society of Clinical Psychology, n.d.). Based on the criteria put forth by Chambless and colleagues (1998), only cognitive behavioural therapy, interpersonal therapy, and problem-solving therapy have strong enough research support to meet the stringent criteria for a well-established treatment. Brief psychodynamic psychotherapy, along with several other treatments such as emotion-focused therapy and acceptance and commitment therapy, are currently categorized as probably efficacious treatments in light of their modest research support (Society of Clinical Psychology, n.d.).

Research has shown that the aforementioned psychological interventions are as effective as existing pharmacological treatments for depression (e.g., Butler, Chapman, Forman, & Beck, 2006; DeRubeis, Hollon, et al., 2005; DeRubeis, Siegle, & Hollon, 2008). Additionally, it has been shown that the efficacy of a combination of psychological and pharmacological treatment exceeds that of the individual treatments for severe depression (e.g., Hollon et al., 2005; Pampallona, Bollini, Tibaldi, Kupelnick, & Munizza, 2004), and psychological interventions tend to provide more durable benefits following the discontinuation of treatment relative to medication alone (e.g., Dobson et al., 2008; Hollon, DeRubeis, et al., 2005).

Given the strength of evidence supporting the effectiveness of psychological interventions for depression, one may presume that dissemination efforts would be targeted at increasing access to psychological treatments as much, or perhaps more so, than medication treatments. However, international trends suggest otherwise. Despite the burgeoning development of efficacious treatments for depression over the past decade, epidemiological research indicates that the population-based burden resulting from depressive disorders has remained relatively stable (Kessler et al., 2005). Additionally, data from 1998 to 2007 indicate

that, although the percentage of the general population who use psychotherapy has remained stable, psychotherapy assumed a less prominent role in outpatient mental health care, as a large and increasing proportion of mental health outpatients received psychotropic medication without psychotherapy, particularly for depression (Olfson & Marcus, 2010). Thus, although the absolute proportion of the population receiving psychological treatment has not changed significantly in the last 10 to 15 years, psychological interventions are accounting for a smaller proportion of overall mental health care because they are not keeping pace with the rapid growth of antidepressant medication use. This is particularly surprising given survey data indicating that when given a choice, most members of the public report preferring psychological interventions to using medication (e.g., Dwight-Johnson, Sherbourne, Liao, & Wells, 2000; Hazlett-Stevens et al., 2002; Zoellner, Feeny, Cochran, & Pruitt, 2003).

Several factors are believed to contribute to the imbalanced distribution of treatment modalities for depression. From a marketing perspective, pharmaceutical companies spend a significant amount of money each year promoting their medications to physicians and the general public, and educating prescribers on the benefits of their treatments; however, there are no entities of similar influence and financial capacity to advocate on behalf of psychological interventions (Barlow, 2004; Olfson & Marcus, 2010). Additionally, despite evidence that psychological treatments are more cost effective than pharmacotherapies in the long-term (Hunsley, 2003), constraints imposed by health care systems tend to favour pharmacological interventions given that these treatments require minimal time from health care professionals, relative to the time it takes to receive an adequate “dose” of psychological treatment in the short-term (e.g., Hansen, Lambert, & Forman, 2002; Hatgis et al., 2002). For the last several decades, psychosocial interventions have been shown to be among the top contenders for the treatment of

depression, yet in reality, these treatment modalities seem to not be having as great an impact as may be expected on the high volume of depressed patients. Thus, the challenge for evidence-based psychological interventions may no longer be to prove their credentials, but rather to increase their utilization in mental health care settings. One way in which this may be achieved is through adoption of the shared decision-making process in mental health care.

Shared Decision-Making (SDM) in Health Care

Shared decision-making is a process characterized by two-way communication between a patient and health care provider regarding viable treatment options, evaluations of the risks and benefits of various treatments based on patient values, and collaboration in treatment selection and planning (Braddock, 2010; Curtis et al., 2010). This approach to decision-making is particularly useful and important when more than one effective treatment option exists, when there is disagreement about which option is best, or when the outcomes of treatment are strongly dependent on the patient's agreement with and commitment to the treatment plan (Curtis et al., 2010). Shared decision-making is considered to be a central tenet of ethical practice in both medical and mental health care, and there has been a movement away from previous paternalistic or provider-centric models of health care toward more patient-centered approaches (Curtis et al., 2010; Laine & Davidoff, 1996; Substance Abuse and Mental Health Services Administration, 2010). However, research suggests that this standard is often unmet in clinical practice. For example, the results of a large survey of over 3,000 adults in the United States indicated that although most patients considered themselves to be informed participants in their treatment decisions, their recall of critical information regarding the treatments was lacking, and their participation in treatment decision-making largely consisted of assenting to the recommendations

of their health care provider without much discussion about their options or weighing of the risks and benefits of various treatments (Zikmund-Fisher et al., 2010).

These findings are consistent with emerging evidence that clinicians tend to do a poor job of providing patients with adequate information about treatment options that is balanced and unbiased, and that they do not frequently provide an open invitation for patients to participate in decision-making regarding their own treatment (Braddock, 2010). For instance, one study indicated that less than 10% of over 1,000 office visits in primary care met even the most lenient standards for shared decision-making (Braddock, Edwards, Hasenberg, Laidley, & Levinson, 1999). Within mental health, it has been suggested that although the idea of shared decision-making has been endorsed and applied in certain contexts, it has not been explicitly adopted across disciplines (Adams & Drake, 2006). For example, decisions regarding psychotropic medications remain free from patient direction or involvement (Curtis et al., 2010), even though researchers suggest that patient involvement in decisions regarding psychiatric medications is crucial to the mental health recovery process (Deegan & Drake, 2006).

It has been proposed that shared decision-making should go beyond traditional models of obtaining informed consent for treatment in mental health care, given that informed consent ensures that the patient demonstrates an understanding of the planned treatment, but does not ensure that the patient played an active role in developing the treatment plan (Substance Abuse and Mental Health Services Administration, 2010). Specifically, it has been suggested that the lack of patient involvement in treatment decision-making is problematic from an ethical perspective because a growing number of treatments involve considerable tradeoffs that can affect the patient's quality and length of life (Wennberg, Barbeau, & Gerry, 2009). Thus, it is the patient's right to be fully informed of all evidence-based treatment options, their risk and benefit

profiles, and to actively participate in decisions that will ultimately affect his or her health and well-being. Furthermore, it has been shown that patients facing many common medical decisions are not able to accurately assess how informed they are, and thus it is the responsibility of the service provider to test patients' comprehension to ensure informed decision-making (Sepucha et al., 2010).

Researchers have identified several advantages of shared decision-making (for a review, see Schauer, Everett, del Vecchio, & Anderson, 2007). One advantage is that it can be empowering for patients, particularly given the almost universal preference among patients for receiving health care information and participating in treatment decision-making (Benbassat, Pilpel, & Tidhar, 1998; Klein, Rosenberg, & Rosenberg, 2007; Patel & Bakken, 2010; Roe, Goldblatt, Baloush-Klienman, Swarbrick, & Davidson, 2009). In addition, SDM leads to improvements in the therapeutic alliance between the patient and their health care provider, and is related to improved health outcomes as a result of greater treatment compliance and satisfaction (Joosten et al., 2008; Roe et al., 2009; Stewart, 1995; Swanson, Bastani, Rubenstein, Meredith, & Ford, 2007). It has been suggested that patients who feel actively involved in their treatment decision-making generally experience better functional outcomes, because having a low sense of control over decision-making is associated with less behavioural participation in care, worse self-reported health, and increased illness burden (Adams & Drake, 2006).

Findings regarding patients with depression suggest that these individuals endorse the necessity for more information, decisional support, and involvement. Patients with depression generally express a strong interest in information and involvement, and studies have demonstrated improvements in knowledge, decision stage, and involvement, and a reduction in depression and stress when these patients engage in shared decision-making (Simon, Loh, Wills,

& Härter, 2007). Lower preferences for shared decision-making were, however, found among patients with severe depression or who reported a lack of agreement with their medical diagnosis (Simon et al., 2007). It is important to note that having a plethora of treatment options can be overwhelming for some patients, particularly those who experience difficulty making decisions (a symptom of depression), which can result in a feeling of lost opportunities (Kahneman & Tversky, 1979). For example, it is possible that some patients who have the expectation that professionals will tell them what to do in terms of treatment will become discouraged with the autonomy that is inherent in shared decision-making, or that they may become concerned with making the provider angry if they do not choose the course of treatment being recommended to them (Schauer et al., 2007). Additionally, it has been suggested that patients may experience difficulty in evaluating treatment options because they cannot accurately foresee how they will adapt to an illness (Jansen et al., 2001), or to the requirements of treatment.

Use of Decision Aids as Tools for Shared Decision-Making

Decision aids are structured tools designed to communicate information about physical or mental health conditions and various options for their treatment. Specifically, patient decision aids are structured, evidence-based tools that prepare patients to actively participate in the decision-making process related to their health condition (Wennberg et al., 2009). These tools provide balanced and unbiased information about assessment and treatment options and outcomes from the patient's point of view and help patients clarify their own personal values as they pertain to treatment (Wennberg et al., 2009). Decision aids can come in a variety of formats, including printed brochures or paper-based instruments, audio-guided workbooks, videos and CD-ROMs, or computer and web-based tools (Curtis et al., 2010). Importantly, these tools are

designed to be used to complement, rather than replace, advice and counseling from a health care provider (Wennberg et al., 2009).

As of 2006, over 500 decision aids have been developed for various health and mental health conditions (Elwyn et al., 2006). In order to ensure these aids meet a minimum quality standard, the International Patient Decision Aids Standards (IPDAS) collaboration was established to achieve an international consensus on quality criteria for the evaluation and development of patient decision aids (Curtis et al., 2010; Elwyn et al., 2006). These criteria are intended to be a checklist for developers of new decision aids to follow, and the quality of existing decision aids can be evaluated based on these criteria for research purposes. Additionally, these guidelines provide the opportunity for consumers of these aids to assess their content, development process, and effectiveness (Elwyn et al., 2006).

Research on decision aids focuses primarily on their effectiveness for improving decisions related to screening and treatment for various medical conditions, including cancer, diabetes, asthma, and arthritis (Curtis et al., 2010). To date, very few decision aids have been developed for mental health issues. A review of several decision aid databases revealed that decision aids have been developed for the treatment of depression, obsessive-compulsive disorder, panic disorder, insomnia, childhood attention deficit hyperactivity disorder (ADHD), psychosis, and smoking cessation (Substance Abuse and Mental Health Services Administration, 2010). However, all of these decision aids focus primarily on pharmacological rather than psychological interventions, and very little research is available on their effectiveness.

Researchers have found that when compared with “usual care,” the use of decision aids leads to increases in patient involvement in decision-making by increasing their knowledge of treatment options and their risks and benefits, creating realistic expectations of outcomes,

reducing decisional conflict and the proportion of patients remaining undecided about treatment, and encouraging patients to take a more active role in decision-making (Loh et al., 2007; O'Connor, Rostom, et al., 1999; O'Connor et al., 2009). Additionally, research investigating patient information needs prior to decision-making revealed that patients tend to judge a large number of topics as being important to them, and given the complexity of much of this information, it would be extremely difficult for a health care provider to communicate all of this information to the patient without the use of well-designed supplemental written information, such as a decision aid (e.g., Bernstein et al., 2010; Garfield, Francis, & Smith, 2004; Walker, Vincent, Furer, & Cox, 1999).

It has also been shown that decision aid use is associated with patients arriving at decisions earlier in the decision-making process relative to unaided attempts at decision-making (Murray et al., 2001). Furthermore, decision aid use reduces unwarranted practice pattern variations, which is a phenomenon that has been investigated for over 30 years and is characterized by findings indicating that physician decision-making tends to vary by geographic region, and these treatment variations cannot be explained by the provision of evidence-based practice (Wennberg, 2002). However, it has been found that decision aids are no better than alternative interventions at increasing patient satisfaction with decision-making, reducing anxiety, or improving general outcomes such as overall quality of life (O'Connor, Rostom, et al., 1999). Nonetheless, the involvement of patients in the decision-making process appears to be an important component of this practice, and the utilization of decisional aids appears to enhance the shared decision-making process by improving clinical decision-making, patient knowledge, and follow-through (O'Connor et al., 2009).

Current Study and Hypotheses

The purpose of the current study was to evaluate the acceptability and utility of a decision aid for the treatment of adult depression. This study was descriptive in nature and utilized a randomization design that allowed for evaluation of order effects within the decision aid. The aim of the study was to answer three main research questions. First, the study examined whether participants rated the decision aid as an acceptable and useful tool for decision-making based on their responses to the Decision Aid Acceptability Questionnaire (O'Connor & Cranney, 1996). The second goal was to examine whether reading the decision aid led to an increase in participants' knowledge about depression and its treatment. It was hypothesized that reviewing the decision aid would be associated with an increase in participants' knowledge of depression and its treatment from baseline to immediately following reading the decision aid. In addition, it was hypothesized that the increase in participants' knowledge would be maintained at a 1-month follow-up assessment.

The third goal of the current study was to determine whether there were differential effects of the order in which treatment options were presented within the decision aid (i.e., pharmacological treatment first versus psychological treatment first) on treatment choice, decisional conflict, and confidence in participants' decision-making. Research suggests that individuals tend to exhibit a recency bias in which they exhibit better recall for information to which they were most recently exposed, in comparison to information presented earlier (Lipkus & Hollands, 1999). As such, it was hypothesized that participants' judgments of their treatment options would be disproportionately influenced by the latter treatment they were exposed to within the decision aid. In other words, participants in the condition in which the pharmacological treatments were described first within the decision aid would have more

favourable judgments of psychological interventions, which would be reflected in their treatment choice, decisional conflict, and confidence ratings. Conversely, those exposed to psychological interventions first would show the opposite pattern.

In terms of participants' actual treatment choice, past research suggests that individuals generally tend to have a greater preference for psychological treatments for mental health difficulties than psychopharmacological treatments (Dwight-Johnson et al., 2000). As such, it was hypothesized that the majority of participants in the current study would choose a psychological treatment over a medication treatment. Finally, predictors of participants' treatment choice (i.e., no treatment, medication, or psychotherapy) and their confidence in their treatment decision were examined. The predictors examined included participants' demographic characteristics (age, sex, years of education, ethnic background, and academic program), baseline treatment predisposition, level of depression and anxiety, locus of control, decisional self-efficacy, and coping style. Similarly, the aforementioned predictor variables were reexamined once participants also had the option of selecting the combined treatment option (i.e., medication and psychological treatment). Based on Green's (1991) criteria, the minimum acceptable sample size for this number of predictor variables is 115, suggesting that our sample exceeded the minimum data necessary to run a reliable regression analysis.

It was hypothesized that individuals characterized as having a monitoring coping style (i.e., prefer high information input before a stressful event and suffer less psychophysiological arousal when they have information) would report significantly higher confidence in their decision relative to individuals characterized by a blunting coping styles (i.e., prefer less information and suffer more arousal when they have a high information input), as research suggests that a monitoring coping style is positively associated with a preference for more

detailed information when making medical decisions (Ong et al., 1999). Furthermore, although it might normally be hypothesized that participants who are older in age and are less educated would have a preference for medication treatment based on past research (e.g., Hazlett-Stevens et al., 2002), the restricted range and homogeneity in terms of participant ages and education in the current sample made it unlikely that this pattern would be found. Research also suggests that Asian and Black participants are less likely than Caucasian participants to indicate a willingness to consider medication treatments (e.g., Dwight-Johnson, Sherbourne, Liao, & Wells, 2000; Hazlett-Stevens et al., 2002; Schaik et al., 2004), which was also hypothesized in the current study. It was further hypothesized that individuals from mental health-related academic programs will be more likely to select a psychological treatment relative to individuals from other academic programs because these individuals should possess higher mental health literacy based on their program of study, and should therefore be more likely to display a willingness to select a psychological treatment for depression. Lastly, it was hypothesized that individuals with greater self-efficacy and those high in internal health locus of control (Vodermaier et al., 2011) would report greater overall confidence in their treatment decision.

Method

Participants

Participants were 144 undergraduate students between the ages of 18 and 49 years ($M = 22.5$, $SD = 6.03$), recruited through Ryerson University's undergraduate psychology participant pool. The decision aid under investigation was at a relatively early stage of development and evaluation, thus an analogue sample was most appropriate at this stage of research given ethical considerations about utilizing this decision aid with a clinically depressed, treatment-seeking sample. Participants were 73% female and 51% Caucasian, with a mean of 13.9 ($SD = 2.93$) years of education. Participants were from various academic programs, with 57 participants recruited from mental health-related programs ($n = 24$ psychology students, $n = 33$ social work students) and 87 participants from other academic programs (e.g., biology, business, child and youth care, criminology, English, geography, politics, sociology, contemporary science). For a more detailed description of participants' demographic characteristics, please see Table 1. All participants were enrolled in Introductory Psychology courses (PSY102/PSY202) and received 1.5 credits toward their course for participation in this study. Participants were also given the opportunity to partake in a 1-month follow-up assessment that was completed entirely online from participants' homes, and those participants who completed the follow-up were mailed a \$5.00 "Starbucks" gift card as compensation for their time. A total of 117 (81%) participants completed the follow-up assessment (M age = 23.0, $SD = 6.41$). Participants who completed the follow-up assessment were 74% female and 52% Caucasian, with a mean of 14.1 ($SD = 3.00$) years of education. There were no significant differences on key demographic variables between those participants who completed the follow-up assessment versus those who did not complete

Table 1

Sample Characteristics and Treatment History by Study Condition

Variable	Therapy First Condition (<i>n</i> = 50)	Medication First Condition (<i>n</i> = 94)
Age <i>M</i> (<i>SD</i>)	22.16 (6.20)	22.73 (5.96)
DASS Depression <i>M</i> (<i>SD</i>)	9.56 (10.48)	7.60 (7.93)
DASS Anxiety <i>M</i> (<i>SD</i>)	8.48 (8.31)	7.38 (8.25)
DASS Stress <i>M</i> (<i>SD</i>)	12.68 (9.77)	11.28 (9.19)
DSES <i>M</i> (<i>SD</i>)	75.95 (20.64)	75.17 (16.64)
Depression Knowledge Test <i>M</i> (<i>SD</i>)	9.92 (2.00)	9.46 (2.00)
Sex (Frequency)		
Male	22.0% (11)	29.8% (28)
Female	78.0% (39)	70.2% (66)
Race/Ethnicity (Frequency)		
Black	2.0% (1)	7.4% (7)
East Asian	10.0% (5)	7.4% (7)
South Asian	16.0% (8)	10.6% (10)
Southeast Asian	6.0% (3)	1.1% (1)
Hispanic	0.0% (0)	4.3% (4)
Middle Eastern	2.0% (4)	6.4% (6)
White	50.0% (25)	52.1% (49)
Mixed Race	12.0% (6)	10.6% (10)
<i>M</i> Years of Education (<i>SD</i>)	13.50 (2.94)	14.09 (2.92)
Academic Program (Frequency)		
Arts	18.0% (9)	18.1% (17)
Business	4.0% (2)	4.3% (4)
Science	8.0% (4)	16.0% (15)

Psychology	20.0% (10)	14.9% (14)
Social Work	22.0% (11)	23.4% (22)
Nursing	8.0% (4)	3.2% (3)
Youth and Child Care	8.0% (4)	16.0% (15)
Other	12.0% (6)	4.3% (4)
Employment Status (Frequency)		
Unemployed	36.0% (18)	37.2% (35)
Employed full-time	12.0% (6)	9.6% (9)
Employed part-time	52.0% (26)	53.2% (50)
Marital Status (Frequency)		
Single	88.0% (44)	89.4% (84)
Married/Common-law	12.0% (6)	10.6% (10)
Past Depression Diagnosis (Frequency)		
No	84.0% (42)	85.1% (80)
Yes	16.0% (8)	14.9% (14)
Past Depression Treatment (Frequency)		
No	82.0% (41)	72.3% (68)
Yes	18.0% (9)	27.7% (26)
Depression Treatment Type (Frequency)		
Medication	6.0% (3)	6.4% (6)
Therapy	8.0% (4)	11.7% (11)
Medication and Therapy	6.0% (3)	9.6% (9)
Self-Help	2.0% (1)	2.1% (2)
Other	0.0% (0)	4.3% (4)
Treatment Helpfulness (Frequency)		
Made Me Feel Worse	0.0% (0)	2.1% (2)
No Effect At All	0.0% (0)	2.1% (2)

A Little Helpful	6.0% (3)	7.4% (7)
Moderately Helpful	8.0% (4)	5.3% (5)
Quite Helpful	2.0% (1)	5.3% (5)
Extremely Helpful	2.0% (1)	5.3% (5)
Negative Past Treatment Experiences (Frequency)		
No	82.0% (41)	88.3% (83)
Yes	18.0% (8)	11.7% (11)
Family History of Depression/Anxiety (Frequency)		
No	52.0% (26)	42.6% (40)
Yes	48.0% (24)	57.4% (54)
Family Treatment History (Frequency)		
No	18.0% (9)	13.8% (13)
Yes	30.0% (15)	43.6% (41)
Type of Treatment Family Received (Frequency)		
Don't Know	2.0% (1)	0.0% (0)
Medication	10.0% (5)	12.8% (12)
Therapy	2.0% (1)	7.4% (7)
Medication and Therapy	14.0% (7)	2.1% (2)
Self-Help	0.0% (0)	2.1% (2)
Other	0.0% (0)	0.0% (0)
Family Treatment Helpfulness (Frequency)		
Don't Know	4.0% (2)	11.7% (11)
Made Them Feel Worse	2.0% (1)	2.1% (2)
No Effect At All	2.0% (1)	4.3% (4)
A Little Helpful	4.0% (2)	7.4% (7)
Moderately Helpful	8.0% (4)	8.5% (8)
Quite Helpful	2.0% (1)	7.4% (7)

Extremely Helpful	8.0% (4)	2.1% (2)
Peer History of Depression/Anxiety (Frequency)		
No	38.0% (19)	38.3% (36)
Yes	62.0% (31)	61.7% (58)
Peer Treatment History (Frequency)		
No	22.0% (11)	12.8% (12)
Yes	40.0% (20)	48.9% (46)
Type of Treatment Peer Received (Frequency)		
Don't Know	0.0% (0)	0.0% (0)
Medication	12.0% (6)	10.6% (10)
Therapy	4.0% (2)	11.7% (11)
Medication and Therapy	24.0% (12)	19.1% (18)
Self-Help	4.0% (2)	1.1% (1)
Other	0.0% (0)	2.1% (2)
Peer Treatment Helpfulness (Frequency)		
Don't Know	4.0% (2)	9.6% (9)
Made Them Feel Worse	4.0% (2)	2.1% (2)
No Effect At All	0.0% (0)	0.0% (0)
A Little Helpful	4.0% (2)	13.8% (13)
Moderately Helpful	12.0% (6)	13.8% (13)
Quite Helpful	14.0% (7)	7.4% (7)
Extremely Helpful	2.0% (1)	2.1% (2)

Note. DASS = Depression Anxiety Stress Scale; DSES = Decision Self-Efficacy Scale.

* $p < .05$.

it.¹ There were no a priori exclusionary criteria for participation in the current study beyond enrollment in an Introductory Psychology course.

Materials

Description of the decision aid (see Appendix A). The decision aid was developed by the Mobilizing Minds Research Group (www.mobilizingminds.ca), which included young adults and researchers from universities in Ontario and Manitoba. The focus of this group is health system improvement and research, and it is a not for profit organization. Development of the decision aid was funded through a grant from the Canadian Institute of Health Research. Versions were developed that had specific information for Ontario or Manitoba. Researchers had backgrounds in psychology, psychiatry, pharmacy, and knowledge mobilization. The content of the decision aid was developed with the intention of providing high quality information on empirically supported depression treatments to consumers, and to answer the types of questions that consumers have expressed in past research regarding treatment choices for depression and anxiety (e.g., Garfield, Francis, & Smith, 2004; Walker, Vincent, Furer, & Cox, 1999). The development of the current decision aid followed the stages outlined by several authors and researchers (e.g., Dowding et al., 2004; Emmett et al., 2007) and was guided by the IPDAS quality criteria framework (Elwyn et al., 2006).

Development of the decision aid followed an iterative approach in that the content was continually revised based on feedback from potential users of the information (young adults and mental health professionals). The initial content of the decision aid was derived from a comprehensive synthesis of systematic reviews and meta-analyses of depression treatment

¹ All analyses of participants who completed the follow-up assessment versus those who did not complete it were $p < .10$. Analyses available from the author.

² In order to check for the possibility that these individuals did not respond similarly to those

conducted by members of the research team. The goal was to provide a comprehensive and balanced presentation of information on the most widely evaluated treatments for depression. These include pharmacological treatments, psychosocial treatments, and combined (i.e., pharmacological and psychosocial) treatments. In addition, several self-help options were included, given their growing significance in our health care system due to extensive wait periods for psychological treatments and research findings suggesting that self-help treatments can be an effective mode of treatment (Ackerson, Scogin, McKendree-Smith, & Lyman, 1998; Andrews, Cuijpers, Craske, McEvoy, & Titov, 2010; Bower et al., 2013; Cuijpers, Andersson, Donker, & van Straten, 2011; Cuijpers, Donker, van Straten, Li, & Andersson, 2010; Cuijpers, 1997; Jamison & Scogin, 1995). A preliminary version of the decision aid was presented to a working team of health professionals from a variety of disciplines including psychology, psychiatry, and primary care. Feedback from the team indicated overall acceptability of the completeness and balance of the content.

Measures.

Decision Aid Acceptability (O'Connor & Cranney, 1996; see Appendix B). This 20-item measure allows for ratings of the comprehensibility of components of a decision aid, its length, amount of information, balance in presentation of information regarding options, and overall suitability for decision-making. This scale was adapted for the current study so that the items were applicable to the specific decision aid investigated. Several items were added for the current study, including items on the degree to which the information in the decision aid was clear and understandable, trustworthy, and familiar. This measure was used to provide descriptive data on the degree to which participants viewed each component of the decision aid positively or negatively, which allows for further refinement of the decision aid.

Decisional Conflict Scale (O'Connor, 1995a; see Appendix C). This 14-item measure assesses personal perceptions of uncertainty in choosing treatment options and factors that may contribute to feeling uncertain (e.g., feeling uninformed, unclear about personal values). It also assesses positive perceptions about decision-making (e.g., feeling that the choice is informed, values-based, likely to be implemented, and associated with satisfaction with the choice made). This scale was adapted for the current study so that the items were relevant to the specific decision aid under investigation and the study procedure. For example, “I have enough support from others to make a choice” was changed to “I have enough information to make a choice.” Several items were deleted from the original measure, including “I am choosing without pressure from others” and “I have enough advice to make a choice,” as these items did not fit with the current study’s methodology in which participants were asked to consider a hypothetical decision. Thus, the original 16-item scale was reduced to 14 items, with scores ranging from 0-56. This measure has been shown to have good psychometric properties, yielding test-retest correlations and Cronbach’s alpha reliability coefficients greater than .78 (O’Connor, 1995a). Within the current study, this scale yielded a Cronbach’s alpha of .97.

Decision Self-Efficacy Scale (O’Connor, 1995b; see Appendix D). This scale is a trait measure of one’s belief in their abilities in decision-making. Participants were asked to reflect on how confident they feel in making an informed choice on a scale ranging from “not at all confident” to “very confident” after reviewing the decision aid. This measure was adapted for the current study so that the items fit with the specific decision aid being used (e.g., the word “medication” was changed to “treatment”). This measure yielded a Cronbach’s alpha coefficient of .91 within the current study, which is consistent with the coefficient of .92 reported in previous research (O’Connor, 1995b).

Demographics and Treatment History Questionnaire (see Appendix E). The demographics and treatment history questionnaire was developed specifically for the current study. This measure includes items related to participants' demographic characteristics (e.g., age, marital status, academic program), their own history of psychological and psychopharmacological treatment, and the treatment history of family members and significant others. Results derived from this measure allowed the author to characterize the sample and examine whether these variables were predictive of participants' treatment choice, decisional conflict, and confidence in the participants' decisions.

Depression Anxiety Stress Scales – 21-item version (DASS; Lovibond & Lovibond, 1995). This 21-item scale assesses a range of symptoms common to depression and anxiety, and assesses severity of depression, anxiety, and stress/tension over the past week. It is frequently used as a measure of pre to post treatment response. Scores range from 0-63, and items are rated on a 4-point severity/frequency scale, and include statements such as, "I find it hard to wind down," "I was aware of dryness of my mouth," and "I couldn't seem to experience any positive feelings at all." The DASS has been found to be a reliable and valid measure, yielding high Cronbach's alphas (.94 for the depression subscale, .87 for the anxiety subscale, and .91 for the stress subscale; Antony, Bieling, Cox, Ennis, & Swinson, 1998). Within the current study, the DASS was found to have good internal reliability, specifically yielding Cronbach's alpha values of .90 for the Depression subscale, .84 for the Anxiety subscale, and .88 for the Stress subscale.

Depression Knowledge Test (see Appendix F). In order to assess participants' change in knowledge of depression and its treatment, a knowledge test was specifically developed for the current study. The knowledge test is comprised of 16 questions pertaining to content included within the decision aid, with scores ranging from 0-16. Higher scores indicate greater knowledge

related to depression and its treatment. The questions include both multiple choice response formats (e.g., “Which of the following is *not* a known risk factor for depression?”) and True/False response formats (e.g., “Getting samples of newer drugs from your doctor is a good way of reducing the cost of your medication”). Participants were given 1 point for each correct response, which were summed to obtain the final score. The range of possible scores is from 0 to 16. Within the current study, the knowledge test was found to have relatively low internal consistency, yielding a Cronbach’s alpha value of .57.

Miller Behavioral Style Scale (MBSS; Miller, 1987). This is a 32-item scale that helps identify the information-seeking behaviours of individuals under stress. This measure establishes whether an individual is better characterized as a *monitor* (i.e., prefers high information input before a stressful event and suffers less psychophysiological arousal when they have information) or a *blunter* (i.e., prefers less information and suffers more arousal when they have high information input). This measure has evidence of stable test-retest reliability over a 4-month period and good discriminative validity (Miller, 1987). Although other measures assessing monitoring and blunting coping styles have been developed specifically for the domain of medical threat (Van Zuuren & Hanewald, 1993), we opted to use a more general measure of these constructs, instead of a domain-specific measure. This allowed us to measure monitoring and blunting coping styles as a dispositional characteristic, based on consistency in coping style across various situations. The monitoring and blunting subscales of the MBSS in the current study yielded Cronbach’s alphas of .69 and .46, respectively. Although these values fall below traditional standards for adequate internal consistency (e.g., Streiner, 2003), this is the most frequently used measure of these constructs in the literature, and our coefficients exceeded those

reported by the original publisher of this scale, specifically Cronbach's alphas of .65 for the monitoring subscale and .41 for the blunting subscale (Miller, 1987).

Multidimensional Health Locus of Control (MHLC; Wallston, Wallston, & DeVellis, 1978). The MHLC is an 18-item measure consisting of three subscales, namely *Internal Health Locus of Control* (one's belief in the extent to which personal behavioural factors are responsible for one's health or illness), *Powerful Others Health Locus of Control* (one's belief in the degree to which one's health is influenced by others, for example, by physicians or other health care professionals), and *Chance Health Locus of Control* (one's belief that one's health depends on chance, luck, or fate). Since its development, the MHLC has been used in hundreds of studies, despite low to moderate internal reliability coefficients (Cronbach's α in the .60 to .75 range), with reliability estimates varying depending on the particular population studied (Wallston, 2005). Within the current study, Cronbach's alpha coefficients were .72, .69, and .69 for the Internal, Powerful Others, and Chance subscales, respectively.

Preparation for Decision Making Scale (Graham & O'Connor, 1995; see Appendix G). This 10-item scale assesses perceptions of how useful a decision aid is in preparing the respondent to make a health-related decision, with scores ranging from 10 to 50. The original scale was adapted for the current study, such that several questions were reworded so the items were relevant to the specific decision aid under investigation. For example, the item "Prepare you for a follow-up visit with your doctor" was changed to "Prepare you for a visit with your doctor." This measure has been shown to have high internal consistency, yielding Cronbach's alpha coefficients ranging from .92 to .96 (Bennett et al., 2010; O'Connor et al., 2000; Stacey, O'Connor, DeGrasse, & Verma, 2003). Within the current study, this scale yielded a Cronbach's alpha coefficient of .93.

Treatment Predisposition Questionnaire (TPQ; see Appendix H). The TPQ is a measure of the extent to which respondents believe various depression treatments would work to alleviate depressive symptoms. The scale consists of 16 items, each of which lists a potential treatment for depression (e.g., psychotherapy, medication, meditation/yoga, energy therapies). The range of treatments listed includes both evidence-based treatments for depression and alternative treatments with limited or no reported efficacy. Participants were asked to rate the extent to which they believed each treatment option would be helpful in alleviating depression on a 7-point scale, ranging from "won't work at all" to "will definitely work." This measure was developed specifically for the current study.

Procedure

Participants were recruited through the Ryerson University Psychology undergraduate research participant pool, which allowed interested students to schedule a time to complete the study. The initial study session took approximately 75 to 90 minutes to complete and required participants to come into the laboratory to complete the study. All participants received 1.5 credits toward their Introductory Psychology course as compensation for participating. Participants completed the study using laptop computers in groups of up to five individuals. When participants arrived in the laboratory, the investigator went through the informed consent procedure with participants as a group, and each participant was given the opportunity to ask any questions related to the study. Participants were each given a copy of the consent form (see Appendix I) for their own records. If they agreed to participate in the study, each participant was asked to sign a consent form and was then seated in front of a laptop computer to begin the study individually. The investigator remained in the room throughout the entire testing session in order to answer participants' questions, to provide clarifications about the study procedure, and to

assure that the participants did not exchange information or discuss the study stimuli with one another.

All portions of the study were completed on the computer. Data were collected using a licensed Enterprise version of the web-based software, SurveyGizmo (2006), which was developed to allow researchers to securely gather and manage data through online surveys, questionnaires, and forms. Collected data were stored on a secured server owned and operated by SurveyGizmo (2006), and analyzed using SPSS Version 18.

Participants were randomly assigned to one of two study conditions through an algorithm entered into SurveyGizmo. Specifically, 94 participants were presented with information regarding pharmacological treatments for depression prior to psychological treatments, and 50 participants were presented with information regarding psychological treatments for depression prior to the pharmacological treatments. Although the algorithm was designed to randomly assign approximately half of participants to each of the two study conditions, the randomization procedure failed to assign an equal number of participants to each condition (due to a programming error), and results need to be interpreted with this in mind. There were no significant differences between participants within each condition on any key demographic or baseline variables, including age ($p = .59$), sex ($p = .32$), years of education ($p = .26$), employment ($p = .90$) and marital status ($p = .80$), history of depression diagnosis ($p = .86$) and treatment ($p = .20$), DASS subscale scores ($ps = .21, .40, \& .45$), decisional self-efficacy scores ($p = .81$), or baseline knowledge of depression treatment ($p = .19$; see Table 1 for details).

Participants began the study by completing several questionnaires, including the measure of depression and anxiety (DASS), demographic and treatment history questionnaire, decisional self-efficacy, health locus of control (MHLC), and coping style (MBSS). They also completed a

test of their baseline knowledge of depression treatment options. Once participants completed the aforementioned measures, they were presented with a brief vignette (see Appendix J) that was specifically created for the present study, which asked them to imagine that they have been experiencing low mood for the past several months and that their physician informed them that they have depression and should seek treatment. This vignette was gender-neutral in its description of the individual seeking treatment for depression. After reviewing the vignette, participants were asked to complete a measure of their treatment choice predisposition.

Immediately following this, the decision aid was presented to participants, with the order in which treatment options were presented modified based on the condition to which each participant was assigned (i.e., pharmacological first versus psychological first). Participants had the opportunity to review the decision aid's content for as long as they wanted. Once they finished reviewing the decision aid, participants were asked to make a hypothetical decision about which treatment option they would choose through a forced-choice question asking them to make a decision between picking no treatment, selecting a medication treatment, or choosing a psychological treatment. They were also asked to rate their confidence in their decision on a scale ranging from 0 to 100, with higher ratings indicating greater confidence in their decision. Information regarding the participants' reaction to the vignette is presented below.

Once participants made their choice, they were asked several additional questions regarding whether they would choose a combined treatment (i.e., medication and psychotherapy) over no treatment or either treatment alone if given the option, and if they would try another treatment if their originally selected treatment was not helpful (see Appendix K). Once participants made their decision, they completed the depression knowledge test again, along with a series of questionnaires assessing acceptability of the decision aid (e.g., their feelings about its

length, clarity, burden of use), decisional conflict, and their preparation for decision-making. Participants also completed a brief measure of the extent to which they were able to identify with the individual described within the vignette (see Appendix L), and they were debriefed by the investigator regarding the purpose of the study (see Appendix M) and had an opportunity to ask any additional questions about the study.

Participants were also given the opportunity to complete a 1-month follow-up assessment that was administered online on their own computer (or another remote location). Individuals interested in participating in the follow-up completed a form asking for their first name, study identification number, and email address. These participants received an email message from the investigator 4 weeks after their initial session date with a hyperlink to the follow-up survey. Participants also completed the follow-up depression knowledge test online. Participants were asked to enter their mailing address so that the \$5.00 Starbucks gift card could be mailed to them. The participants' study identification number was used to link these data to their data from the first study session.

Results

Ratings of Vignette

A Flesch Reading Ease Test indicated that the vignette was relatively easy to understand (Flesch Reading Ease = 64.8) and at approximately a ninth grade reading level (Flesch-Kincaid Grade Level = 9.4). Most participants were able to identify with the person described in the vignette to some degree, with 23% stating that they could identify a little bit with the vignette, 22% somewhat, 27% quite a bit, and 22% a great deal. Only 6% reported that they could not identify with the individual described in the vignette at all.² Additionally, 80% of participants said that they could at least somewhat imagine themselves in the situation described in the vignette, while 5% said they could not imagine this at all.³ Similarly, 80% said that they kept the scenario described in the vignette at least somewhat in mind while reading the decision aid, while only 3% said that they were not thinking about it at all.⁴

Acceptability and Utility of Decision Aid

A summary of participants' ratings of the acceptability and utility of the decision aid is presented in Table 2. Eighty-nine percent of participants rated the information describing causes

² In order to check for the possibility that these individuals did not respond similarly to those who said they were able to identify with the individual described in the vignette, Treatment Knowledge Test scores and treatment preferences and confidence were compared for these two groups of participants (i.e., those who could not relate to vignette at all versus those could relate to vignette at least a little). There were no significant differences between these participants, suggesting that they responded similarly regardless of whether they could identify with the individual described in the vignette. Analyses available from the author.

³ Similarly, Treatment Knowledge Test scores, treatment preferences and confidence scores were compared for participants who could not imagine being in the vignette scenario at all relative to those who could. There were no significant differences between these participants. Analyses available from the author.

⁴ Treatment Knowledge Test scores, treatment preferences and confidence scores were compared for participants who said they were not thinking about the vignette scenario at all while reading the decision aid relative to those who kept it in mind. There were no significant differences between these participants. Analyses available from the author.

Table 2

Ratings of Acceptability and Utility of Decision Aid

Characteristic	Frequency	Percentage of Sample
Presentation of Symptoms/Causes of Depression		
Excellent	65	45.1%
Good	63	43.8%
Fair	16	11.1%
Poor	0	0.0%
Presentation of Medication Treatment Options		
Excellent	70	48.6%
Good	55	38.2%
Fair	17	11.8%
Poor	2	1.4%
Presentation of Evidence for Medication Treatments		
Excellent	38	26.4%
Good	70	48.6%
Fair	30	20.8%
Poor	6	4.2%
Presentation of Risks of Medication Treatments		
Excellent	43	29.9%
Good	44	30.6%
Fair	47	32.6%
Poor	10	6.9%
Presentation of Benefits of Medication Treatments		
Excellent	40	27.8%
Good	73	50.7%

Fair	31	21.5%
Poor	0	0.0%
Presentation of Costs of Medication Treatments		
Excellent	51	35.4%
Good	61	42.4%
Fair	28	19.4%
Poor	4	2.8%
Presentation of Psychological Treatment Options		
Excellent	65	45.1%
Good	62	43.1%
Fair	16	11.1%
Poor	1	0.7%
Presentation of Risks of Psychological Treatments		
Excellent	40	27.8%
Good	67	46.5%
Fair	31	21.5%
Poor	6	4.2%
Presentation of Benefits of Psychological Treatments		
Excellent	62	43.1%
Good	67	46.5%
Fair	14	9.7%
Poor	1	0.7%
Presentation of Costs of Psychological Treatments		
Excellent	59	41.0%
Good	55	38.2%
Fair	28	19.4%
Poor	2	1.4%

Length of Decision Aid		
Too Long	60	41.7%
Too Short	3	2.1%
Just Right	81	56.3%
Amount of Information in Decision Aid		
Too Much	48	33.3%
Too Little	10	6.9%
Just Right	86	59.7%
Balance of Information in Decision Aid		
Bias toward Medication Treatments	28	19.4%
Bias toward Psychological Treatments	14	9.7%
Bias toward Combined Treatments	21	14.6%
Bias toward Self-Help Treatments	0	0.0%
Balanced in Describing All Options	81	56.3%
Information Was Clear and Understandable		
Strongly Agree	78	54.2%
Agree	63	43.8%
Disagree	3	2.1%
Strongly Disagree	0	0.0%
Information Was Trustworthy		
Strongly Agree	43	29.9%
Agree	97	67.4%
Disagree	4	2.8%
Strongly Disagree	0	0.0%
Familiarity of Presented Information		
Very Familiar	23	16.0%
Familiar	90	62.5%

New/Unfamiliar	30	20.8%
Very New/Unfamiliar	1	0.7%
Utility of Decision Aid if You Were Considering Treatment		
Very Helpful	62	43.1%
Moderately Helpful	62	43.1%
Slightly Helpful	20	13.9%
Not Helpful At All	0	0.0%
May Make Things Worse By Reading It	0	0.0%
Utility in Preparing You to Talk a Professional about Treatment		
Very Helpful	65	45.1%
Moderately Helpful	56	38.9%
Slightly Helpful	22	15.3%
Not Helpful At All	1	0.7%
May Make Things Worse By Reading It	0	0.0%
Utility for Providing Treatment Advice to Family Member/Peer		
Very Helpful	73	50.7%
Moderately Helpful	53	36.8%
Slightly Helpful	17	11.8%
Not Helpful At All	1	0.7%
May Make Things Worse By Reading It	0	0.0%
How Much You Learned About Depression and Its Treatment		
A Lot	40	27.8%
A Moderate Amount	88	61.1%
A Little	16	11.1%
Nothing	0	0.0%
How Important was Information Presented for Decision Making		
A Great Deal	39	27.1%

Quite a Bit	71	49.3%
Somewhat	27	18.8%
A Little	5	3.5%
Not At All	2	1.4%
Was Enough Information Included for Improving Decision Making		
Yes	106	73.6%
No	38	26.4%

Note. *N* = 144

and symptoms of depression within the decision aid as being excellent or good, with only 11% rating it as fair. Sixty percent of participants rated the presentation of the risks associated with medication treatments as good or excellent and only 7% rated it as poor, relative to 74% of participants rating the presentation of the risks associated with psychological treatments as good or excellent and 4% as poor. A chi-square analysis indicated that the differences in participants' ratings of the presentation of risks associated with medication treatments and psychological interventions were not significantly different from one another, $\chi^2(1) = 1.85, p = .17$.

Furthermore, 78% of participants rated the presentation of the benefits associated with medication treatments as being good or excellent and 22% as fair or poor, relative to 90% of participants rating the presentation of the benefits associated with psychological treatments as good or excellent and 10% as fair or poor. A chi-square test indicated that participants' ratings of the presentation of information related to the use of medication and psychological interventions within the decision aid were significantly different from one another, $\chi^2(1) = 6.62, p = .01$. Follow-up analyses revealed no significant differences between the number of participants rating the presentation of the benefits associated with medication or psychological treatments as being good or excellent, $\chi^2(1) = 1.06, p = .30$. However, when examining the number of participants who rated the presentation of the benefits associated with medication and psychological treatments as being fair or poor, significantly more participants rated the presentation of the benefits of medication treatments as being fair or poor relative to psychological treatments, $\chi^2(1) = 5.56, p = .02$.

The length of the decision aid was rated as being just right by 56% of participants, while 42% rated it as being too long in length in a separate question. Seventy-four percent of participants reported that enough information was included to improve their decision-making,

whereas 26% reported that there was not enough information included to aid in their decision-making process. Similarly, 60% of participants rated the amount of information included within the decision aid as being just right, while 33% reported that there was too much information included. In terms of balance of the information presented within the decision aid, 56% of participants reported that the information presented was balanced, while 19% reported that the information was biased towards medication treatments, 10% reported that it was biased towards psychological treatments, and 15% reported that it was biased towards treatments that combine medication and psychological interventions. There were no significant differences between the 81 participants who rated the decision aid as being balanced and the 63 participants who felt it was biased toward medication, psychotherapy, or a combined treatment, $\chi^2(1) = 2.25, p = .13$. Similarly, there were no significant differences between the number of individuals who found the decision aid to be biased toward medication ($n = 28$), psychotherapy ($n = 14$), or combined treatments ($n = 21$), $\chi^2(2) = 4.67, p = .10$.

Overall, 95% of participants rated the information presented within the decision aid as being at least somewhat important, while only 4% rated it as being a little important and 1% as not being important at all. The majority of participants (98%) agreed or strongly agreed that the information within the decision aid was clear and understandable, and 97% agreed or strongly agreed that it was trustworthy. Eighty-nine percent of participants also reported that they learned at least a moderate amount about depression and its treatment. Furthermore, 86% reported that the decision aid would be at least moderately helpful to them if they were considering treatment for depression, and 84% reported that it would be at least moderately helpful in preparing them to speak to a health professional about treatment options for depression. Similarly, 88% of

participants reported that the decision aid would be at least moderately helpful in preparing them to assist a family member or friend in selecting a treatment for depression.

Thematic Analysis of Strengths and Areas for Improvement in Decision Aid

Thematic analysis methodology was utilized to characterize areas of the decision aid that participants found to be strengths, as well as areas for improvement. Through an inductive process, data were coded, analyzed, and organized in categories. First, each participant's response to open-ended questions evaluating strengths and areas for improvement for the decision aid were coded and interpreted separately, where categories and themes were determined within the particular case. Later, categories were compared across participants and synthesized into dominant themes that appeared in more than one case. This coding methodology assisted in developing a summary of the response to the open-ended evaluation questions.

The most frequently highlighted areas of strength of the decisional aid according to participants was that it contained a large quantity of information about depression and its treatment and that it was well organized and without jargon, making it easy for participants to understand the information. These aspects of the decision aid were cited by 31% of the participants, respectively. For example, one participant stated, "It was easy to follow," and another participant reported, "It was simply put and easy to comprehend." In addition, 20% of participants reported liking that the decision aid was thorough and informative, and 5% highlighted that it was not biased toward any specific treatment option. A summary of these and other themes highlighted by participants is presented in Table 3.

The most commonly reported weakness of the decision aid was its length, with 26% of participants describing the decision aid as being too long. In addition, 12% of participants suggested that it would be helpful for information about alternative therapies for depression be

Table 3

Thematic Analysis of Characteristics of Decision Aid Participants Liked

Themes	Frequency	Percentage of Sample
A lot of information about depression and treatment options	44	30.6%
Organized and without jargon	44	30.6%
Thorough and informative	29	20.1%
Not biased toward specific treatment options	7	4.9%
Included information about financial cost of treatment options	6	4.2%
Convincing	6	4.2%
Educational	6	4.2%
Simplified chart of medication side-effects	4	2.8%
Outlined benefits of each treatment option	3	2.1%
Included information on how to access treatment	2	1.4%
Considered people's hesitation about speaking to a professional	1	0.7%
Description of types of professionals that provide treatment	1	0.7%
Psychotherapy section well written	1	0.7%

Note. N = 144

included within the decision aid. For example, one participant suggested that the decision aid should “give information about art therapy, music therapy, and information/definitions about all the alternative treatments,” and another suggested it should “explain why some treatments such as aromatherapy or acupuncture...are not effective treatments.” In addition, 9% thought that it required more detailed information about depression and its treatment. Other common suggestions for improving the decision aid included adding more visual representations of information (e.g., audio/video clips, diagrams, pictures, patient testimonials), as well as adding more information about the risks and benefits associated with each treatment option, each of which were suggested by 5% of participants, respectively. A summary of participants’ suggestions for improving the decision aid is presented in Table 4.

Change in Depression Treatment Knowledge

Participants’ baseline knowledge scores were relatively high; on average, participants got 60% of the questions correct at baseline ($M = 9.62$). A repeated measures analysis of variance (ANOVA) was conducted to evaluate whether reading the decision aid resulted in an increase in participants’ knowledge of depression treatment, and to evaluate whether this change in knowledge was sustained 1 month after reading the decision aid. Mauchly’s test indicated that the assumption of sphericity was violated ($\chi^2(2) = 7.35, p = .03$); therefore degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ($\epsilon = .94$). The results indicated that participants’ knowledge of depression treatment did change significantly as a result of reading the decision aid, $F(1.88, 218.47) = 77.24, p < .001$. Specifically, participants’ knowledge scores increased significantly from prior ($M = 9.62, SD = 2.00$) to immediately following ($M = 12.00, SD = 2.26$) reading the decision aid, $F(1, 116) = 137.35, p < .001, r = .74$. However, this increase in participants’ knowledge scores was not maintained at the 1-month follow-up

Table 4

Thematic Analysis of Participants Suggestions for Improving Decision Aid

Themes	Frequency	Percentage of Sample
Shorten the decision aid/make it more concise	38	26.4%
Add more treatment options/alternative therapies	17	11.8%
Add more detail about depression and treatment options	13	9.0%
Add more details about risks and benefits of treatment options	7	4.9%
Include audio/video/diagrams/pictures/patient testimonials	7	4.9%
Add more information about treatment resources in community	4	2.8%
Improve layout by changing paragraphs to point-form sections	4	2.8%
Make decision aid more directive in terms of selecting treatment	3	2.1%
Add summary table comparing all treatment options	2	1.4%
Explain why pseudoscientific treatments do not work	1	0.7%
Remove medication side-effects chart because it is confusing	1	0.7%
Make writing less formal/more like a conversation	1	0.7%
Add “frequently asked questions” section	1	0.7%
Add information about whether medications are addictive	1	0.7%
Add information about effects of not seeking treatment	1	0.7%
Lower reading level	1	0.7%

Note. N = 144

assessment ($M = 11.13$, $SD = 2.23$), $F(1, 116) = 28.86$, $p < .001$, $r = .45$. Posthoc tests using a Bonferonni correction revealed that although participants' knowledge scores decreased significantly at the 1-month follow-up relative to immediately following reading the decision aid ($p < .001$), their knowledge scores immediately after reading the decision aid and at the 1-month follow-up were still significantly higher than their baseline knowledge scores (both $ps < .001$).

Hypothetical Treatment Choice Following Reading Decision Aid

See Figure 1 for summary of treatment choices. Across both study conditions, 4% ($n = 6$) of participants initially selected the no treatment option, 26% ($n = 37$) selected a pharmacological treatment, and 70% ($n = 101$) selected a psychological treatment. Participants' average confidence rating of their initial treatment decision was 83% ($SD = 14.63$), with a range of 7% to 100%. Overall, 89% of participants reported a confidence rating above 70%. When participants were given the additional option of selecting a combination treatment (i.e., medication and psychotherapy), thus providing four treatment options (no treatment, medication treatment, psychotherapy, or combination treatment), 4% ($n = 5$) of participants across conditions selected the no treatment option, 6% ($n = 8$) selected the medication treatment only, 41% ($n = 59$) selected a psychological treatment only, and 50% ($n = 72$) of participants chose the combined treatment option. In response to the question of trying another treatment for depression if the initial treatment selected was not effective, overall 92% ($n = 132$) of participants reported they would try another treatment. Of the participants stating they would try another treatment option if the initial treatment was not effective, 41% ($n = 54$) reported their next choice would be a combination treatment, while 30% ($n = 40$) reported their next choice would be a medication treatment, and 29% ($n = 38$) stated that they would select a psychological treatment.

Figure 1

Flow of Participants' Treatment Choices

Of the 8% ($n = 12$) of participants stating they would not attempt another treatment if the initial treatment they selected was not effective at alleviating their depression, the most common reason why participants reported not wanting to try another treatment was because they did not want to take medication ($n = 4$; 33%). In addition, 17% ($n = 2$) reported that they would try an alternative or self-help treatment, and 17% ($n = 2$) said there were no other options that interested them. The remaining participants said they would try to manage the depression on their own ($n = 1$; 8%), were concerned about side-effects ($n = 1$; 8%), were unsure of what other treatment option existed ($n = 1$; 8%), or were unsure as to whether they would try another treatment ($n = 1$; 8%).

Effect of Treatment Order Presentation Within Decision Aid

Effect of Treatment Order Presentation on Treatment Choice. A Chi-square test revealed that participants' treatment preference was significantly influenced by the order in which treatment options were presented within the decision aid (i.e., whether medication or psychological treatments were described first), $\chi^2(2) = 6.49, p = .04$. When psychological treatments were presented first, no participants selected the no treatment option, and the majority (82%) selected psychotherapy as their treatment of choice; only 18% selected a medication treatment. However, when medication treatments were described prior to psychological interventions, 6% of participants selected the no treatment option, 64% selected psychotherapy, and 30% selected a medication treatment. For summary of proportion of participants selecting each treatment option based on study condition, see Table 5. The strength of the association

Table 5

Initial Treatment Choice Separated by Study Condition

Study Condition	Initial Treatment Choice		
	No Treatment	Medication	Psychotherapy
Psychotherapy First	0 (0%)	9 (18%)	41 (82%)
Medication First	6 (6%)	28 (30%)	60 (64%)

Note. $N = 144$.

between treatment order and treatment preference was nevertheless small⁵ (Cramer's $v = .21$). When the relatively few participants who selected the no treatment option ($n = 6$) were excluded from the analysis, there was no longer an effect of order of treatment presentation on treatment choice, $\chi^2(1) = 3.10, p = .08$. Furthermore, when participants were given the additional option of selecting a combined treatment option, the order in which treatment options were presented to participants was not found to be associated with treatment choice, $\chi^2(3) = 5.27, p = .15$.

Effect of Treatment Order Presentation on Decisional Conflict. One-way ANOVAs were conducted to evaluate whether the order in which treatment options were presented within the decision aid affected participants' ratings of decisional conflict. Analyses revealed that treatment order did not significantly impact participants' total decisional conflict score, $F(1, 142) = .81, p = .37$. Treatment order similarly did not significantly impact participants' subscale scores on the DCS, specifically the Uncertainty subscale, $F(1, 142) = 2.73, p = .10$, Informed subscale, $F(1, 142) = .04, p = .84$, Values Clarity subscale, $F(1, 142) = .02, p = .88$, and Effective Decision subscale, $F(1, 142) = 2.31, p = .13$.

Effect of Treatment Order Presentation on Decisional Confidence. One-way ANOVAs were run to examine whether treatment order had an impact on participants' confidence in their initial treatment decision (i.e., prior to the introduction of the combined treatment option). Levene's Test of Homogeneity of Variances was significant, $F(1, 142) = 4.78, p = .03$, indicating that the homogeneity of variances assumption was not met, thus Welch's adjusted F ratios are reported. Analyses revealed that the order in which treatments were presented did not significantly affect participants' confidence ratings, *Welch's* $F(1, 83.45) = .05, p = .82$.

⁵ Interpretation of effect size was based on Cohen's (1988) suggestion for chi-square tests with degrees of freedom equal to 2.

Predictors of Treatment Choice and Confidence

Multinomial logistic regressions were used to determine predictors of participants' treatment choice. The variables entered into the model as possible predictors included participants' age, years of education, sex, ethnicity (White versus Other), academic program (mental health-related program versus other program), treatment order condition, depression score, anxiety score, health locus of control, coping style, decisional conflict, and decisional self-efficacy.

A multinomial logistic regression was first run to examine predictors of participants' initial treatment choice. The overall model was significant, $\chi^2(28) = 64.44, p < .001$, Nagelkerke $R^2 = .47$, and a good fit for the data based on nonsignificant Pearson, $\chi^2(258) = 193.31, p = .99$, and deviance, $\chi^2(258) = 145.90, p = 1.00$, statistics. A summary of these results is presented in Table 6. Results indicate that participants' score on the DASS depression subscale significantly predicted whether they selected the medication or psychological treatment, $b = 0.11$, Wald $\chi^2(1) = 5.67, p = .02$, such that participants' depression scores were positively associated with selecting a medication treatment. Participants' sex was also a significant predictor of treatment selection, $b = 1.45$, Wald $\chi^2(1) = 5.28, p = .02$. Specifically, females were 4.26 times more likely to select a medication treatment over a psychological treatment compared with men. Overall, 4 females selected the no treatment option, 30 selected a medication treatment, and 71 selected psychotherapy, while 2 men selected the no treatment option, 7 selected medication, and 30 selected psychotherapy. Ethnicity was also found to significantly predict treatment selection, $b = 1.27$, Wald $\chi^2(1) = 5.82, p = .02$, with Non-White participants being 3.55 times more likely than White participants to choose a medication treatment over a psychological treatment. Of the White participants, 2 selected the no treatment option, 25 selected medication, and 47 selected

Table 6

Predictors of Initial Treatment Choice

Variable	<i>B</i> (SE)	<i>Odds Ratio</i>	95% CI for Odds Ratio
No Treatment vs. Psychological Treatment			
Intercept	3.96 (7.69)		
Age	-.63 (0.37)	.53	[.26, 1.09]
Years of Education	.41 (0.29)	1.51	[.86, 2.64]
DASS Depression	-.06 (0.16)	.94	[.69, 1.28]
DASS Anxiety	.14 (0.15)	1.14	[.85, 1.55]
MHLC Internal	.09 (0.16)	1.09	[.80, 1.48]
MHLC Chance	-.19 (0.18)	.82	[.58, 1.17]
MHLC Powerful Others	.08 (0.18)	1.08	[.77, 1.52]
MBSS Total	-.22 (0.15)	.80	[.60, 1.09]
DSES Total	-.02 (0.40)	.98	[.91, 1.05]
DCS Total	.02 (0.03)	1.02	[.97, 1.09]
Sex	1.00 (1.59)	2.71	[.12, 61.51]
Study Condition	-20.94 (0.00)	8.09E-10	[8.09E-10, 8.09E-10]
Ethnicity	-1.14 (1.40)	.32	[.02, 4.96]
Academic Program	2.31 (1.34)	10.03	[.73, 138.35]
Medication Treatment vs. Psychological Treatment			
Intercept	-2.42 (2.81)		
Age	-.03 (0.05)	.97	[.88, 1.08]
Years of Education	.02 (0.10)	1.02	[.84, 1.24]
DASS Depression	.11 (0.05)*	1.12	[1.02, 1.22]
DASS Anxiety	.03 (0.05)	1.03	[.94, 1.13]
MHLC Internal	-.05 (0.06)	.96	[.85, 1.08]
MHLC Chance	-.14 (0.07)*	.87	[.77, 1.00]
MHLC Powerful Others	.19 (0.70)**	1.21	[1.06, 1.37]
MBSS Total	-.02 (0.06)	.98	[.87, 1.11]
DSES Total	-.01 (0.02)	.99	[.96, 1.02]
DCS Total	.01 (0.01)	1.01	[.99, 1.03]

Sex	1.45 (0.63)*	4.26	[1.24, 14.69]
Study Condition	-1.57 (0.58)**	.21	[.07, .65]
Ethnicity	1.27 (0.53)*	3.55	[1.27, 9.93]
Academic Program	-1.10 (0.53)*	.33	[.12, .94]

Note. $R^2 = .36$ (Cox & Snell), $.47$ (Nagelkerke). Model $\chi^2(258) = 64.44, p < .001$; CI = confidence interval; DASS = Depression Anxiety Stress Scale; MHLC = Multidimensional Health Locus of Control Scale; MBSS = Miller Behavioral Style Scale; DSES = Decision Self-Efficacy Scale; DCS = Decisional Conflict Scale.

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

psychotherapy. Among the Non-White participants, 4 selected the no treatment option, 12 selected a medication treatment, and 54 selected psychotherapy.

Participants' academic program also significantly predicted treatment selection, $b = -1.10$, Wald $\chi^2(1) = 4.28$, $p = .04$, such that participants who did not come from a mental health-related program were slightly over 3 times more likely to select a medication treatment than participants from a mental health-related program. Specifically, of the individuals enrolled in a mental health-related program, 5 selected the no treatment option, 25 selected a medication treatment, and 47 selected psychotherapy. However, among the individuals who were not from a mental health program, 1 selected the no treatment option, 26 selected a medication treatment, and 60 selected psychotherapy.

Consistent with the above reported results, participants' treatment condition also significantly predicted their selection of treatment in these analyses, $b = -1.57$, Wald $\chi^2(1) = 7.37$, $p = .007$. Specifically, participants who read about medication treatments prior to psychological treatments within the decision aid were 4.83 times more likely to select a medication treatment relative to participants who read about psychological treatments first. Of those participants who read about the psychological treatments first within the decision aid, 0 selected the no treatment option, 9 selected a medication treatment, and 41 selected psychotherapy. Conversely, of the participants who read about the medication treatments first within the decision aid, 6 selected the no treatment option, 28 selected medication, and 60 chose psychotherapy.

Two subscales of the MHLC scale were also significant predictors of treatment selection, specifically the Powerful Others Health Locus of Control subscale, $b = 0.19$, Wald $\chi^2(1) = 8.28$, $p = .004$, and the Chance Health Locus of Control subscale, $b = -0.14$, Wald $\chi^2(1) = 4.12$, $p =$

.04. With each unit of increase in participants' score on the Powerful Others subscale, the odds of them selecting a medication treatment rather than a psychological treatment increased by 1.21. However, as participants' score on the Chance subscale increased, the odds of choosing a medication treatment was 0.87; thus, they were 1.15 times less likely to select a medication treatment than a psychological treatment.

An additional multinomial logistic regression analysis was conducted to evaluate whether participants' treatment choice predisposition at baseline predicted their initial treatment choice. The overall model was significant, $\chi^2(10) = 34.83, p < .001$, Nagelkerke $R^2 = .30$, and a good fit for the data based on nonsignificant deviance value, $\chi^2(188) = 117.16, p = 1.00$. A summary of these results is presented in Table 7. Results indicated that as participants' willingness to try a medication treatment at baseline increased, the odds ratio of them selecting the no treatment option as opposed to a psychological treatment increased by 64.93, $b = 4.17$, Wald $\chi^2(1) = 4.25, p = .04$. Furthermore, participants' willingness to try a psychological treatment at baseline was associated with a .47 increase in the odds of them selecting a psychological treatment rather than a medication treatment, $b = -.75$, Wald $\chi^2(1) = 8.72, p = .003$.

A multiple regression analysis was conducted to examine predictors of participants' confidence ratings in their initial treatment decision (i.e., no treatment, medication treatment, or psychological treatment). Given that this analysis was exploratory and predictors were not based on findings in the literature, a stepwise method of entry was used for this analysis.⁶ The predictor variables entered into the analysis included participants' academic program, depression scores, health locus of control, coping style, decisional self-efficacy, feelings of preparedness for

⁶ A stepwise method of entry was selected because it can be a more powerful method of entry for exploratory analyses (Hauser, 1974; Thayer, 2002). However, other methods of entry were tested as well and the results remained the same.

Table 7

Baseline Treatment Predisposition as Predictor of Initial Treatment Choice

Predictor	<i>B</i> (SE)	<i>Odds Ratio</i>	95% CI for Odds Ratio
No Treatment vs. Psychological Treatment			
Intercept	-9.10 (5.60)		
Willingness to try therapy	-.92 (0.62)	.40	[0.12, 1.33]
Willingness to try medication	4.17 (2.03)*	64.93	[1.23, 3440.40]
Belief therapy works	-.09 (0.74)	.91	[0.21, 3.89]
Belief medication works	2.50 (1.56)	12.22	[0.57, 260.34]
Medication Treatment vs. Psychological Treatment			
Intercept	-4.33 (2.52)		
Willingness to try therapy	-.76 (0.26)**	.47	[0.29, 0.78]
Willingness to try medication	1.20 (0.63)	3.33	[1.00, 11.42]
Belief therapy works	.35 (0.33)	1.42	[0.75, 2.70]
Belief medication works	.87 (0.60)	2.38	[0.73, 7.73]

Note. $R^2 = .22$ (Cox & Snell), $.30$ (Nagelkerke). Model $\chi^2(10) = 34.83, p < .001$; CI = confidence interval.

* $p < .05$. ** $p < .01$.

decision-making, decisional conflict, study condition (i.e., whether they read about medication treatments prior to psychological treatments or vice versa), and sex. Analyses revealed that none of these variables were significant predictors of participants' confidence in their initial treatment decision (see Table 8 for summary).

When given the additional option of selecting a combination treatment (i.e., medication and psychological treatment), 54% ($n = 78$) of participants decided to switch their treatment option, of which 94% ($n = 73$) chose the combined treatment option. An additional multinomial logistic regression was conducted to evaluate predictors of participants switching their treatment option. The overall model was significant, $\chi^2(14) = 38.87, p < .001$, Nagelkerke $R^2 = .32$. Goodness-of-Fit was assessed and while the Pearson statistic was nonsignificant, $\chi^2(129) = 147.42, p = .13$, the deviance statistic, $\chi^2(129) = 159.76, p = .03$, suggested that there may be a problem with overdispersion, and thus a correction was applied to the analysis in order to take a more conservative approach. However, when a dispersion parameter is calculated based on the deviance statistic, it is 1.2, which is close to the ideal of 1 and well below 2, which limits the possibility of overdispersion. A summary of these results is presented in Table 9.

Results indicate that the Powerful Others Health Locus of Control subscale was a significant predictor of participants' switching their treatment choice once the combined treatment became an option, $b = 0.23$, Wald $\chi^2(1) = 11.30, p = .001$. With each unit of increase in participants' score on the Powerful Others subscale, the odds ratio of them switching their treatment option increased by 1.21. Another significant predictor of participants switching their treatment option was participants' sex, $b = 1.17$, Wald $\chi^2(1) = 4.88, p = .03$, such that men were 3.21 times more likely to choose the combined treatment option compared with women.

Table 8

Predictors of Participants' Confidence in Initial Treatment Decision

Predictor	<i>B</i>	<i>SE B</i>	β	95% CI
Constant	58.43	12.34		
Sex	-3.86	2.90	-.12	[-9.59, 1.87]
Study Condition	0.87	2.64	.03	[-4.35, 6.10]
DASS Depression	0.04	0.16	.03	[-0.27, 0.36]
DCS Total	-0.04	0.05	-.07	[-0.15, 0.07]
DSES Total	0.12	0.08	.15	[-0.03, 0.27]
PDMS Total	-0.06	0.07	-.08	[-0.20, 0.07]
MHLC Internal	0.70	0.32	.20	[0.07, 1.34]
MHLC Chance	0.55	0.32	.17	[-0.07, 1.17]
MHLC Powerful Others	-0.10	0.32	-.03	[-0.73, 0.52]
MBSS Total	0.03	0.29	.01	[-0.56, 0.61]
Academic Program	-0.84	2.58	-.03	[-5.94, 4.25]

Note. *N* = 144. CI = confidence interval. DASS = Depression Anxiety Stress Scale; DCS = Decisional Conflict Scale; DSES = Decision Self-Efficacy Scale; PDMS = Preparation for Decision Making Scale; MHLC = Multidimensional Health Locus of Control Scale; MBSS = Miller Behavioral Style Scale.

**p* < .05.

Table 9

Predictors of Participants Switching Their Treatment Choice

Variable	<i>B</i> (SE)	<i>Odds Ratio</i>	95% CI for Odds Ratio
Switched Treatment Option vs. Did Not Switch Treatment Option			
Intercept	-3.46 (2.58)		
Age	-.04 (0.05)	.96	[0.88, 1.05]
Years of Education	.11 (0.09)	1.12	[0.94, 1.33]
DASS Depression	.05 (0.05)	1.05	[0.96, 1.15]
DASS Anxiety	-.01 (0.05)	1.00	[0.91, 1.09]
MHLC Internal	-.06 (0.06)	.95	[0.84, 1.06]
MHLC Chance	.05 (0.06)	1.05	[0.94, 1.18]
MHLC Powerful Others	.23 (0.07)***	1.25	[1.10, 1.43]
MBSS Total	-.07 (0.06)	.93	[0.83, 1.04]
DSES Total	-.02 (0.01)	.98	[0.96, 1.01]
DCS Total	-.00 (0.01)	1.00	[0.98, 1.02]
Sex	1.17 (0.53)**	3.21	[1.14, 9.04]
Study Condition	-.23 (0.46)	.80	[0.33, 1.96]
Ethnicity	.25 (0.46)	1.29	[0.53, 3.15]
Academic Program	-.18 (0.47)	.84	[0.33, 2.11]

Note. $R^2 = .24$ (Cox & Snell), $.32$ (Nagelkerke). Model $\chi^2(14) = 38.87, p < .001$; CI = confidence interval; DASS = Depression Anxiety Stress Scale; MHLC = Multidimensional Health Locus of Control Scale; MBSS = Miller Behavioral Style Scale; DSES = Decision Self-Efficacy Scale; DCS = Decisional Conflict Scale.

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

Discussion

The aim of the present study was to evaluate the acceptability and utility of a decision aid for the treatment of depression, and examine its relationship to participants' knowledge of depression treatment and hypothetical treatment decision-making. Three main research questions were examined. First, the study evaluated whether participants rated the decision aid as an acceptable and useful tool for decision-making. Secondly, this study examined whether reading the decision aid led to an increase in participants' knowledge of depression and its treatment, and whether an increase in knowledge was maintained at a 1-month follow-up. The third goal of the current study was to determine whether there were differential effects of the order in which treatment options were presented within the decision aid on treatment choice, decisional conflict, and confidence in participants' decision-making.

Acceptability and Utility of Decision Aid

Overall, the majority of participants rated the decision aid as being useful and helpful. Eighty-six percent of participants reported that the decision aid would be at least moderately helpful to them if they were considering treatment for depression, and 84% reported that it would be at least moderately helpful in preparing them to speak to a health professional about treatment options for depression. In addition, nearly 90% of participants rated the information describing the causes and symptoms of depression as being either good or excellent, and 95% rated the information presented within the decision aid as being at least somewhat important. The majority of participants also rated the information within the decision aid as being clear, understandable, and trustworthy, and nearly 90% reported that they learned at least a moderate amount about depression and its treatment by reading the decision aid. Furthermore, nearly three-quarters of participants reported that enough information was included to improve their decision-making,

and the majority of participants rated the amount of information included within the decision aid as being just right.

Interestingly, most participants (88%) reported that the decision aid would be helpful in preparing them to assist a family member or friend in selecting a treatment option for depression. This is important given that a number of studies have found that individuals suffering from mental health problems tend to prefer obtaining help from family members and friends ahead of support from formal sources (Angermeyer, Matschinger, & Riedel-Heller, 1999; Highet, Hickie, & Davenport, 2002), particularly mental health sources (Gabriel, 2010). Moreover, there is some evidence that positive support from friends and family members or other informal sources is positively associated with improved recovery among consumers with a depressive disorder (Nasser & Overholser, 2005; Zuroff & Blatt, 2002). However, research also suggests that the advice of some family members and friends may be unhelpful or even detrimental to the wellbeing of some individuals suffering from depression because of misinformation and stigma, and there may be benefits in undertaking community educational programs that directly target the caregivers of people with depression (Griffiths, Crisp, Barney, & Reid, 2011). It has been suggested that the aim of such programs should be on increasing the depression literacy of family members or friends by providing information on the nature of depression and its symptoms and consequences, as well as information on effective treatment options and the potential consequences of neglecting treatment (Griffiths et al., 2011). Findings from the current study suggest that a decision aid may be a useful medium of delivering such information to both persons who may benefit from treatment of depression and the family members and friends of these individuals.

Over 40% of participants rated the decision aid as being too lengthy. Length was also the most commonly reported weakness of the decision aid, a quarter of participants specifying that the decision aid was too long. However, a quarter of participants reported that there was not enough information included to aid in their decision-making process, and one of the most common suggestions for improving the decision aid was to add more information about the risks and benefits associated with each treatment option. These findings highlight the inherent challenge in balancing the length of the decision aid with the amount of information necessary for making an informed decision about treatment. One possible solution for this challenging problem may be derived from the marketing literature, and more specifically research on the development of interactive decision aids in online shopping environments. Interactive decision aids are sophisticated tools designed to assist shoppers in their purchase decisions by customizing the virtual shopping environment to their individual preferences (e.g., Haubl & Trifts, 2000). These decision aids were developed based on the finding that online shoppers are unable to evaluate all available alternatives of a product in great depth and therefore tend to utilize a two-stage process to help reach their decisions. First, they typically screen a large set of available products in order to identify a subset of the most promising alternatives. They subsequently evaluate the latter in more depth by performing relative comparisons across products on important attributes, and make a purchase decision (Haubl & Trifts, 2000). Research suggests that interactive decision aids allow shoppers to make more informed product decisions, while expending substantially less effort and time relative to more static decision aids (Haubl & Trifts, 2000).

Interactive decision aids have begun to be adapted for health conditions and would be a useful consideration for mental health care decision aids as well. Studies suggest that interactive

decision aids facilitate a more personalized method of delivering information to patients, and also provide evidence that patients from different backgrounds select different types and amounts of information to facilitate their decision-making. For example, Molenaar and colleagues (2007) found that among treatment-seeking women with breast cancer, patients who are younger, more educated, and with a decisional style characterized by information seeking rather than avoidance review significantly more information within interactive decision aids relative to other patients. Given that there may be ethical concerns related to patients making treatment decisions based on incomplete information, it seems helpful for part of the decision aid to be static and include content that would constitute the minimum amount of information required to make an informed decision. This should then be supplemented by additional interactive information that patients can choose to review for themselves and review at their own pace and in their preferred sequence based on preference.

In terms of the content of the decision aid, slightly more than half of participants rated the presentation of risks within the decision aid as being good or excellent for medication treatments, and almost three quarters of participants rated the presentation of the risks associated with psychological treatments as being good or excellent. There were no significant differences between participants' ratings of the presentation of the risks associated with either medication or psychological treatments within the decision aid. Furthermore, the majority of participants rated the presentation of the benefits associated with medication and psychological treatments as being good or excellent. However, significantly more participants rated the presentation of the benefits associated with medication treatments as being fair or poor relative to psychological treatments. This is consistent with the fact that a common suggestion for improving the decision aid was to include more information on the risks and benefits of the treatments. However, given the fact

that close to half of participants rated the decision aid as being too lengthy, future research is required to examine what specific information related to the risks and benefits of treatments consumers find to be most pertinent. Specifically, although there is research looking at what information consumers want to know about their treatment (e.g., Nair et al., 2002), researchers have not investigated how much of this information would be required as a minimum to aid in decision-making, which is problematic given the trade-off between decision aid length and the depth of the content.

A substantial subset of participants reported that one of the aspects of the decision aid that they liked the most was the simplified visual chart of medication side effects, which is also consistent with participants' suggestions to include more visual representations of information within the decision aid. Past research suggests that many individuals experience difficulty interpreting quantitative risk information, such that even highly educated individuals tend to have difficulty interpreting relatively simple numerical risk questions (Lipkus, Samsa, & Rimer, 2001). For example, Yamagishi (1997) found that participants rated a death rate of 1,286 out of 10,000 as being more risky than 24.14 out of 100. Although there is a paucity of research on how visual displays interact with numeracy to affect understanding of risk (Lipkus & Hollands, 1999; Lipkus et al., 2001), participants appear to appreciate and more accurately evaluate visual displays of risk and benefit information within the decision aid. In addition, this may be a helpful way of increasing the amount of information related to risks and benefits within the decision aid, without necessarily adding its overall length.

Although there were no significant differences between the number of participants who rated the decision aid as being balanced relative to those who felt it was biased towards either a medication treatment, psychotherapy, or a combined treatment, there were still quite a few

participants who thought that the decision aid was biased toward one of the treatments. No qualitative data were collected to help determine what elements of the decision aid participants felt showed a bias toward one of the described treatments. This is an important area to explore in future research, given that the goal of the decision aid is to provide unbiased information regarding treatment option. The most frequently highlighted areas of strength of the decision aid according to participants was that it contained a large quantity of information about depression and its treatment and that it was well organized and without jargon, making it easy for participants to understand the information. Simon and colleagues (2007) found that a significant barrier to decision making among depressed patients was being confused in sorting through too many different treatment options. Thus, limiting the decision aid to only include evidence-based treatments was intended to reduce any additional burden placed on participants, and is consistent with the general movement toward evidence-based mental health practices (e.g., Chambless et al., 1998; McHugh & Barlow, 2012).

That said, a significant proportion of participants suggested that it would be helpful for information about alternative treatments for depression, such as exercise, acupuncture, and herbal remedies, to be included within the decision aid. Research indicates a relatively high frequency of complementary and alternative treatment use among individuals whose symptoms meet diagnostic criteria for a mental disorder (Unutzer et al., 2000). Although the evidence base for many of these treatments is poor or insufficient, their popularity has not diminished (Van der Watt, Laugharne, & Janca, 2008). This is consistent with the findings of one Australian study (Jorm et al., 1997) evaluating mental health literacy among over 2,000 participants that found that participants were likely to rate many standard psychiatric treatments (e.g., antidepressants, antipsychotics, electroconvulsive therapy, admission to a psychiatric ward) as being more

harmful than helpful, while rating some complementary or unestablished treatments quite highly (e.g., increased physical activity, relaxation and stress management, reading about people with similar problems). In fact, vitamins and special diets have been rated as being more helpful than antidepressant and antipsychotic medications (Jorm et al., 1997). Within the medical literature, research suggests that most alternative medicine users select these forms of treatment because they are more congruent with their values, beliefs, and philosophical orientation toward life, rather than as the result of dissatisfaction with traditional methods (Astin, 1998). Similar findings have been reported within the mental health literature, such that research supports the idea that alternative mental health treatments tend to be used in conjunction with more traditional mental health treatments, rather than as alternatives to them (Wahlström et al., 2008).

Effect of the Decision Aid on Knowledge of Depression and Its Treatment

Results support the hypothesis that reviewing the decision aid would lead to an increase in participants' knowledge of depression and its treatment. Specifically, results indicated that participant knowledge scores increased from prior to reading to immediately following the reading the decision aid. Participants' knowledge scores decreased significantly at the 1-month follow-up assessment when compared to their scores immediately following reading the decision aid; however, their follow-up scores were still significantly higher than their baseline knowledge scores, suggesting that participants could still remember most of information that they learned from reading the decision aid at the 1-month follow-up. This is consistent with the finding that 89% of participants reported learning at least a moderate amount of information about depression and its treatment by reading the decision aid.

The findings from this study are critical to the ultimate utility of the decision aid in preparing patients to make an informed treatment decision because informed consent requires the

patient to obtain knowledge related to the nature of their disorder and the proposed treatment, the risks and benefits of the proposed treatment, and available alternatives to the proposed treatment, along with their risks and benefits (American Psychological Association, 2002). Research suggests that most individuals have low mental health literacy (Jorm, 2000; Jorm et al., 1997), and that both mental and physical health literacy are predictors of inappropriate treatment seeking (e.g., Mond, Hay, Rodgers, & Owen, 2008) and poor treatment adherence (e.g., Kalichman et al., 2008). For example, one study of over 3,000 individuals found that the mental health literacy of those with major depression did not differ significantly from individuals who had never been depressed, such that they were no more likely to recognize depression in vignette descriptions of individuals depicting characteristic features of depression than individuals who had never been depressed (Goldney, Fisher, & Wilson, 2001). Given that results from the current study indicate that the decision aid was successful in increasing participants' knowledge of depression and its treatment, and that most of these gains in knowledge were maintained at the 1-month follow-up assessment, this decision aid would be a useful adjunctive tool for obtaining informed consent from treatment-seeking individuals.

Although reading the decision aid was associated with a pre- to post-reading increase in knowledge, the lack of a control group precludes any causal conclusions from being made, given that participants' increase in knowledge may have resulted from aspects of the study other than the decision aid itself. For example, it is possible that participants were able to gain knowledge of depression through a combination of reading the vignette and/or completing measures that assess for symptoms of depression. However, past research on decision aids for medical conditions suggests that decision aids are more effective than practice as usual, such as physician consultation, at improving clinical decision-making, patient knowledge, and follow-through

(O'Connor et al., 2009). For example, a study investigating changes in treatment knowledge for a decision aid describing breast cancer treatment options indicated that participants randomly assigned to the surgeon consultation plus decision aid condition had higher knowledge scores about treatment options, less decisional conflict, and were more satisfied with their decision-making relative to participants in the surgeon consultation only condition (Whelan et al., 2004). Nonetheless, results of the current study require replication using a control condition.

Additionally, the depression knowledge test was developed specifically for the current study and has not been validated in previous research. Participants' baseline knowledge scores were relatively high. This may be related to a selection bias in the sampling, given that a high proportion of the sample was psychology and social work students. In addition, one study found considerable increases in the general population's knowledge about mental disorders and their treatment between 1995 and 2003, with members of the public becoming more similar in terms of their knowledge and beliefs to mental health professionals (Jorm et al., 2006). This may be one possible explanation for participants' relatively high scores on the knowledge test at baseline. Furthermore, although their overall scores increased to 75% after reading the decision aid and 70% at the 1-month follow-up, which were statistically significant increases from their baseline scores, these increases may not be clinically meaningful. Thus, the knowledge test requires refinement and validation to ensure that this measure is a sensitive and reliable measure of depression knowledge.

Treatment Choice and Its Predictors

The hypothesis that a greater proportion of the sample would select a psychological treatment option as opposed to no treatment or a pharmacological treatment was supported. Results from the current study indicated that when participants were asked to make an initial

treatment decision, which involved choosing between no treatment, a pharmacological treatment, or a psychological treatment, the majority of participants selected a psychological treatment. This is consistent with past research indicating that individuals generally tend to have a greater preference for therapy than medication treatments (Dwight-Johnson et al., 2000), a finding that has been replicated in various countries where the reform of mental health care has progressed to different degrees (Angermeyer, Breier, Dietrich, Kenzine, & Matschinger, 2005). A study of over 1,300 individuals revealed that although most participants report believing that psychotropic medications are effective, majority report that they were unwilling to take them (Croghan et al., 2003). Among individuals willing to take antidepressant medications, there appears to be a bidirectional relationship between perceived harmfulness of the medications and actual medication side effects, both of which predict medication adherence and response (Aikens & Klinkman, 2012). Khalsa and colleagues (2011) found that patients with a preference for psychotherapy rather than medication were more likely to attribute the cause of their depression to maladaptive childhood experiences and complex causes, whereas those with a preference for medication were more likely to attribute their depression to biological causes. However, this finding has not been replicated in other research (e.g., Dunlop et al., 2012).

In addition, Khalsa and colleagues (2011) found that previous experience with psychotherapy predicted preference for medication treatment, which was hypothesized to occur as the result of several unsuccessful attempts at psychotherapy that may therefore make the individual more willing to try a medication treatment. However, data related to the outcome of prior courses of psychotherapy were not collected in the current study, and consequently this explanation is speculative and requires replication.

Researchers have also found that the presence of depression tends to be associated with more favourable views of psychotropic medications (Mojtabai, Olfson, & Mechanic, 2002; Wagner et al., 2005). In addition, beliefs about antidepressants in particular seem to have improved over time. One study found that, while 42% of participants rated antidepressants as being harmful and 29% rated them as helpful in 1995, by 2003 only 27% rated them as harmful and 48% as helpful (Jorm et al., 2006). However, the proportion of participants from the general population rating antidepressants as being helpful is still lower than ratings of vitamins, minerals, tonics, and herbal medicines (Jorm et al., 2006).

When participants were given the option of selecting a combined treatment (i.e., a combination of psychotherapy and psychopharmacology), significantly fewer participants chose the medication only treatment option (6% of participants) relative to when participants did not have the option of selecting a combination treatment (26% of participants). This is consistent with previous findings that, when patients are interested in pharmacotherapy, they tend to prefer it in combination with psychotherapy (Ezra, 1997). Similarly, fewer participants selected the psychotherapy only treatment option (41% of participants, relative to 70% previously), and 50% of participants selected the combined treatment option when allowed. Previous research indicates that relatively few participants prefer to receive monotherapies relative to combination treatments (Kocsis et al., 2009), which may explain why a large proportion of participants switched their treatment preference once the combined treatment option was offered.

Effect of Order of Treatment Presentation within Decision Aid on Treatment Preference

The hypothesis that participants' treatment choice would be influenced by the order in which treatment options were presented to them within the decision aid was partially supported in the current study. Results indicated that, when participants read about psychological

interventions after reading about medication treatments, they were more likely to select psychotherapy as their treatment of choice. However, this was not the case when participants read about medication treatments after psychological interventions. Given that this association was not seen in both study conditions, the recency effect hypothesis was not supported. Furthermore, the effect of order was eliminated when the six participants who selected the no treatment option were removed from the analysis in order to increase the power of the test, suggesting that these participants were driving this small effect. Results from the current study also indicated that the order in which treatment options were presented within the decision aid did not impact participants' decisional conflict or their confidence in their decision-making.

Notably, the goal of a decision aid is to provide balanced information about treatment options, and thus null findings in terms of order effects are desirable. Results from the current study suggest that the order in which information is presented to consumers within the decision aid may introduce a cognitive bias that affects their decision-making. These results highlight the importance of empirically evaluating decisional tools to ensure that they are in fact balanced and free from bias. For example, Ubel and colleagues (2010) found that the order in which risk and benefit information for tamoxifen, a medication for reducing breast cancer risk, were presented within a decision aid influenced participants' perceptions of this medication, such that participants who read about the benefits of the medication last evaluated the medication more favourably than those who read about the risks last. However, this effect was eliminated when participants received additional information about competing health risks that provided contextual information to which participants could compare their risk of developing breast cancer. These findings suggest that even if a decision aid introduces cognitive biases that

influence decision-making, there may be other factors that could potentially eliminate or at least reduce these biases.

Predictors of Treatment Choice and Confidence Ratings

Results from the current study indicated that participant depressive symptoms, sex, ethnicity, academic program, health locus of control, and baseline treatment preference were all significant predictors of treatment choice. First, it was found that female sex was a predictor of increased likelihood of selecting a medication treatment over psychotherapy. Past research has been inconsistent in terms of sex differences in treatment preference, with some studies finding that females tend to be generally more accepting of treatment for depression and are more likely to prefer psychotherapy as compared to males (e.g., Churchill et al., 2000; Dwight-Johnson et al., 2000), whereas other studies have failed to find sex differences in treatment preference (e.g., Khalsa et al., 2011).

Also consistent with hypotheses, participants' academic program was a significant predictor of treatment choice, such that individuals from non-mental health-related academic programs were more likely to choose a medication treatment than a psychological treatment. A review of the existing research indicates that no researchers have investigated personal mental health treatment preferences among mental health providers or students in mental health disciplines. However, research suggests that individuals with greater knowledge related to psychotherapy tend to prefer it to medication (Dwight-Johnson et al., 2000). The disciplines included in the mental health category in the current study were limited to social work and psychology students. Given that students in these disciplines are exposed to more information related to psychological interventions for mental health problems than medication treatments through their coursework, it is not surprising that these individuals would have a greater

propensity for selecting a psychological treatment than students in other disciplines. However, given that these students were enrolled in introductory psychology courses, they were exposed to very minimal course work formally covering depression and its treatment. Furthermore, individuals in the general population tend to prefer psychological interventions rather than medication treatments (Dwight-Johnson et al., 2000). In the future it would be interesting to see whether individuals with medical backgrounds would be more likely to select a medication treatment for depression (e.g., medical students, nursing students). Unfortunately, there were too few nursing students ($n = 7$) within the current study to allow for such analyses to be conducted.

Furthermore, results from the current study provide support for the hypothesis that individuals with greater severity of depressive symptoms would be more likely to select a medication treatment than a psychological intervention. This is consistent with past research showing severity of depressive symptoms to be a predictor of preference for medication treatments (Bedi et al., 2000). Research also suggests that the presence of a depression diagnosis is associated with more favourable attitudes toward medication treatments (Wagner et al., 2005). Additionally, the hypothesis that participants' baseline treatment preference would predict their treatment choice was partially supported. Specifically, results indicated participants with a baseline preference for psychological treatments were more likely to select a psychological treatment after reviewing the decision aid. However, although baseline preference for medication treatment was not a significant predictor of selecting a medication treatment after reading the decision aid, these participants were more likely to select the no treatment option than a psychological intervention.

Research suggests that patients who are not offered the treatment that they prefer at baseline are less likely to proceed with obtaining mental health treatment (Dwight-Johnson,

Unutzer, Sherbourne, Tang, & Wells, 2001; Fairhurst & Dowrick, 1996). However, research findings are inconsistent when it comes to whether being offered a treatment option that is inconsistent with baseline treatment preference affects treatment outcomes, satisfaction, and attrition (Bedi et al., 2000; Gum et al., 2006; Hunot, Horne, Leese, & Churchill, 2007; Lin et al., 2003). Nonetheless, findings from the current study highlight the importance of mental health providers assessing for patients' baseline treatment preferences because these preferences will likely contribute to treatment choice and follow-through.

Another significant predictor of treatment choice was health locus of control, specifically participants' scores on the *Powerful Others Health Locus of Control* and *Chance Health Locus of Control* subscales of the MHLC. Higher scores on the powerful others subscale was a significant predictor of selecting a medication treatment rather than a psychological intervention.

Individuals scoring high on this subscale believe that their health is influenced by powerful others, such as doctors, which may explain why this dimension of health locus of control would predict a preference for medication treatment. Given that these individuals exhibit a strong belief that powerful others are able to help them improve their health, these individuals may be more likely to seek out interventions that are external to themselves and will "cure" them of their mental health problem. However, even though these individuals may be more likely to select a medication treatment, past research suggests that higher scores on the powerful others subscale is a predictor of medication noncompliance (Atkins & Fallowfield, 2006; Kiley, Lam, & Pollak, 1993).

Conversely, higher scores on the *Chance* subscale, which measures the degree to which one believes that one's health outcomes depend on chance, luck, or fate, was a significant predictor of participants' selecting a psychological treatment as opposed to a medication

treatment. It is unclear why individuals exhibiting a chance locus of control would be more likely to seek psychological treatment than medication. It may be that individuals with a greater degree of belief in their health outcomes being related to external forces such as chance are less likely to select medication treatments because of the risks and side effects associated with these treatments. Presumably, selecting a treatment that is associated with a variety of uncomfortable or even dangerous side effects would require one to believe that the benefits of such a treatment outweigh the potential risks and side effects. Thus, individuals who attribute their health outcomes to chance or luck may be unwilling to select a treatment that is associated with possible physiological side effects, and may therefore prefer a psychological treatment. However, research suggests that individuals high in chance health locus of control tend to be less likely to seek any type of treatment (O'Carroll, Smith, Grubb, Fox, & Masterton, 2001), and are less compliant with treatments that they do receive (e.g., Morowatisharifabad, Mahmoodabad, Baghianimoghadam, & Tonekaboni, 2010). As such, this explanation of this finding is speculative and requires investigation in future research.

Interestingly, scores on the *Internal Health Locus of Control* subscale of the MHLC did not predict participants' confidence in their decision-making, which was inconsistent with the study hypotheses. Past research indicates that decision aids tend to be more effective among individuals high on this subscale because they experience less uncertainty with treatment decision-making (Vodermaier et al., 2011). Therefore, it was predicted that these individuals would be more confident in their treatment decision. However, this study utilized an analogue sample of participants who were not depressed and were not making a true treatment decision for themselves, which may have influenced their confidence level in their decision. Thus, these

findings should be replicated in future research utilizing a clinical sample actually making their treatment choice.

The hypothesis that ethnic minority participants would be less likely to select a medication treatment was not supported in the current study. In fact, results from the current study were opposite to this hypothesis, such that ethnic minority participants were actually more likely to select the medication treatment option than the psychological treatment option. This is inconsistent with past research showing that ethnic minority populations are more likely to choose psychotherapy over medication, particularly antidepressant medication (Cooper et al., 2003; Dwight-Johnson et al., 2000; Givens, Houston, Van Voorhees, Ford, & Cooper, 2007; Schnittker, 2003). Furthermore, research of patients with anxiety disorders indicates that ethnic minority patients tend to have less favourable beliefs about both psychotropic medications and psychotherapy relative to White patients (Wagner et al., 2005). A number of variables may explain why findings from the current study diverge from previous research, including the educational level of participants and their level of acculturation. However, the restricted range in terms of educational levels and the fact that acculturation was not measured within the current study precludes any conclusions from being drawn.

Past research has shown that some of the factors that may contribute to minority patients' views of psychiatric treatment include stigma for seeking help for psychiatric problems and a lack of trust in health care professionals (Cooper-Patrick et al., 1997; LaVeist, Diala, & Jarrett, 2000). This suggests that the efficacy of treatment for depression among ethnic minorities may be enhanced by assessing these individuals' beliefs about treatment and directly targeting factors that are related to the less favourable beliefs about treatment among these populations through

the provision of information, evaluating the risks and benefits of various treatments, and providing problem-solving interventions around these patients' concerns about treatment.

As hypothesized, neither participants' age nor years of education were significant predictors of treatment choice. This is likely related to the homogeneity of the sample and restricted range of ages and educational backgrounds included in the study, given that participants were all undergraduate students. Additionally, contrary to hypotheses, none of the variables examined within the current study were significant predictors of participants' confidence ratings in their treatment decision. This may be related to a ceiling effect, such that the majority of participants reported relatively high confidence in their decision, regardless of the decision they made.

Past research suggests that individuals characterized as having a monitoring coping style desire more health-related information and tend to prefer greater involvement in medical decision-making (Wakefield, Homewood, Mahmut, Taylor, & Meiser, 2007). In addition, they tend to exhibit a greater increase in knowledge after reading a detailed decision aid relative to a briefer informational pamphlet (Wakefield et al., 2007). Within the current study, coping style as assessed by the MBSS was not a significant predictor of treatment choice, confidence, or participants' knowledge scores after reading the decision aid. This may be the result of a measurement issue because the Wakefield and colleagues (2007) study used a measure that specifically assessed monitoring and blunting within the context of threatening medical situations, whereas the MBSS assesses monitoring and blunting as a more general information-seeking characteristic.

An exploratory analysis investigating predictors of participants switching their treatment choice once given the additional option of a combined treatment revealed that both sex and

health locus of control were significant predictors of participants switching their treatment option. Specifically, results indicated that male participants were more likely to switch their treatment option than female participants. Therefore, when only given the option to choose between medication and psychotherapy, males in the current study were more likely to choose a medication treatment. However, when given the additional choice of a combination treatment, males tended to prefer to switch their treatment option to the combined treatment. Although past research has shown that women are more likely to prefer psychotherapy relative to males (Churchill et al., 2000; Dwight-Johnson et al., 2000), it may be that males are in fact interested in psychotherapy, but reluctant to commit to trying it in the absence of a medication treatment.

Similarly, individuals with higher scores on the powerful others subscale of the MHLC were more likely to switch their treatment choice once the combined treatment option was available. This finding seems to make sense, given that these individuals tend to believe that their health-related outcomes are prompted by the external influence of powerful others, such as doctors. Therefore, it would be expected that these individuals would rather select a treatment option that encompasses multiple avenues of support from powerful external agents, as opposed to a monotherapy.

Methodological Strengths and Limitations

The current study is one of the first empirical investigations of a decision aid for the treatment of a mental health condition, and it is one of the first studies of a decision aid that combines both psychological and pharmacological treatments for depression. This study extends current literature by furthering our understanding of factors that influence treatment preference, and proposes a novel tool for educating consumers about evidence-based depression treatments. Strengths of the methodology of the current study include testing the order in which treatment

options were presented using counterbalancing, and participants were randomly assigned to study conditions. Additionally, the vignette utilized within the current study was generally rated highly by participants, suggesting that participants were able to identify with the individual described within the vignette and keep this scenario in mind while reading the decision aid and making their treatment decision. In addition, this study included a follow-up period that allowed us to determine the durability of the knowledge gain from reading a decision aid.

Although findings from the current study provide support for the acceptability and utility of a decision aid for the treatment of depression, there are several limitations to consider. First these findings are based on a relatively homogeneous convenience sample of undergraduate students who were not clinically depressed, which limits the external validity of the findings. Similarly, given that participants were all university students in a psychology course, their higher educational level and interest in psychology may be related to higher mental health literacy; it is unclear from the current study how individuals with lower educational levels or from disciplines unrelated to psychology would rate the decision aid. Furthermore, participants included in the current study were not necessarily treatment seeking, which again limits the generalizability of the findings to individuals who are actually seeking treatment for depression.

Another important limitation is the uneven number of participants randomly assigned to the two study conditions. Although analyses indicated no differences between these two groups on baseline variables, and the analyses were sufficiently powered to detect effects even with the smaller sample size in one of the conditions, the current results need to be interpreted cautiously based on this error in the proportion of respondents randomly assigned to each group.

Additionally, results are based on self-report measures, and there is no way of identifying concordance rates between participants' self-reported hypothetical treatment decisions and what

decisions they would actually make if seeking treatment for depression. In addition, the depression knowledge test was developed specifically for the current study and has not been validated in previous research. A final limitation of the current study is the lack of a control group, which precludes us from drawing any causal conclusions about whether participants' increased knowledge of depression and its treatment was related to the decision aid and not another aspect of the study methodology. For example, including a control group where participants read an informational packet unrelated to depression or its treatment, such as a decision aid for a medical condition, may be a useful way of discerning whether reading the decision aid truly led to the increase in participants' knowledge.

Future Directions

Given the nascent nature of research into the expansion of decision aids into mental health domains, there are many different future research directions that might be pursued. First, findings from the current study should be replicated using a treatment-seeking clinical sample. Since the aim of our decision aid is to assist depressed individuals who are seeking treatment in their decision-making, it is important that the current findings are replicated with this population. In particular, the cognitive (e.g., concentration and memory problems) and neurovegetative (e.g., changes in sleep, reduced energy) symptoms that are often characteristic of depression would likely impact patients' abilities to use a decision aid, and should be investigated in future research. Furthermore, future researchers should compare the use of this decision aid to a control condition to ensure that using the decision aid uniquely contributes to the shared decision-making process. For example, it would be helpful to know whether the addition of a decision aid leads to any superior outcomes relative to typical consultation with a mental health professional.

Furthermore, based on participants' recommendations within the current study, future research should investigate whether there are benefits to including alternative and complementary treatments for depression within decision aids. The current decision aid only included information on evidence-based pharmacological, psychological, and self-help treatments for depression. However, a high proportion of participants in the current study, as well as in the general population, report a preference for alternative and complementary treatments that do not meet criteria for evidence-based treatments of depression. Future researchers should evaluate how including information about these treatments and their evidence base, or lack thereof, affects treatment decision-making.

Additionally, future research should evaluate what the optimal amount of information is for aiding in the decision-making process without placing additional burden on the reader by making the decision aid too long or laborious to review. This may include a comparison between static and more dynamic decision aids. Similarly, future research should attempt to identify the best method of communicating the risk and benefit profiles of treatments to readers, which may include pictorial depictions of risks and benefits given participants' frequent difficulty in understanding numerical communication of this information.

There is currently no research within the mental health literature related to what the ideal format would be for a decision aid. Future research should compare paper-based, online, and video decision aids to determine whether the format of the decision aid impacts on participants' treatment preferences and decisions. Finally, future research should investigate the role that decision aids should play within the shared decision-making process in mental health settings. For example, research should investigate when is the optimal time for patients to receive a

decision aid – prior to consultation, during consultation, or after a consultation with a mental health professional.

Implications of Findings

The current study is one of very few studies aimed at expanding the use of decision aids to the treatment of depression, in particular a decision aid that includes several modalities of treatment (medication, psychotherapy, self-help treatments). Findings from the current study indicate that participants found the decision aid to be a useful and acceptable tool for aiding in their decision-making, and that reading the decision aid led to an increase in participants' knowledge of depression and its treatment. Additionally, results from this study provide descriptive information regarding the acceptability of this tool, which will provide an opportunity for further refinement of this decision aid for future clinical and research use.

From a dissemination perspective, results from the current study suggest that this decision aid may be an efficacious tool for disseminating information about empirically supported treatments for depression to the consumers of these interventions, which may in turn promote shared decision-making among patients and their mental health treatment providers. Moreover, directly informing consumers about evidence-based treatment options may create “pull demand” for these interventions. In other words, if individuals are aware of the evidence-base for various treatments for depression, they may be more likely to seek out these treatments from their providers. The increase in demand for such treatments may in turn increase the incentive for practitioners to be able to provide these treatments. This would support the push toward evidence-based practice and shared decision-making within mental health care. Furthermore, from an ethics perspective, this tool provides a method for adequately discussing the benefits and risks of various treatment options for depression, which is a requirement for

truly informed consent to treatment. The current study also provides a model for methodology that may be beneficial in evaluating other decision aids for mental health conditions.

Understanding treatment choices for depression

Feelings of sadness are a normal part of life. Our emotions are important because they help us understand and respond to important experiences and events in our life.

For many, however, there are times in life when feelings of sadness are so intense and last so long (a couple of weeks or more) that they start to interfere with life. We refer to this problem as clinical depression.

These are key characteristics of clinical depression which are present most of the day, nearly every day, for at least two weeks:

- Depressed mood and/or
- Greatly reduced interest or pleasure in most activities

Additionally, at least three of these characteristics are present nearly every day:

- Decrease or increase in appetite compared to usual
- Sleeping much less or more than usual
- Having problems concentrating or making decisions
- Feeling extremely tired and weak, or feeling very low on energy
- Feeling worthless or guilty (not just guilt about feeling depressed)
- Feeling restless or slowed down – so much that other people notice it
- Thinking a lot about suicide and/or death (not just fear of death)

Other common experiences during periods of depression are:

- Increased irritability
- Feeling less interested in sex

More than 1 in 20 people will have serious problems with depression in any year and 1 in 6 will battle depression at some point in their lifetime.

TREATMENT OF DEPRESSION

What are the risk factors for depression?

When a person has problems in one of the following areas, his/her risk of having depression increases. The more risk factors, the greater the risk of depression.

1. Family history: Many traits that make up who we are run in families, including positive traits such as good health and negative ones such as health problems.

This is also true with depression. Research with identical twins shows the risk for depression is genetically inherited from parents.

These children are more likely to experience

sion is certain to have problems with depression. But it does tell us that there is an increased risk, especially when the person has other risk factors.

2. Stressful experiences during childhood can increase the risk for depression later in life, including:

- conflict in the home
- separated or divorced parents
- family stress
- a parent who struggles with depression or other emotional problem
- not being emotionally close to parent(s) or caregivers
- emotional, physical or sexual abuse.

Note that many adults have experienced these childhood stresses and do not have problems with depression.

3. Life stress during the adult years can lead to an increased risk for depression. Depression can be more likely if a person experiences a major loss such as:

- a break up in a relationship
- disruption in relationships with family and friends (for example, marital or family conflict)
- death or serious illness of someone close
- serious disappointment at work or school (for example, a lost job or a failed exam).

4. Chronic stresses such as financial pressure, long-term illness, excessive work or home stress also increase the risk of depression.

5. Misuse of alcohol or other drugs: Frequent use of alcohol or recreational or illegal drugs is a risk factor for the development of depression.

People who receive effective treatment for depression usually see a great reduction in feelings of depression and improvement in their quality of life, relationships, ability to work and be productive, and sense of health and well-being.

fear, anxiety and sadness and have a hard time settling down when they are upset than other children.

This “anxious temperament” can lead to an increased risk of problems with anxiety and depression later in life. This does not mean that someone with a strong family history of depres-

Treatments for depression

People who receive effective treatment for depression usually see a great reduction in feelings of depression and improvement in their quality of life, relationships, ability to work and be productive, and sense of health and well-being. While treatment involves time, cost and effort, most people who receive effective treatment find it very helpful.

The two approaches to treatment that have been most carefully studied and evaluated are:

- Medication treatments
- Counseling or psychotherapy

A number of different medication treatments are effective in treating depression.

Counseling or psychotherapy is also effective in treating depression. In this approach you work with a trained professional to develop strategies to overcome depression.

Therapists often use aspects of more than one form of therapy to help their clients overcome depression. Some therapies shown to be effective with depression include:

- **Cognitive behavior therapy** focuses on understanding how thoughts and actions affect emotions.
- **Emotion-focused therapy** identifies the emotional patterns and self-critical processes linked to depression.
- **Interpersonal therapy** deals with problems in relationships that may be related to the development of depression.
- **Problem-solving therapy** develops helpful approaches to understand and manage life problems.
- **Short-term psychodynamic therapy** focuses on troubling feelings that stem from unresolved painful events.

What happens to depression without treatment?

Brief bouts of depression happen to many people, often when they are faced with stresses such as ending a relationship, losing a job, or having troubles solving a problem. Often, people can get over depression with their own coping approaches, especially if the depression is short-lived. Some prefer to handle their own problems without seeing a professional.

Research suggests that if people do not seek treatment for depression, about 5 out of 10 will have recovered within three months of the start of the depression, while 6 out of 10 people will have recovered within six months. However, recovery after this point is more limited, and about 2 out of 10 people will still have the problem two years later.

It can be more difficult to overcome depression on your own if the depression goes on for many weeks, or if it seems severe and interferes with your everyday life.

Depression is also more problematic if you have had more than one period of depression over the years. At these situations, it can be very helpful to speak with someone about treatments for depression.

If you have repeated periods of depression over the years, some forms of counseling or psychotherapy can reduce problems with the return of depression in the future.

Taking medication for depression on an ongoing basis can also reduce the risk of return of depression.

It is especially important to seek help if you start to feel hopeless, that life is not worth living, or if you have serious thoughts of ending your life.

There are many people you can speak to about depression, including your family doctor, a school counsellor, or a telephone help line.

Psychotherapy or counseling for depression

Counseling has been used for years and is a safe and effective form of treatment. Different professionals provide different forms of therapy, depending on their training and where they work. Treatment may be offered on an individual basis (you alone with a therapist) or group basis (you participate with a therapist along with others, who are all working to overcome problems with depression).

6 out of 10 people will feel much less depressed after eight to 20 sessions of psychotherapy or counseling. If you do not feel better, talk to your therapist about making changes to the therapy approach. You may consider a different therapist or type of treatment (including medication.)

Confidentiality: What you say to your therapist is kept between the two of you, and will not be shared with anyone else. Your therapist or counselor should explain the nature of confidentiality and its limits at the beginning of therapy.

Who provides counseling or psychotherapy?

Counseling or psychotherapy is provided by a range of professionals (described below) who provide different forms of treatment. Some counselors or therapists specialize in certain problems or work with specific groups of people (such as younger or older people). When you consider seeing someone, ask any questions that are important to you, such as:

- What is the training and experience of the person whom you will be seeing?
- What types of problems are treated?
- What approaches to treatment are used?
- How long does treatment usually last?
- What times are appointments scheduled?
- Is there a waiting list to be seen?

Professionals who provide counseling or therapy

Family doctors (qualification: MD, Fellowship in Family Medicine, CCFP) typically have a bachelor's degree, plus four years training in medicine and two years of training in family

medicine. Some family doctors have training in counseling and a few practice psychotherapy as a major part of their work. The amount of training they have in these areas varies. This work is usually covered by provincial health plans, so there is no cost. However, their time often fills quickly, and they may have few openings for new patients.

Psychiatrists (qualification: MD, Fellowship in Psychiatry, FRCPC) usually have a bachelor's degree, plus four years of training as a medical doctor. After this, they take five years of specialized training in psychiatry, covering treatment of a range of different health and mental health problems with medication and/or psychotherapy. Their work is covered by provincial health plans so there is no cost for these services. Many psychiatrists focus on assessment and consultation, where they see a patient for one or two sessions, then make recommendations for treatment to the family doctor. The availability of ongoing therapy may be limited because their time fills quickly and they rarely have openings for new patients.

Psychologists (qualification: Ph.D. in Psychology, MA in a few provinces; registered as psychologist, C.Psych) have a bachelor's degree plus six or seven years of graduate university training in psychology. Specialized training in clinical, counseling, or educational psychology covers treatment of a range of different health and mental health problems with counseling/therapy. Their services are often partially covered by extended health plans through an employer. However, the services of a psychologist are not covered by provincial health plans, unless the services are provided through a hospital or primary care clinic. Many psychologists work in a private practice setting.

Nurses (qualification: R.N. or B.N.) have two to four years of training through a college or university. Some have additional training in counseling or therapy or advanced university training.

Social workers (qualification: B.S.W. or M.S.W.) have four (for bachelor's level) or six years (masters level) of training in social work and related fields. Training often covers counseling or therapy with individuals, families, and groups with a range of health and mental health problems. Social work services are provided by many community agencies with no or minimal charge, and

private social work services are covered by some extended health insurance plans.

Counsellor or therapist This term is not regulated in most Canadian provinces, so people from many different backgrounds may use this term. Many have training in education, psychology, social work, occupational therapy, or the clergy. Ask about the person's training and experience when arranging to see a counsellor or therapist. A small number practicing in this area have very limited training.

The province of Ontario is developing a College of Registered Psychotherapists and Mental Health Therapists that will register and regulate these groups in Ontario.

Working effectively in counseling or psychotherapy

What to expect in the first meeting:

The first visit is a consultation meeting, when you and the therapist will get to know each other and get a sense of how to proceed. Your therapist will ask what brings you to therapy, your concerns, and any symptoms you experience.

Your therapist will also want to learn about your background, including your childhood, education, work history and current relationships. Don't feel pressured to talk about topics that are uncomfortable for you.

Opening up can be hard, and it may take time for you to trust your therapist. Your thoughts, feelings and experiences will help your therapist's understanding of your difficulties and how to best help you, so it is important that you feel comfortable enough to be open with your therapist and say what is on your mind.

The first therapy session does not commit you to work with a therapist. A good "fit" with your therapist is key to successful therapy.

Your first therapy sessions are an opportunity for you to decide if his or her approach and personality will work for you. If, after two or three sessions, you do not feel comfortable or you don't feel you have a good working relationship with your therapist, it may be best to try someone else.

What to expect during the following meetings: The rest of therapy is devoted to helping you understand and resolve current difficulties, and help you achieve the changes you want.

Therapy can be quite different, depending on the approach used by the therapist.

Some will take a directive role, providing feedback on your progress, homework exercises to practice some of the techniques learned in therapy or suggestions of what he/she thinks might be helpful. Others will give you more space to draw your own conclusions and direct the course of therapy.

Therapists may be willing to adapt their style to your needs, so it is important to discuss your preferences.

Improvement is faster if your therapist can understand and relate positively to you, and you can work together on goals you both agree on. A good therapist will guide and support you, and challenge you when you are ready to be challenged.

It is normal to disagree with your therapist from time to time. When this happens, it is important to honestly share any feelings or concerns you have about how therapy is going. This will give your therapist a chance to address your needs and maximize the benefits you can receive from therapy.

Keep in mind that therapy is designed to equip you with long-term solutions rather than a quick fix.

Any change in life involves time and effort. Your commitment to regularly attend appointments, courage to look at yourself honestly, and willingness to make some difficult changes in your life will be important assets.

How long does it take before therapy starts to work?

Often people start to feel less depressed within the first few weeks of treatment. Many feel better once they know they are doing something to deal with their problem.

How long does therapy continue?

The length of treatment depends on your situation, including the seriousness of your depression.

Most people require eight to 20 treatment sessions in order to see great improvement. Sessions are usually started on a weekly basis, then spread over longer periods of time (for example, once every other week) to allow time between the sessions to work on the problem.

What happens when therapy is completed?

Research tells us that the majority (about 3 out of 4) of those who improve while in treatment will stay improved after treatment is completed. However, about 1 out of 4 who experience an improvement with treatment will have the depression come back in the year after treatment ends.

It may help to arrange for “booster sessions” (occasional sessions to help with specific problems that come up) if you encounter additional stresses or symptoms after treatment is completed. With booster sessions, people are often able to resolve problems that come up after treatment is finished.

How much does counseling or therapy cost?

Some therapy or counseling is provided at no cost through public agencies and health care facilities such as hospitals or primary care clinics.

- Services for students may be available through the special services available in most public schools (Grades 1 to 12) or the counseling services of most educational programs (colleges and universities).
- For students in college or university, the Ontario Student Assistance Program provides bursaries of up to \$2,000 to pay for services required by students with temporary or permanent disabilities to support their education program. This funding can be used to cover expenses for counseling or therapy. The student services or disability office at the school is able to assist in applying for these funds.
- Counseling and therapy provided by family doctors and specialists in psychiatry are covered by the provincial health plan, so there is no charge for the service.
- Some community agencies provide counseling services at low cost depending on income. Services are limited, however, and there may be long waiting lists. Check on the waiting list when asking about a service.
- Many larger employers also have Employee Assistance Plans that provide counseling and therapy to employees and their family members.

Private services are available and are covered by some insurance plans. The cost for private counseling or therapy can range from \$50 to \$155 for a one-hour session.

Employee Assistance Programs (EAPs):

Many large employers have EAPs that provide counseling for employees and family members on a confidential basis. Often you can make an appointment within a week or two of the first contact. There is often no charge for the service, although the total number of sessions may be limited. Plans provide different numbers of sessions so ask about this at the start. EAP staff comes from a variety of different professional groups, so ask about the counselor’s qualifications and experience with the problem you would like help with.

Supplemental health insurance: Many families have coverage for psychology services through supplementary health insurance plans they have through work or school. Dependent and unmarried young adults may be covered by a parent’s plan until age 21 or until age 25 if they are full time students. Many plans require a referral from a physician (such as a family doctor) and will not pay if there is no referral before services are provided.

Coverage differs from plan to plan so check your plan brochure or the plan website to find coverage details.

As an example, one widely used supplemental health insurance plan in Ontario covers \$350, \$500, and other amounts of psychology services per calendar year.

The plan pays for 80 percent of the cost of psychological services. The person using the service pays for the rest. Unmarried dependent children up to age 21 and up to age 25 if they are full time students are covered. Children who became disabled before age 21 (or before age 25 if in full time studies) may be covered for a longer period.

Coverage varies from plan to plan so be sure to check your plan information.

Health care spending accounts: Some employers provide these accounts, covering a range of health services, including counseling and therapy, by qualified practitioners. If you have a plan, be sure to check the amount of coverage and what is covered.

Tips to manage the cost of counseling or therapy (if there is a cost):

- **Ask about the cost:** There are many places to get counseling or therapy in most communities. Ask about the cost of services and how many treatment sessions are likely involved for the problems you are experiencing. A well-trained professional will be happy to provide this information.
- **Plan ahead if possible:** Many problems respond even better to treatment if you prevent them, or catch them early and at a time when you are not in crisis. If you notice a problem limits your happiness and success, or holds you back in life, planning ahead to deal with it can allow you to take advantage of insurance coverage or services with lower or no cost. Examples of problems that can lead to depression are: ongoing problems with worry, nervousness, or anxiety; recurring problems in relationships; troubles finishing your work; and problems with periods of low mood.
- **Speak to the counsellor or therapist to manage the cost.** There are a number of approaches you can ask about.
- There are excellent **books** available about depression that can allow you to work on the problem more quickly.
- Devote the time to work on **homework** between sessions to reduce the number of sessions required.
- Once treatment has the desired effect, **appointments can be spread out** to reduce the costs. It may also be possible to schedule briefer appointments or telephone appointments.
- **Inquire about charges for missed or cancelled appointments:** Some services charge for these. If you have to miss an appointment be sure to call as soon as you know.
- **Credit cards.** Some services accept credit cards, ask about this ahead of time.

Private insurance coverage

- **Insurance coverage:** Find out ahead of time about any insurance coverage that you are eligible for through your work, school or family. Ask how much the coverage pays for and what types of services are covered. Most private plans cover services with a registered psychologist. Some plans also cover other professionals. Young people may be covered by both parents' plans.
- Get a **referral**, if necessary. Some plans require a referral from a physician or they will not pay for the service, so be sure to arrange a referral before starting if possible.
- **Plan when to use insurance coverage.** If you don't use your coverage for a year, it won't carry over to the next year. Use it in the current year if you need it. If you need more sessions, insurance plans will cover sessions in future years.

What are the risks of therapy?

Each treatment that is widely used for depression has benefits and risks. Most people who seek psychotherapy or counseling for problems with depression improve, and those who improve usually feel that the benefits outweigh the risks. But 1 in 10 people will experience a worsening of their condition when they are having counseling or therapy. For some, this is a result of their problem worsening (unrelated to the treatment). For others, the deterioration is related to the therapy.

If your depression is getting worse or not improving after a reasonable time, be sure to discuss this with your therapist. You may benefit from a change to another form of therapy or to a medication treatment.

The importance of persistence

Depending on the type of problem, four out of five people who start with treatment continue with it for the recommended time. If you try a treatment, it is important to stick with it to allow time to see it helps. If you do not benefit from the first treatment you try, there is still a good chance your problem will respond to a different treatment.

Medication for depression

Medication has been used for many years and is generally safe and effective. The medications used for depression are called antidepressants, and are also used for several other health problems. The medication is usually taken at least once a day — it is important to not miss any doses. Most people are treated by their family doctor.

Typically, after assessing the problem and your general health, your doctor will start you on a low dose of medication. This dosage is gradually increased over a period of several weeks, while you and your doctor watch for signs that the medication is starting to help with depression. You both also watch to ensure the medication is not causing undesirable side effects.

A “therapeutic dose” refers to the point when the dosage is increased enough to produce a marked improvement in depression. The therapeutic dose differs among people. There is no advantage to staying at a very low dose; in fact, many people whose symptoms do not improve with medication will show improvement if the doctor prescribes a higher dose.

Medications for depression are safe when used over long periods of time, and most people who stay on the treatment continue to feel a lot less depressed.

It usually takes three weeks on a therapeutic dose to see real improvement for symptoms of depression, so it is important to continue with treatment, even if you do not notice much change at first.

About 6 out of 10 people notice that they feel a lot less depressed on the first medication they try, but if not, sometimes the solution is a different medication or adding a second medication to make the first medication work better.

If it is hard to find a medication that helps, your family doctor may refer you to psychiatrist, who can talk to you about your depression and give advice about other medications and other treatment options.

How long does it take for the medication to work?

You will need to take your medication for at least two to three weeks to notice some improvement.

The dose may have to be increased several times over a period of weeks to reach a therapeutic dose.

You may need to be at the therapeutic dose level for four weeks or more to notice the maximum level of improvement.

How long do you keep taking the medication?

It is generally recommended that you continue on the treatment at the therapeutic dose for at least 12 months once you have found that your depression is much better.

If the problem has been a difficult one and you have had difficulty with depression over a number of periods in your life, the doctor may recommend that you stay on the medication for a longer period or even indefinitely.

Medications for depression are safe when used over long periods of time, and most people who stay on the treatment continue to feel a lot less depressed.

Stay with the therapeutic dose — don’t reduce the dose once you feel better. Reducing the dose often results in the depression returning.

For problems with depression, a rough guideline is to continue on the medication treatment for the following times after you are feeling well:

- **One year** if there has been one episode of depression. (An “episode” is a period of time in your life.)
- **Two years** if there have been two episodes
- **Indefinitely** if there have been three episodes or more.

What happens when the medication is gradually reduced and eventually stopped?

If you want to stop your medication, it is important to discuss this decision with your doctor and not stop the treatment suddenly. Doctors recommend that you gradually reduce the treatment over a period of weeks or months. It is best to choose a period of low stress in life when there are not a lot of changes going on (including posi-

tive changes such as a new job or a new relationship) so that if your depression returns, it is not too hard to handle.

Some people who suddenly stop taking their medication experience symptoms such as anxiety, headache, flu-like symptoms, shock-like sensations down the arms or neck, and stomach distress.

These symptoms may begin 24 hours after a medication has been reduced or stopped and can last 5 to 7 days. These symptoms may occur less frequently if medication is reduced gradually. While these symptoms are uncomfortable, they are not harmful.

When medication is stopped, there is a risk of the depression symptoms coming back over the following months. Of those who improve with treatment, about half (5 out of 10) will see a return of their depression symptoms in the months after their medication is stopped.

Some people get counseling or therapy at the same time as medication treatment. These people may have less difficulty with the depression symptoms rebounding when the medication is stopped.

How much does medication treatment cost?

Medications used to treat depression range in cost from \$30 to \$200 per month. Your family doctor or pharmacist will be able to provide more information about the costs of different medications and about coverage through provincial health plans.

Insurance coverage for medication costs

The provincial drug plan and private insurance plans may cover part or all of your medication costs. These plans usually have a deductible that you must pay before your coverage starts, and some have a maximum dispensing fee that they will cover and then the patient pays the remainder. Most medicines are covered by insurance, but newer medicines may not be. Your doctor or pharmacist will be able to tell you if a medication is covered by your insurance plan. Private plans usually cover the same medicines as provincial plans do, but this may not always be the case.

Provincial health plans: All Canadian

provinces and territories have public plans that cover some of the costs of medications for persons who qualify.

In Ontario, the Trillium Drug Program covers persons who have high prescription drug costs relative to household income, and may cover amounts not covered by private insurance plans. There is a deductible amount that depends on household income and household size.

Deductible amounts are paid in four installments over the program year. Applications for the Trillium Program are available at local pharmacies or on the Ontario government website.

Another plan, the Ontario Drug Benefit Program pays most of the cost of drugs for persons over 65 years old, or in long term care, or receiving home care, or those receiving social assistance. If a medicine is not covered under the provincial programs, your doctor may apply on your behalf for the Exceptional Access Program to see if this medicine will be covered in your situation.

All approved prescribed drugs are covered for persons receiving Employment/Income Assistance.

Brand name and generic drugs: Brand name drugs are produced by the company that developed that drug and are generally newer and more costly. Once a drug has been available for a number of years, it may be reproduced by a generic brand company.

Generic brands have the same composition for the active ingredient but may have different components for other ingredients (like coloring or binding agents). Generic brands are generally less costly.

Supplemental health insurance: Many families have coverage for medications through supplementary health insurance plans offered through work or school. Many plans require you to pay a portion of the total prescription cost or a set deductible amount. Dependents and unmarried young adults may be covered by a parent's plan until age 21 or until age 25 if they are full-time students.

Some plans only cover the generic version of a drug if the generic form is available. Some newer medicines may not be covered. Coverage differs from plan to plan so it is wise to check the plan brochure or the information on the plan's website to find the insurance coverage details.

Health care spending accounts: Some employers provide these accounts, which cover a wide range of health services, including medication costs not covered by other insurance. If you have a plan, be sure to check what is covered and the amount of coverage. As an example only, one widely-used plan in Ontario covers 80 percent of the first \$375 of eligible medication expenses and 50 percent of the next \$300 to a maximum of \$450 per calendar year (for the whole family). Unmarried dependent children up to age 21 and up to age 25 if they are full time students are covered. Children who became disabled before age 21 (or before age 25 if in full time studies) may be covered for a longer period. This may vary from plan to plan.

Tips to manage the costs of medication treatment:

- **Ask about the cost:** There is a variety of medications available for most problems. Ask your doctor and pharmacist about the cost and advantages of different medicines, especially if you do not have insurance coverage.
- **Be careful about sample packages from your doctor:** Be aware that the sample packages of medication you may receive from your doctor as a “starter dose” are usually for newer, more expensive medicines. Newer medications are often more costly than older ones, and they are often no more effective. Some newer medications are not covered by insurance plans. Starting with such a sample medicine may lead to taking a more costly medicine over a long period of time. Switching to a less costly medicine is possible, but this takes extra time and there is a risk of having more symptoms while you switch medications. Therefore, it is usually less expensive to pay for a medicine right from the start, rather than beginning on a more expensive medication through sample packs from your doctor.
- **Use one pharmacy consistently:** There is an advantage here because your pharmacy has a record of the medicines that you are taking.
- **Check the cost of dispensing**

fees: Pharmacies charge a dispensing fee for each prescription. This pays for the services the pharmacy provides, including keeping records, preparing the prescription, and providing advice about the medicine, other medicines you may be taking, and your health. Dispensing fees and markup costs can vary considerably between pharmacies. In Ontario the maximum dispensing fee covered by provincial plans is \$7 and pharmacies are required to post a list of their dispensing fees for the public. Dispensing fees often fall in the range of \$7.00 to \$16.00. Check the dispensing fee by visiting or phoning the pharmacy.

- **Arrange the prescription for a three-month period.** Once you have taken a medicine for a while, are on a stable dose, and find it helpful, you can reduce the cost of the dispensing fee by asking your doctor to write a prescription covering a longer period of time. Usually the longest period supported by insurance plans is about three months (90 to 100 days). The dispensing fee is usually the same whether you get a prescription for three weeks or three months of medication.

What are the common risks or side effects of medication treatment?

When considering treatment, many people want to know about possible side effects. Every treatment has advantages and disadvantages.

Most people who try a treatment for anxiety or depression improve, and those who improve usually believe the advantages of treatment outweigh the disadvantages.

If you look at possible side effects of common medicines such as aspirin or Tylenol, the list of potential side effects is long. Some people worry about side effects so much they avoid taking treatments that could really help them.

Keep in mind that a wide range of medications are used in health care, with many beneficial effects and limited problems with side effects.

Still, it is helpful to have information about any possible side effects when making decisions about treatment choices.

Side effects vary depending on the medica-

tion, its dose and treatment duration, and how quickly the dose is increased or decreased.

Other factors such as age, sex, health and the use of other medications can also influence side effects.

Side effects are one factor that doctors and patients consider in choosing the best medicine.

The sections that follow have information about early side effects, longer term side effects, and uncommon but serious side effects. The side effects that are most important vary depending on each situation and health status. The information provided here is general in nature.

More specific information is available from your family doctor or pharmacist.

Tolerability

Researchers evaluate treatments by looking at how many people continue to take a prescribed treatment and how many stop before completing two or three months of treatment. Studies show 7 or 8 out of 10 people who start an antidepressant will continue with it over several months.

For those who do not continue to take a given medicine, another medication, counseling or therapy will likely be helpful.

Early side effects

Some side effects may start shortly after starting a medication. Many symptoms may decrease or stop after you have been taking the medication for a few weeks. Others may go away only when you stop taking the medicine or reduce the dosage. Three out of five people will experience at least one side effect.

Your doctor may be able to suggest ways to manage side effects. Common side effects of the most widely-used medications for treatment of depression and anxiety are shown in the two tables below and on the next page.

Information about other medicines used for treatment of depression and their side effects may be obtained from your family doctor or psychiatrist.

Long-term side effects

Two longer-term side effects are common with anti-depressant medications: sexual problems and weight gain. These are more problematic with some medications than others.

Sexual side effects: There is often already a reduction in sexual functioning when people experience anxiety or depression, but reduced sexual function is a side effect of many antidepressants. Sexual interest, ability to become aroused and ability to have an orgasm may be affected. About 2 out of 10 people who take

Common side effects of antidepressant medications (Part 1)

- Legend:**
- Very few people report this symptom
 - ☐ Fewer than 1 out of 10 report this symptom
 - ☐☐ 1 to 3 out of 10 people report this symptom
 - ☐☐☐ 3 to 5 out of 10 people report this symptom
 - ☐☐☐☐ 5 out of 10 or more people report this symptom

SSRI group	nausea	diarrhea	constipation	dry mouth	sweating
citalopram (Celexa)	☐☐	☐	--	☐☐	☐☐
escitalopram (Cipralex)	☐☐	☐	☐	☐	☐
fluoxetine (Prozac)	☐☐	--	--	☐☐	☐
fluvoxamine (Luvox)	☐☐☐	☐	☐☐	☐☐	☐☐
paroxetine (Paxil)	☐☐	☐☐	☐☐	☐☐	☐☐
sertraline (Zoloft)	☐☐☐	☐☐	☐	☐☐	☐
SNRI group	nausea	diarrhea	constipation	dry mouth	sweating
venlafaxine (Effexor)	☐☐☐	☐	☐☐	☐☐	☐☐
desvenlafaxine (Pristiq)	☐☐	☐☐	☐	☐☐	☐☐
duloxetine (Cymbalta)	☐☐☐	☐	☐☐	☐☐	☐
Other antidepressants	nausea	diarrhea	constipation	dry mouth	sweating
bupropion (Wellbutrin)	☐☐	--	☐☐	☐☐	☐
mirtazapine (Remeron)	--	--	☐☐	☐☐	☐

Common side effects of antidepressant medications (Part 2)

Legend:

- Very few people report this symptom
- ☐ Fewer than 1 out of 10 report this symptom
- ☐☐ 1 to 3 out of 10 people report this symptom
- ☐☐☐ 3 to 5 out of 10 people report this symptom
- ☐☐☐☐ 5 out of 10 or more people report this symptom

SSRI group	daytime sleepiness	trouble sleeping	headache	shakiness	dizziness
citalopram (Celexa)	☐☐	--	--	☐	--
escitalopram (Cipralex)	☐☐	--	--	☐	☐
fluoxetine (Prozac)	☐☐	☐☐	--	☐☐	--
fluvoxamine (Luvox)	☐☐☐	☐☐	☐☐☐	☐☐	☐☐
paroxetine (Paxil)	☐☐	☐☐	☐☐	☐	☐☐
sertraline (Zoloft)	☐☐	☐☐	☐☐☐	☐☐	☐☐
SNRI group	daytime sleepiness	trouble sleeping	headache	shakiness	dizziness
venlafaxine (Effexor)	☐☐	☐☐	☐☐	☐	☐☐
desvenlafaxine (Pristiq)	☐	☐☐	☐☐	☐	☐☐
duloxetine (Cymbalta)	☐	☐☐	☐	☐	☐
Other antidepressants	daytime sleepiness	trouble sleeping	headache	shakiness	dizziness
bupropion (Wellbutrin)	--	☐☐	--	☐	☐
mirtazapine (Remeron)	☐☐☐☐	--	--	☐	☐

Note: Tables adapted from RW Lam, SH Kennedy, S Grigoriadis, RS McIntyre, R Milev, R Ramasubbu, SV Parikh, SB Patten, AV avindran. Canadian Network for Mood and Anxiety Treatments (CANMAT) Clinical guidelines for the management of major depressive disorder in adults. III. Pharmacotherapy, Journal of Affective Disorders 117 (2009) S26–S43. SSRI= selective serotonin reuptake inhibitors, SNRI= selective norepinephrine serotonin reuptake inhibitors.

antidepressant medications report sexual side effects. More problems with sexual side effects are reported with paroxetine (Paxil), while fewer problems are reported with bupropion (Wellbutrin).

Weight gain: For many of the medications in this group, weight gain comes later in treatment. There may even be weight loss early in treatment, then weight gain later in treatment.

More problems with weight gain are reported with mirtazapine (Remeron) and paroxetine (Paxil) than most of the other medications in this group. Fewer problems are reported with bupropion (Wellbutrin).

Uncommon but serious side effects

Drug Interactions: Serious effects can occur if you take these medicines with medications that affect some of the same body systems. It is important to tell your doctor all of the medications you are taking, including any herbal or natural medicines (such as St. John's Wort or tryptophan).

If you consider starting another medicine, tell the doctor before starting it to see if there are possible drug interactions with the new medicine.

Medications that may interact with antidepres-

sant medicines include other antidepressants, some migraine medicines, some prescription pain medicines, and some over-the-counter cough medicines.

Pharmacists can provide information about drug interactions.

Suicidal thoughts: Persons struggling with depression sometimes experience thoughts of suicide. There was considerable concern in 2000, when researchers in a study of depression treatment noted that adolescents and young adults reported thoughts of suicide more often once they began taking an antidepressant medication.

Problems with these thoughts occurred in 8 out of 100 people as compared to 4 out of 100 people who took a placebo (a pill with no medication).

This problem was evaluated intensively, and it turned out that while there was a higher number reporting suicidal thoughts, there was not a higher rate of suicide attempts or completed suicide.

Recent research indicates that treatment with antidepressant medication reduces the rate of suicide attempts. Nevertheless, it is important to keep track of any increase in thoughts of suicide

and seek extra support if this occurs.

Excessively high mood: Occasionally, people who take an antidepressant can experience a fairly sudden change in their mood. The depression may be replaced by a feeling of energy, with rapid thoughts and an elevated mood or irritability. If this change occurs, it should be assessed by a professional as soon as possible, and the treatment may be changed.

Alcohol

When you are taking these medications, it is a good idea to avoid using alcohol or to use very little alcohol. Heavy alcohol use is a risk factor for anxiety and depression. The mixture of alcohol and antidepressants reduces your ability to drive safely.

Allergic reaction

There is a small chance of an allergic response to any new medication. Common symptoms include a skin rash. If this happens, speak to your doctor before taking any more of the medicine.

The importance of persistence

Most people who keep taking their medication until they have been at a therapeutic dose for a few weeks find the medication helps with their depression.

If you try a medication, it is important to stick with it to allow enough time to see if it is helpful. When a medication is effective, it is usually continued for at least 12 months.

See the section on duration of treatment for more information.

What about combining medication treatment and psychotherapy or counseling?

Medication and counseling/psychotherapy are each effective to treat depression when they are not combined. Combining the treatments produces a somewhat stronger effect, as long as you continue to take the medication. It is not known at this time whether combined treatment is more effective if medication is stopped in the future.

There are advantages if you choose the treatment you prefer (and is available) first. If you don't see enough improvement after trying the first treatment for the recommended time, you may find better results by adding the other form of treatment. One advantage of trying one treatment at a time is that when there is improvement, it will be clear which treatment led to the improvement.

If you prefer combined treatment from the start, this can be arranged.

When people taper off and stop medication, especially if they have had a number of episodes or periods of depression over the years, there is a risk the depression will return over the following months and years. Receiving psychotherapy focused on reducing the risk of relapse lowers this risk for some people, especially those who continue to have some symptoms of depression.

Self-help approaches

Some people prefer to manage problems with depression on their own if they can. There are a number of books and websites which you can use on your own or with a therapist's help. Well-designed self-help materials can help with problems with depression and can provide more information about the treatments that are available.

When used without the assistance of an experienced professional, however, they are often a lot less helpful than treatment involving professional help and guidance. Self-help programs that involve an initial assessment by a professional and some level of follow up have been found to be more effective. Self-help programs can be combined with therapy and medication treatments.

In some parts of the country, there are also self-help groups which provide very useful help.

One way to find out about the programs available is to contact the Mood Disorders Association of Canada, your provincial mood disorders association (**www.moodd disorders.ca**), or the local branch of the Canadian Mental Health Association (**www.ontario.cmha.ca**).

Helpful books:

Feeling Good: The New Mood Therapy. By D. Burns. (1999). New York: Avon.

Mind Over Mood: A Cognitive Therapy Treatment Manual for Clients. By D. Greenberger, & C.A. Padesky. (1995). New York: Guilford Press.

Your Depression Map: Find the Source of Your Depression and Chart Your Own Recovery. By Randy J. Patterson (2002). Oakland, CA: New Harbinger Press.

Web-based help:

- **<http://moodgym.anu.edu.au/welcome>** - This Australian website for depression has been evaluated in more research than any other web program available.
- **<http://www.depressioncenter.net/Default.aspx>** - This Canadian website has an extensive program for depression.
- **www.myselfhelp.com** – This U.S. website is well-designed and available for a small monthly fee. Programs are available for depression, stress, insomnia, eating disorders, self esteem, guilt, and grief.
- **www.changeways.com** - Click on "self-care depression program" to access this Canadian website with its well-developed program.

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Appendix B: Decision Aid Acceptability

We would like to know what you think about the educational package you have just reviewed. Please respond to each question based on your opinions.

1. Please rate each section, by circling 'poor,' 'fair,' 'good,' or 'excellent' to show what you think about the way the information was presented on:

Symptoms and causes of depression	poor	fair	good	excellent
Medication treatments	poor	fair	good	excellent
Evidence for use of medication	poor	fair	good	excellent
Risks of medications	poor	fair	good	excellent
Benefits of medications	poor	fair	good	excellent
Cost (\$) of medication treatment	poor	fair	good	excellent
Psychological (therapy) treatments	poor	fair	good	excellent
Risks of psychological treatments	poor	fair	good	excellent
Benefits of psychological treatments	poor	fair	good	excellent
Cost (\$) of psychological treatments	poor	fair	good	excellent

2. The length of the decision aid was (check one):

- ☐ Too long
- ☐ Too short
- ☐ Just right

3. The amount of information was (check one):

- ☐ Too much information
- ☐ Too little information
- ☐ Just right

4. I found the information was (check one):

- ☐ Slanted toward choosing the medication treatment options
- ☐ Slanted toward choosing the psychological treatment options
- ☐ Slanted toward choosing the combined treatment
- ☐ Slanted toward choosing self-help strategies
- ☐ Balanced in describing the treatment options

5. The information in the decision aid was clear and understandable
- ☐ Strongly agree
 - ☐ Agree
 - ☐ Disagree
 - ☐ Strongly disagree
6. The information presented on in the decision aid was trustworthy
- ☐ Strongly agree
 - ☐ Agree
 - ☐ Disagree
 - ☐ Strongly disagree
7. How familiar to you or new to you was the information presented in the decision aid?
- ☐ Very familiar
 - ☐ Familiar
 - ☐ New
 - ☐ Very new
8. While completing this survey, I was (check one):
- ☐ Very often interrupted or distracted
 - ☐ Often interrupted or distracted
 - ☐ Occasionally interrupted or distracted
 - ☐ Seldom interrupted or distracted
 - ☐ Not at all interrupted or distracted
9. Was there ever a time when you had problems with symptoms of depression for 2 weeks or more?
- ☐ Yes
 - ☐ No
10. If yes, approximately how many weeks did that last? _____
11. Have you ever looked for help for problems with depression?
- ☐ Yes
 - ☐ No

12. Was there ever a time where you were having problems with depression and you might have benefited from treatment but did not seek professional help?
- ☐ Yes
 - ☐ No
13. How helpful do you think this decision aid might be if you were having serious problems with depression in the future and wanted to consider treatment?
- ☐ Very helpful
 - ☐ Moderately helpful
 - ☐ Slightly helpful
 - ☐ Not helpful at all
 - ☐ May make things worse
14. How well do you think this decision aid would have prepared you to talk to your doctor about depression treatment if you were looking for help for depression?
- ☐ Very helpful
 - ☐ Moderately helpful
 - ☐ Slightly helpful
 - ☐ Not helpful at all
 - ☐ May make things worse
15. How helpful would this decision aid be if you had a friend or close family member who was asking you about getting help with depression?
- ☐ Very helpful
 - ☐ Moderately helpful
 - ☐ Slightly helpful
 - ☐ Not helpful at all
 - ☐ May make things worse
16. How much do you feel you learned about depression and its treatment?
- ☐ A lot
 - ☐ A moderate amount
 - ☐ A little
 - ☐ Nothing

17. Did the decision aid provide information that would be important to you if you were making a decision about treatment for depression?

- ☐ A great deal
- ☐ Quite a bit
- ☐ Somewhat
- ☐ A little
- ☐ Not at all

18. Do you think we included enough information to help an individual decide on treatment for depression?

- ☐ Yes (explain): _____

- ☐ No (explain): _____

19. What did you like about the decision aid?

20. What suggestions do you have to improve the decision aid?

Appendix C: Decisional Conflict Scale

You have indicated a preference for [_____] treatment if you were having serious problems with depression. Considering that option, please answer the following questions by circling the appropriate number to show the extent to which you agree with each statement.

		Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1.	I know which options are available to me.	0	1	2	3	4
2.	I know the benefits of each option.	0	1	2	3	4
3.	I know the risks and side effects of each option.	0	1	2	3	4
4.	I am clear about which benefits matter most to me.	0	1	2	3	4
5.	I am clear about which risks and side effects matter most to me.	0	1	2	3	4
6.	I am clear about which is more important to me (the benefits or the risks and side effects).	0	1	2	3	4
7.	I have enough information to make a choice.	0	1	2	3	4
8.	I am clear about the best choice for me.	0	1	2	3	4
9.	I feel sure about what to choose.	0	1	2	3	4
10.	This decision is easy for me to make.	0	1	2	3	4
11.	I feel I have made an informed choice.	0	1	2	3	4
12.	My decision shows what is important to me.	0	1	2	3	4
13.	I am satisfied with my decision.	0	1	2	3	4
14.	I am confident that I made the right decision.	0	1	2	3	4

O'Connor, A. M. (1995a). Validation of a decisional conflict scale. *Medical Decision Making*, 15, 25–30. Adapted with permission.

Appendix D: Decisional Self-Efficacy Scale

Listed below are some things involved in making an informed choice related to a health care decision (for example, deciding whether to get a flu vaccination or what form of birth control to use). Please show how confident you feel in doing these things generally when you are making these types of decisions by circling a number from 0 (not at all confident) to 4 (very confident) for each item listed below.

I feel **confident** that I can:

	not at all confident				very confident
1. Get the facts about the treatment choices available to me	0	1	2	3	4
2. Get the facts about the benefits of each choice	0	1	2	3	4
3. Get the facts about the risks and side effects of each choice	0	1	2	3	4
4. Understand the information enough to be able to make a decision	0	1	2	3	4
5. Ask questions without feeling dumb	0	1	2	3	4
6. Express my concerns about each choice	0	1	2	3	4
7. Ask advice	0	1	2	3	4
8. Figure out the choice that best suits me	0	1	2	3	4
9. Handle unwanted pressure from others in making my choice	0	1	2	3	4
10. Let the clinic team know what's best for me	0	1	2	3	4
11. Delay my decision if I feel I need more time	0	1	2	3	4

O'Connor, A. M. (1995b). *User manual: Decision self-efficacy scale*. Ottawa, ON: Ottawa Hospital Research Institute. Adapted with permission.

Appendix E: Demographics and Treatment History Questionnaire

Age: _____

Sex:

☐ Male

☐ Female

Race/Ethnicity (check all that apply):

☐ Aboriginal

☐ Black

☐ East Asian (e.g., Chinese, Japanese, Korean)

☐ South Asian (e.g. East Indian, Pakistani, Sri Lankan, etc.)

☐ Southeast Asian (e.g. Vietnamese, Cambodian, Malaysian, Laotian, etc.)

☐ Hispanic

☐ Middle Eastern

☐ White

☐ Other (please specify): _____

How many years of education have you completed in the following areas?

Grade School: ☐ seven or less ☐8 ☐9 ☐10 ☐11 ☐12 ☐13

Apprenticeship: ☐0 ☐1 ☐2 ☐3 ☐4 ☐5

College/Technical/Business/Vocational/Nursing (non-university):

☐0 ☐1 ☐2 ☐3 ☐4 ☐5 ☐6

University program: ☐0 ☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8

☐9 ☐10 ☐11 ☐12 or more

Please select your academic program from the drop-down menu: _____

Employment Status (select all that apply):

- ☐ Not currently employed
- ☐ Employed full-time
- ☐ Employed part-time

Marital Status:

- ☐ Single
- ☐ Married/Common-law
- ☐ Widowed

Have you ever seen a healthcare professional because you were depressed?

- ☐ Yes
- ☐ No

Have you ever received a diagnosis of depression by a healthcare professional?

- ☐ Yes
- ☐ No

If yes, who did you receive this diagnosis from?

- ☐ Psychiatrist
- ☐ Psychologist
- ☐ Family doctor
- ☐ Nurse practitioner
- ☐ Other (specify): _____

Have you ever received treatment for depression or another psychological problem (e.g., anxiety)?

☐ Yes

☐ No

If yes, what type of treatment did you receive? (Select all that apply)

☐ Medication

☐ Counseling

☐ Self-help (specify type): _____

☐ Other (specify): _____

To what degree did the treatment(s) help?

☐ It made me feel worse

☐ Had no effect at all

☐ A little bit helpful

☐ Moderately helpful

☐ Quite helpful

☐ Extremely helpful

Have you ever had any difficult experiences with doctors, therapists, nurses, or hospitals?

☐ Yes. Please specify the natures of these difficulties: _____

☐ No

Are you aware of any family members (e.g., parent, brother/sister, grandparent, aunt/uncle, cousin) who had experienced depression or anxiety?

☐ Yes. Specify who: _____

☐ No

If yes, did they seek treatment for this condition?

☐ Yes

☐ No

If yes, what type of treatment did they undergo? (Select all that apply)

☐ Medication

☐ Counseling

☐ Self-help (specify type): _____

☐ Other (specify): _____

☐ Don't know

To what degree did the treatment(s) help your family member(s)?

☐ Don't know

☐ Made them feel worse

☐ Had no effect at all

☐ A little bit helpful

☐ Moderately helpful

☐ Quite helpful

☐ Extremely helpful

Are you aware of any friends who had experienced depression or anxiety?

☐ Yes

☐ No

If yes, did they seek treatment for this condition?

☐ Yes

☐ No

☐ Don't know

If yes, what type of treatment did they receive? (Select all that apply)

☐ Medication

☐ Counseling

☐ Self-help (specify type): _____

☐ Other (specify): _____

☐ Don't know

To what degree did the treatment(s) help your friend?

☐ Don't know

☐ Made them feel worse

☐ Had no effect at all

☐ A little bit helpful

☐ Moderately helpful

☐ Quite helpful

☐ Extremely helpful

Appendix F: Depression Knowledge Test

1. How long should symptoms of depression (e.g., sadness, loss of interest, changes in sleep or appetite) last before they can be classified as clinical depression?
 - a) 3 days or longer
 - b) 1 week or longer
 - c) 2 weeks or longer
 - d) 1 month or longer
 - e) 6 months or longer
2. True or False: Clinical depression is solely the result of a chemical imbalance in the brain.
3. Which of the following is *not* a known risk factor for depression?
 - a) Cultural or religious background
 - b) Family history
 - c) Stressful experiences during childhood
 - d) Stressful experiences during adulthood
 - e) Drug and/or alcohol abuse
4. When taking an antidepressant medication, how long after you feel better should you continue to take the medication in order to prevent relapse of symptoms?
 - a) A minimum of 3 months
 - b) A minimum of 6 months
 - c) A minimum of 9 months
 - d) A minimum of 12 months
 - e) A minimum of 18 months
5. What is the main difference between brand name and generic drugs?
 - a) They have the same composition for the active ingredients, but the inactive ingredients may differ.
 - b) Health Canada regulates generic drugs less than brand name drugs.
 - c) Generic drugs are more expensive than brand name drugs.
 - d) Generic drugs are cheaper than brand name drugs because they are inferior to brand name drugs.
 - e) Generic drugs are of lower quality than brand name drugs.
6. Which of the following longer-term side effects are common for antidepressant medications?
 - a) Weight loss
 - b) Personality changes
 - c) Shakiness
 - d) Flattened mood
 - e) Sexual side effects

7. How long does it generally take for someone to feel better (i.e., less depressed) from psychotherapy or counseling for depression?
 - a) 1 session
 - b) 8 to 20 sessions
 - c) 1 session per week for 1 year
 - d) 2 sessions per week for 1 year
 - e) 1 session per week for 2 years
8. How long does it generally take for someone to feel better (i.e., less depressed) when they are taking an antidepressant medication on a daily basis?
 - a) 1 to 3 hours
 - b) 3 to 4 days
 - c) 2 to 3 weeks
 - d) 4 to 6 months
 - e) 9 to 12 months
9. True or False: Self- help treatments are just as effective as psychotherapy and/or medication.
10. Cognitive behavioural therapy focuses on:
 - a. Identifying emotional patterns and self-critical processes involved in depression
 - b. Understanding how your thoughts and actions affect your emotions
 - c. Dealing with problems in relationships that may be related to the development of depression
 - d. Troubling feelings that stem from unresolved painful events
 - e. Problem-solving and managing life problems
11. True or False: Misuse of alcohol or recreational drugs (such as marijuana) can contribute to the development of depression.
12. True or False: Life stress can contribute to the development of depression.
13. The two treatments for depression that have been studied the most are:
 - a. Medication treatments and counseling or psychotherapy
 - b. Medication treatments and art therapy
 - c. Medication treatments and energy therapies
 - d. Counseling or psychotherapy and art therapy
 - e. Counseling or psychotherapy and energy therapies
14. For most people, what usually happens when they have had depression that has continued for a few weeks and they do not receive treatment?
 - a. The depression will remit (i.e., go away) within several years
 - b. The depression will remit within a week
 - c. The depression will never remit without treatment
 - d. If the depression has not gone away after 6 months, it is unlikely to improve
 - e. There is no research on what happens to depression without treatment

15. The best way to discontinue the use of antidepressant medication is to:
- a. Stop taking the medication on your own (“cold turkey”)
 - b. You can never stop taking the medication once you have started it
 - c. Consult with your physician or psychiatrist to help you gradually reduce and eventually stop the medication
 - d. Gradually reduce your dose of the medication on your own
 - e. All of the above are good ways of discontinuing your medication
16. True or False: Getting samples of newer drugs from your doctor is a good way of reducing the cost of your medication.

Appendix G: Preparation for Decision Making Scale

Please indicate your opinion about the effect of the decision aid by circling the appropriate number to show the extent to which you agree with each statement.

Did this decision aid...	Not at all	A little	Some-what	Quite a bit	A great deal
1. Help you recognize that a decision needs to be made?	1	2	3	4	5
2. Prepare you to make a better decision?	1	2	3	4	5
3. Help you think about the pros and cons of each option?	1	2	3	4	5
4. Help you think about which pros and cons are most important?	1	2	3	4	5
5. Help you know that the decision depends on what matters most to you?	1	2	3	4	5
6. Help you organize your own thoughts about the decision?	1	2	3	4	5
7. Help you think about how involved you want to be in this decision?	1	2	3	4	5
8. Help you identify questions that you may want to ask your doctor if you are making the decision?	1	2	3	4	5
9. Prepare you to talk to you doctor about what matters most to you?	1	2	3	4	5
10. Prepare you for a follow-up visit with your doctor?	1	2	3	4	5

Graham, I. D., & O'Connor, A. M. (1995). *User manual: Preparation for decision making scale*. Ottawa, ON: Ottawa Hospital Research Institute. Adapted with permission.

Appendix H: Treatment Predisposition Questionnaire

We would like to know your opinion about several treatment options for depression.

If you were experiencing depression, how likely do you believe each **treatment would work**? Also, how **interested would you be in trying** each of the treatment options below? Please indicate your response to these questions by placing a checkmark ☒ in one of the boxes on the scale below. If you do not know what the treatment is, please check the “Don’t know what this is” box.

Aromatherapy [] Don’t know what this is

☐	☐	☐	☐	☐	☐	☐
Wouldn’t work at all		Would work moderately well			Would definitely work well	
☐	☐	☐	☐	☐	☐	☐
Definitely would not try		Might consider trying			Would definitely try	

Medication [] Don’t know what this is

☐	☐	☐	☐	☐	☐	☐
Wouldn’t work at all		Would work moderately well			Would definitely work well	
☐	☐	☐	☐	☐	☐	☐
Definitely would not try		Might consider trying			Would definitely try	

Energy Therapies (e.g., Reiki or Therapeutic Touch) [] Don’t know what this is

☐	☐	☐	☐	☐	☐	☐
Wouldn’t work at all		Would work moderately well			Would definitely work well	
☐	☐	☐	☐	☐	☐	☐
Definitely would not try		Might consider trying			Would definitely try	

Meditation and/or Yoga [] Don’t know what this is

☐	☐	☐	☐	☐	☐	☐
Wouldn’t work at all		Would work moderately well			Would definitely work well	
☐	☐	☐	☐	☐	☐	☐
Definitely would not try		Might consider trying			Would definitely try	

Relaxation Training [] Don’t know what this is

☐	☐	☐	☐	☐	☐	☐
Wouldn’t work at all		Would work moderately well			Would definitely work well	
☐	☐	☐	☐	☐	☐	☐
Definitely would not try		Might consider trying			Would definitely try	

Exercise [] Don't know what this is

--	--	--	--	--	--	--

Wouldn't work at all Would work moderately well Would definitely work well

--	--	--	--	--	--	--

Definitely would not try Might consider trying Would definitely try

Dietary Changes [] Don't know what this is

--	--	--	--	--	--	--

Wouldn't work at all Would work moderately well Would definitely work well

--	--	--	--	--	--	--

Definitely would not try Might consider trying Would definitely try

Herbal Remedies [] Don't know what this is

--	--	--	--	--	--	--

Wouldn't work at all Would work moderately well Would definitely work well

--	--	--	--	--	--	--

Definitely would not try Might consider trying Would definitely try

Acupuncture [] Don't know what this is

--	--	--	--	--	--	--

Wouldn't work at all Would work moderately well Would definitely work well

--	--	--	--	--	--	--

Definitely would not try Might consider trying Would definitely try

Counseling or Psychotherapy [] Don't know what this is

--	--	--	--	--	--	--

Wouldn't work at all Would work moderately well Would definitely work well

--	--	--	--	--	--	--

Definitely would not try Might consider trying Would definitely try

Bright Light Therapy [] Don't know what this is

--	--	--	--	--	--	--

Wouldn't work at all Would work moderately well Would definitely work well

--	--	--	--	--	--	--

Definitely would not try Might consider trying Would definitely try

Biofeedback or Neurofeedback [] Don't know what this is

Wouldn't work at all	Would work moderately well				Would definitely work well	
Definitely would not try	Might consider trying				Would definitely try	

Religion, Spirituality, or Prayer [] Don't know what this is

Wouldn't work at all	Would work moderately well				Would definitely work well	
Definitely would not try	Might consider trying				Would definitely try	

Music Therapy [] Don't know what this is

Wouldn't work at all	Would work moderately well				Would definitely work well	
Definitely would not try	Might consider trying				Would definitely try	

Art Therapy [] Don't know what this is

Wouldn't work at all	Would work moderately well				Would definitely work well	
Definitely would not try	Might consider trying				Would definitely try	

Electroconvulsive Therapy (Also known as ECT or Shock Therapy) [] Don't know what this is

Wouldn't work at all	Would work moderately well				Would definitely work well	
Definitely would not try	Might consider trying				Would definitely try	

Appendix I: Consent Form

Title of Study: Evaluation of a Decision Aid for the Treatment of Depression

You are being asked to participate in a research study. Before you give your consent to be a volunteer, it is important that you read the following information and ask as many questions as necessary to be sure you understand what you will be asked to do.

Investigators:

Jenny Rogojanski, MA, Doctoral Student in Clinical Psychology, Ryerson University
Martin M. Antony, PhD, Professor, Department of Psychology, Ryerson University
Candice Monson, PhD, Professor, Department of Psychology, Ryerson University
John Walker, PhD, Professor, Department of Clinical Health Psychology, University of Manitoba

Purpose of the Study: The purpose of the present study is to evaluate the user friendliness of a decision aid that was recently developed for the treatment of adult depression. A decision aid is an informational tool that helps individuals make an informed choice between several effective treatment options for depression. One hundred and fifty participants will be recruited from Ryerson University's undergraduate psychology participant pool (i.e., students in Introductory Psychology PSY102 and PSY202).

Description of the Study: The experiment will involve one visit to the Psychology Research and Training Centre at Ryerson University, located at 105 Bond Street, on the second floor. The total time commitment will be 90 minutes. All participants will be tested in small groups of up to 5 individuals. If you agree to participate, you will be asked to imagine that you are depressed and have been advised to seek treatment for your depression. You will review a tool designed to help individuals choose between different treatments for depression. Once you have reviewed this tool, you will be asked to answer questions about this tool (for example, did you find it difficult to understand?) and complete some additional self-report questionnaires about yourself and some of your demographic characteristics. You will then be told about the study in more depth, and will be given an opportunity to ask questions.

What is Experimental in this Study: This study will allow us to evaluate the decision-making tool in order to see if it might be a useful tool for individuals with depression to make treatment decisions. We have several versions of the decision-making tool and you will be asked to review one of them as part of the study. This will allow us to determine what might be the best format for this tool.

Risks or Discomforts: There is minimal risk involved if you agree to participate in this study. By signing this form, you understand that you may experience some unpleasant emotions or discomfort as you complete the tasks. As part of the study, you will be asked to imagine that you are depressed, which may be distressing for some participants. You have the right to stop participating in this study at any time and you have the right to omit a response to any item. If you decide to stop participating, you will still be entitled to compensation for your time. Additionally, the walk-through option is available to PSY102/202 students in the event that you

do not want to contribute your own data to the study. At the end of the study, you will be provided with a debriefing form that will provide you with more detailed information about the study, and it will include resources in the community that you may access if you experience any discomfort as a result of participating.

Benefits of the Study: There may be no direct benefits to you for participating in the study. However, you may benefit from the self-assessment nature of this study, as participating may help to increase your awareness of your own emotions and preferences. Additionally, participating in this study will allow you to gain knowledge about various treatments for depression, which is a very common mental disorder among the general population. You may also develop a better understanding of research methodology and will be providing researchers with valuable insights.

Confidentiality: The researchers will maintain your confidentiality during this study, as required by law. However, we cannot guarantee complete confidentiality, as you will be completing this study in small groups and other participants in your group will know that you participated in this study. The informed consent agreement and all information that you provide will be stored in a locked filing cabinet, in a locked room. The informed consent agreement will be stored separately from any data you generate while participating in this study. Electronic data will be organized by an identification number and will be stored in a password-protected file. Data will always be analysed as a whole and you will not be identified in any scientific presentations or publications of the research. Raw data will be appropriately discarded 7 years after publication of the study.

Some of the questionnaire data you provide will be stored on a server (Survey Gizmo) that is based out of the United States. These data will also be secure and password-protected, and only the researchers involved in this study will have access to these data. However, please note that since these data are stored on a server housed in the USA, it is subject to the Patriot Act. This Act allows US law officials to access records (that are stored in the US) of any person without their knowledge for the purpose of anti-terrorism investigation. For more information about this Act and your rights, please visit <http://epic.org/privacy/terrorism/hr3162.html>. Notably, participants' names and identifying information will not be recorded or stored in Survey Gizmo.

Incentives to Participate: You will receive 1.5 course credits towards your Introductory Psychology PSY102 or PSY202 course for participating in this study. If you withdraw from the study prior to its completion, you will still receive the compensation promised to you.

Voluntary Nature of Participation: Participation in this study is voluntary. Your choice of whether to participate will not influence your future relations with Ryerson University. If you decide to participate, you are free to withdraw your consent and to stop your participation at any time without penalty or loss of benefits to which you are allowed. At any particular point in the study, you may refuse to answer any particular question or stop participation altogether.

Opportunity to Participate in Follow-up Study: We are also interested in doing a one-month follow-up to this study that is completed entirely online from your home computer. If you are interested in participating in the follow-up study, you will be sent an email in one month's time with the link to a brief (5 minute) survey that you can complete from your home computer at

your own convenience. You are not obligated to participate in this follow-up study, as it is a separate study from the study you will be participating in today. If you are interested in participating in the follow-up study, please check off 'Yes' below and fill in the email address that would be best for us to contact you with. You will be sent a \$5.00 gift card to Starbucks through the mail as compensation for completing the online follow-up study.

☐ **Yes**, I am interested in participating in the online follow-up study
Your email: _____

☐ **No**, I do not wish to participate in the follow-up study

Participation in Future Research: There is a possibility that member of the Anxiety Research and Treatment Lab will develop new studies in the future. Please indicate whether you agree to allow us to contact you in order to invite you to participate in this future research. Agreeing to be contacted does not obligate you to participate. You are free to turn down any offers to participate in future research.

☐ **Yes**, I agree to be contacted regarding participation in future research

☐ **No**, I do not wish to be contacted to participate in future research

Questions about the Study: If you have any questions about the research now, please ask. If you have questions later about the research, you may contact:

Jenny Rogojanski, MA
Department of Psychology
416-979-5000 ext. 2184

Martin M. Antony, PhD, Research Supervisor
Department of Psychology
416-979-5000 ext. 2631

If you have questions regarding your rights as a human subject and participant in this study, you may contact the Ryerson University Research Ethics Board for information:

Research Ethics Board
c/o Office of the Vice President, Research and Innovation
Ryerson University
350 Victoria Street
Toronto, ON M5B 2K3
416-979-5042

Agreement: Your signature below indicates that you have read the information in this agreement and have had a chance to ask any questions you have about the study. Your signature also indicates that you agree to participate in the study and have been told that you can change your mind and withdraw your consent to participate at any time. You have been given a copy of this agreement.

You have been told that by signing this consent agreement you are not giving up any of your legal rights. Please indicate below whether you consent to participate in this study, or if you prefer the walk-through option available for this study:

_____ I agree to participate in this study

_____ I agree to participate in the walk-through option for this study

Name of Participant (please print)

Signature of Participant

Date

Signature of Investigator

Date

Appendix J: Vignette

Please read the scenario below and try to imagine that this scenario is describing you. Later you will be asked to read some materials and respond to questions while continuing to imagine that you have been experiencing the symptoms described below.

You are an undergraduate university student with good grades and academic achievements. You also play for the university soccer team, and have an active social life outside of school. However, for the past 2 months you have noticed a significant change in your mood and energy level. You go into the university medical clinic and tell the doctor that for the last few months, you have been feeling tired and experiencing difficulty concentrating in your classes and while studying. You have started to skip some of your classes because you cannot get out of bed on some days, so you end up sleeping for much of the afternoon. Even then you are still tired. You have also noticed a decrease in your appetite, which has resulted in you losing approximately 10 pounds in the last 2 months. You tell the doctor that you cannot seem to function the way that you used to, and that your low mood has caused you to lose interest in most activities that you used to enjoy. You have missed the last four soccer practices, and the coach has contacted you to say that you will be off of the team if things don't change. Although you used to love soccer, you tell the doctor that you don't care for it anymore. Your grades have also been slipping due to your absences from classes and your concentration difficulties while studying. You have also started to isolate yourself from friends, because you do not have the energy or interest to speak with them right now. Even when you do go out with friends, you find that you need to force yourself to go, and you often leave early because you aren't enjoying yourself. You tell the doctor that you are concerned that you have come down with some type of illness. All of the tests the doctor runs come back as normal, suggesting that your physical health is fine. The doctor calls you into his office and tells you that he believes you may be suffering from depression. Although the depression is not severe, he recommends that you undergo some treatment in order to alleviate your symptoms.

Appendix K: Treatment Choice

1. If you were experiencing symptoms of depression as described in the vignette you read earlier, which treatment option would you select based on your own preference and the information you read in the decision aid?
 - ☐ No treatment
 - ☐ Medication treatment
 - ☐ Psychological treatment (i.e., psychotherapy)
2. On a scale ranging from 0 (not at all confident) to 100 (completely confident), how confident are you in this decision? _____ [Drop-down menu]
3. What about if you were also given the option of a combined treatment (i.e., to receive both medication and psychotherapy), what would you pick?
 - ☐ No treatment
 - ☐ Medication treatment
 - ☐ Psychological treatment (i.e., psychotherapy)
 - ☐ Combined treatment (i.e., medication and psychotherapy)
4. If the original treatment that you selected was not helpful and you continued to experience symptoms of depression, would you try another treatment option?
 - ☐ Yes
 - ☐ No (Explain why: _____)
5. If 'yes,' which treatment option would you try next?
 - ☐ Medication treatment
 - ☐ Psychological treatment (i.e., psychotherapy)
 - ☐ Combined treatment (i.e., medication and psychotherapy)

Appendix L: Vignette Rating Questionnaire

1. To what extent were you able to relate to the individual described in the vignette that you read earlier?

Not at all

☐

A little

☐

Somewhat

☐

Quite a bit

☐

A great deal

☐

2. To what extent could you imagine yourself in the situation that was described in the vignette?

Not at all

☐

A little

☐

Somewhat

☐

Quite a bit

☐

A great deal

☐

3. To what extent did you keep the scenario described in the vignette in mind as you read the decision aid and responded to questions?

Not at all

☐

A little

☐

Somewhat

☐

Quite a bit

☐

A great deal

☐

Appendix M: Debriefing Form

Decision aids are tools designed to communicate the best available evidence on treatment options to patients and help them choose between these various treatments. Research indicates that decision aids are helpful in improving patients' knowledge of effective treatment options, reducing their uncertainty in choosing treatment options, and encouraging more participation in decision-making among patients. However, despite there being clear evidence for the helpfulness of decision aids, they are rarely used in mental health care. The purpose of the current study was to evaluate a recently developed decision aid for the treatment of depression. The primary goal of this study is to evaluate whether the decision aid is an acceptable and useful tool for decision-making. In addition, the secondary goal of this research is to evaluate whether the order in which treatment options are presented (e.g., medication presented first versus psychotherapy presented first) has an impact on treatment choice, decisional conflict, and confidence in decision-making. Finally, we will examine whether reading the decision aid leads to an increase in depression treatment knowledge. This study is one of only a few studies designed to examine the potential utility of a decision aid for the treatment of depression, and is one of very few studies aimed at expanding the use of decision aids to mental health conditions. Additionally, the development of an unbiased decision aid for depression treatment will provide an opportunity for the distribution of information about effective treatments for depression directly to the public.

Resources

If you are currently experiencing psychological distress and would like to discuss your concerns in a safe and confidential environment, please be aware that the Ryerson Centre for Student Development and Counselling (CSDC) is a free resource located on campus. Staff at the Counselling Centre provide support and guidance for a range of concerns including low mood, anxiety, and academic difficulties. The contact information for the CSDC is as follows:

Centre for Student Development and Counselling

Website: <http://www.ryerson.ca/counselling/index.html>

Email: csdc@ryerson.ca

Phone: 416-979-5195

Location: JOR-07C (Lower level of Jorgensen Hall, 380 Victoria Street)

Additionally, if you are interested in learning more about depression treatment, there are a number of self-help resources that have been shown to work. These include the following:

Books:

Greenberger, D., & Padesky, C.A. (1995). *Mind over mood: Change how you feel by changing the way you think*. New York, NY: Guilford Press.

Williams, M. G. J., Teasdale, J. D., Segal, Z. V., & Kabat-Zinn, J. (2007). *The mindful way through depression: Freeing yourself from chronic unhappiness*. New York, NY: Guilford Press.

Websites:

The Depression Center: <http://www.depressioncenter.net/>

E-Couch: <http://www.ecouch.anu.edu.au/welcome>

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