Use of Motivational Enhancement Therapy to Increase Treatment Readiness in Adults with Hoarding Disorder

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April 16th, 2015
Abstract

The purpose of this study was to investigate the impact of individual motivational enhancement therapy (MET) as a pre-treatment intervention for individuals with hoarding disorder (HD). The MET sessions were adapted from Buckner’s (2009) manual on MET the model outlined in the manual by Buckner (2009). It was hypothesized that MET would significantly increase participants’ readiness to change as evidenced by changes on the University of Rhode Island Change Assessment (URICA). In addition it was hypothesized that the hoarding behaviour would decrease in severity, as indicated by changes on the Hoarding Rating Scale (HRS). Four participants completed four MET sessions, and readiness to change and levels of hoarding behaviour were assessed at the beginning and end of the intervention sessions. The focus was on developing discrepancy between participants’ current behaviour and future goals, and informally assessing participant perceptions of entering into CBT treatment for HD. There were no statistically significant changes between pre- and post- intervention scores. Recommendations for future research include obtaining a larger sample of participants and use of a multiple baseline design.
Acknowledgements

Thank you to my husband Chris, for all the support and love you gave me throughout my writing of this thesis. Thank you also to my thesis supervisor Dr. Yolanda Fernandez for the guidance you gave me and the time you took to carefully review every iteration of this document.
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Hoarding disorder (HD) is a relatively unexplored field and research on effective treatments for HD is limited. The American Psychiatric Association has only formalized a set of diagnostic criteria (DSM-5, 2014) within the past year. Prior to the formalization of diagnostic criteria, researchers identified symptoms, which they believed to be the defining characteristics of HD (Tolin, 2011). The defining symptoms for the purpose of the present study are: maladaptive behaviour patterns, issues with motivation/problem recognition, maladaptive thoughts, behavioural disinhibition, and intense attachment to possessions (Tolin, 2011).

These symptoms can severely limit an individual’s quality of life, leading many affected individuals to be fearful of interacting with other people, fearful of leaving their house, and making their living arrangements unsafe (Tolin, 2011). Current prevalence rates in North America estimate that HD is twice as common as obsessive compulsive disorder, four times as common as bipolar disorder, and roughly equal to anxiety disorders (Otte & Steketee, 2011). At present, there are no consistently effective treatments for HD. Developing effective treatments is complicated by the fact that individuals with HD often experience deficits in motivation, and their other symptoms create many road blocks that can further decrease the likelihood that they will successfully enter treatment (Tolin, 2011).

Motivational Enhancement Therapy (MET) centres on identifying the stage of change of the client (pre-contemplation, contemplation, preparation, action, or maintenance), and increasing treatment readiness through resolving the client’s ambivalence about treatment (Feld, Woodside, Kaplan, Olmstead, & Carter, 2000). MET has been used to improve motivation in clients experiencing eating disorders (Feld et al., 2000), general psychiatric diagnoses (Humfress et al., 2002), high levels of anxiety sensitivity (Korte & Schmidt, 2013), social anxiety (Buckner, 2009), and addictions to alcohol and other substances (Kang-Sook, Sellman, Sullivan, Dore, Adamson, & MacEwan, 2001). Similar to individuals with eating disorders and addictions, people diagnosed with HD often deny that their problems exist and refuse treatment. Social anxiety also shares symptoms with HD because individuals with HD often experience intense anxiety regarding getting rid of possessions, participating in treatment, and interacting with other people (Tolin, 2011). Due to these commonalities, it is hypothesized that MET could also be an effective treatment for individuals with HD.

In the present study, four participants completed four sessions of MET which was adapted from Buckner (2009) (Appendix A). Buckner’s model included 9 components of MET which were delivered across 4 appointment sessions in the present study and in the original study by Buckner. The model focused on giving feedback on assessments in the initial meeting, developing discrepancy between future goals and current behaviour, and determining the pros and cons of treatment. The adaptation for this study involved focusing the discussions around hoarding rather than the social anxiety, which Buckner examined. Due to the differing populations, this study also used different measures to test the efficacy of the model. Participants completed pre- and post- measures to identify their stage of change as well as the severity of their hoarding behaviour. The University of Rhode Island Change Assessment (Appendix B) was used to determine the stage of change of each participant, and the Hoarding Rating Scale (Appendix C) was used to determine the level of hoarding behaviour exhibited by each participant. It was hypothesized that MET would be an effective pre-treatment intervention for motivating clients towards treatment readiness.
In this thesis there are five main chapters that introduce the study (Chapter I); provide a rationale for the topic choice through reviewing relevant literature (Chapter II); identify the methods that were used to deliver the therapy (Chapter III); analyze the results through statistical and qualitative analyses (Chapter IV); and discuss the limitations and conclusions of the study (Chapter V).

Chapter II: Literature Review

Motivational enhancement therapy (MET) is potentially a promising pre-treatment for individuals with HD. However, there appears to be no published research on motivational techniques used with HD clients. The following literature review is intended to introduce the literature on MET, and support the viability of it as a pre-treatment for HD; specifically because this is a population that experiences many barriers to treatment, including deficits in motivation.

The first symptoms of HD often manifest in adolescence due to a combination of genetic predispositions, life experiences, personality traits, and emotional states at the time (Otte & Steketee, 2011). Otte and Steketee (2011) go on to describe the cognitive processes through which hoarding behaviour patterns can evolve:

- A combination of early experiences and cognitive challenges can result in mistaken beliefs about and attachments to possessions, with resulting negative emotions that lead to avoidance behaviors (saving unneeded items) and clutter. In addition, objects that evoke feelings of positive attachment and experiences of pleasure may result in excessive acquiring and clutter (para. 13).

HD is characterized by maladaptive beliefs and intense emotional attachment to possessions, as outlined by Otte and Steketee (2011). When an individual experiences maladaptive beliefs about their possessions they can have trouble discarding items due to the feeling that each particular item has a potential use, and that the need for it may be imminent (Frost, Hartl, Christian, & Williams, 1995). These maladaptive beliefs are similar to those which develop in individuals with eating disorders, who often create complicated belief systems surrounding what, when, and how to consume food (Dingemans, Spinhoven, & van Furth, 2006). The intense emotional attachment to possessions leads many individuals with HD to experience severe anxiety when they try to dispose of any object. Any suggestion of treatment for their behaviour increases anxiety because they feel there will be an attempt to force them to get rid of their possessions. This anxiety can also be exacerbated when individuals with HD interact with friends, family, or strangers who they may feel are judging them for not disposing of the objects, and often this can lead to the development of social anxiety and even agoraphobia (Frost et al., 1995).

Another characteristic symptom of HD is avoidant behaviour patterns. For example, many individuals in treatment for HD who receive tasks as homework are unwilling to complete them, due to low levels of motivation. Individuals with HD often become very defensive when confronted with talk of entering treatment, exhibiting low motivation towards change and high levels of rationalization for their behaviour and lifestyle (Samuels et al., 2002). This same pattern of rationalization and low motivation is often also found in individuals who are diagnosed with eating disorders (Feld et al., 2000; Dunn, Neighbors, & Larimer, 2006; Dean, Touyz, Rieger, & Thornton, 2008; Hotzel et al., 2013).

Symptoms of HD often also include maladaptive cognitive processes in memory, wherein individuals often have trouble remembering things. The decreased memory abilities in
individuals with HD often cause them to begin fearing the forgetting of information, similar to the process in which individuals who experience anxiety begin to feel anxious about experiencing the symptoms of their anxiety (Tolin, 2011; Korte & Schmidt, 2013). This process can lead individuals with HD to resist discarding objects due to the high levels of anxiety about potentially forgetting important information or memories linked to the objects.

Differences in executive functioning have also been observed and thought to be an important symptom of HD. Specifically, individuals with HD are more likely than non-hoarding psychiatric controls (individuals with a psychiatric diagnosis that does not involve hoarding) and individuals with obsessive compulsive disorder (OCD) to experience difficulties in planning, getting rid of objects, and indecisiveness (Morein-Zamer et al., 2014). Individuals with HD reported far greater rates of indecision than a control group of individuals with OCD (Samuels et al., 2002). HD also involves deficits in attention when compared with non-hoarding psychiatric and community controls. A deficit in executive functioning is also linked to heightened impulsivity and delayed reaction times; symptoms which are also prevalent in adolescent offenders who are diagnosed with addictions, a population for who MET has been demonstrated to be an effective pretreatment (Helstrom, Hutchison, & Bryan, 2007).

Individuals with HD often develop intense feelings of shame and fear about friends or family discovering their living conditions, which can gradually lead to them developing a fear of interacting with other people altogether and fearing to leave their home (Otte & Steketee, 2011). These fears are also experienced by individuals diagnosed with social anxiety and agoraphobia, for which MET has been shown to be an effective pretreatment (Buckner, 2009). Social anxiety and agoraphobia are often comorbid with HD (Otte & Steketee, 2011). High levels of anxiety and shame can be significant barriers to treatment for individuals with HD as well as individuals diagnosed with anxiety disorders. Anxiety can be a barrier to treatment because many treatments for these illnesses are delivered in group formats, as it is more cost effective than individual therapy.

As awareness of HD has heightened over recent years, many attempts have been made to design effective treatment programs. Therapists have used traditional cognitive behaviour therapy (CBT) in groups and individually, but found that the presence of social anxiety and lack of motivation lead to low treatment adherence, low attendance, and minimal homework completion (Saxena & Maidment, 2004). CBT with additional response prevention and exposure therapy, a traditionally effective treatment for individuals with OCD, has also been tested with individuals with HD. The rationale behind using a treatment for OCD on individuals with HD was that many researchers used to believe HD was strongly connected to OCD. However the results were not significantly effective in treating HD (Muroff, Bratiotis, & Steketee, 2011). Treatments which used Selective Serotonin Re-uptake Inhibitors (SSRIs) have also been evaluated. The effectiveness of SSRIs was compared between individuals with OCD and no hoarding symptoms, and individuals with OCD who experienced hoarding symptoms. SSRIs were significantly less effective for individuals who also experienced hoarding symptoms (Tolin, 2011). In contrast, intensive and longer term CBT (45 weeks) which included out-patient sessions and domiciliary visits achieved clinically significant reductions in hoarding severity (Pollock, Kellett, & Totterdell, 2014).

Tolin, Frost, and Steketee (2007) appeared to have the most success with their treatment. In their study, 60% of the 37 participants experienced clinically significant improvements over 46 individual sessions. This treatment was a modified CBT manual created by Steketee and Frost (2007) that “incorporates assessment and goal setting, organizing and problem-solving skills
training, exposure practice methods to reduce acquiring and remove clutter, and motivational interviewing to address patient resistance when it arises during treatment” para. 14. The above findings suggest that a pre-treatment designed to increase treatment adherence and motivation, which includes assessment feedback and goal setting, could increase the effectiveness of both non-intensive CBT and intensive long-term CBT.

One such pre-treatment is motivational enhancement therapy (MET) which is a modification of Miller and Rollnick’s motivational interviewing (2002). The main modification and the hallmark of MET is the inclusion of actively reviewing participants’ results on measures with them. Apart from this, MET is quite similar to MI in that it focuses on three central concepts. The first concept is the idea of developing discrepancies between individuals’ future goals and current behaviours. This is accomplished by examining how the individuals’ current behaviours could make their goals easier or harder to achieve. The second key component is the supportive role of the therapist. The therapist must act in a supporting manner to the client while also actively including the client in treatment decisions and discussions. The third central concept is the importance of focusing on empowering the participant to desire change for themselves, thereby enhancing their motivation to seek treatment. The MET used in this study is based off of a four session manual created by Buckner (2009). MET has been effectively used as a pre-treatment to increase treatment readiness for individuals with eating disorders (EDs) (Feld et al., 2000; Dunn et al., 2006; Dean et al., 2008; Hotzel et al., 2013), anxiety (Buckner, 2009; Korte & Schmidt, 2013), addictions (Kang-Sook, 2011; Sellman et al., 2001; Helstrom et al., 2007), and general psychiatric conditions (Humfress et al., 2002). All of these diagnoses have common barriers to treatment with HD, such as low motivation, maladaptive belief systems, impulsivity, and low treatment adherence.

Feld et al., (2000) examined the effectiveness of MET as a pre-treatment for a group of individuals with eating disorders (ED). Similar to HD, individuals with ED are often reluctant to enter treatment and frequently have trouble admitting the negative impact their behaviour has on their life. Furthermore, both populations have tendencies to develop maladaptive belief systems. For individuals with HD, this leads to complicated processes for being able to discard objects, or the development of rationalizations for the need to keep objects (Frost et al., 1995; Otte & Steketee, 2011); for individuals with EDs, maladaptive beliefs present in rituals around the correct way to eat food or abstain from eating food (Dingemans et al., 2006). In Feld et al.’s (2000) study, 19 individuals diagnosed with ED participated in weekly MET group therapy for four weeks. Pre- and post-test scores assessed stages of change, and motivation was assessed at each therapy session using non-specified likert scales. The post-test and 6 week follow-up measures demonstrated that participants experienced significant progress through the stages of change. Many participants moved from the pre-contemplation stage to the action stage (ready to enter into treatment) by the end of the MET sessions.

Dunn, Neighbors, and Larimer (2006) found that a single session of MET used with 45 individuals with EDs, in addition to a self-help manual, increased the participant’s readiness to change more than those who did not receive the single session of MET. However, neither Feld et al. (2000), nor Dunn et al. (2006), incorporated a control or comparison group that received an alternative therapy; therefore, conclusions cannot be drawn based on these two studies regarding MET’s effectiveness (or lack thereof) relative to other pre-treatment interventions.

In contrast, a study by Dean, Touyz, Rieger, and Thornton (2008) included a control group of 19 individuals who received their regular treatment. The MET group of 23 individuals diagnosed with EDs received a four session MET pre-treatment program in addition to regular
hospital care. It was found that the MET and control group had the same initial outcomes. However, at follow-up, the MET group demonstrated higher rates of sustained engagement and motivation than the control group.

A German study by Hotzel et al. (2013) also used a control group in a wait-list control design. The effectiveness of a six session online MET program for individuals with EDs was evaluated with 212 participants. Hotzel et al. (2013) focused the online program around email-based individualized feedback that the authors created for participants. This email communication occurred at weekly intervals throughout the six week program as participants completed the modules and assessments online. The participants in the initial intervention stage (n = 103) reported increased motivation to change problematic behaviours and thoughts, as well as significant improvements with ED-related characteristics such as maladaptive beliefs about food.

Leung, Ma, and Russell (2013) conducted another online MET program, which was delivered to 185 participants. Participants were asked to complete measures to identify disordered eating for inclusion in the study. The online program focused on providing motivational worksheets and a method of tracking healthy eating behaviour. There was a relatively high dropout rate (139 participants or 75% of the original sample). This was explained by the authors as a byproduct of being an online-only self-help program. On the other hand, Hotzel et al. (2013) conducted an online-only intervention and had fewer participants drop out, with a dropout rate of 41%. It is possible that there was some difference in the methods (i.e., completely self-help versus self-help paired with email communication with therapist) that led clients in Hotzel et al.’s (2013) study to be more likely to continue throughout the treatment. Despite the high dropout rate in the study by Leung and associates (2013), at a 3-month follow-up assessment the 46 remaining participants had maintained significant decreases in eating restraint and concern, as well as shape and weight concern. These two studies indicate that online MET treatments could be effective, but also suggest that therapist-client communication (i.e., regular email communication) is a critical factor in maintaining client focus and motivation.

Similar to HD, individuals with social anxiety disorder (SAD) have trouble interacting with other people and often feel ashamed about their disorder (Buckner, 2009). Buckner (2009) used MET to increase treatment seeking in an individual experiencing SAD. MET was delivered in four sessions. Motivation and anxiety were measured before treatment, during each MET session, and at a 1-month follow-up. The participant's scores indicated that her anxiety significantly decreased over the course of the MET sessions, and scores on all motivational scales increased, signifying an increased readiness and motivation to attend treatment.

A study by Korte and Schmidt (2013) evaluated MET as a pre-treatment in a study involving 80 participants who experienced high levels of anxiety sensitivity. Anxiety sensitivity (AS) was defined by the authors as the fear of the potential consequences of anxiety. Thirty-eight individuals received one session of MET, while forty-two individuals received health-focused psychoeducation, and acted as a control group. All individuals completed a variety of measures to test levels of AS, negative affect, trait anxiety and confidence regarding change. Korte and Schmidt (2013) intended the single session of MET to increase the participant’s motivation to enter into CBT treatment for their AS. The authors also discovered that the MET session itself was found to reduce participants reported AS symptoms by 26% when compared with the health-focused control group. This reduction in symptoms is comparable to that found in disorder specific CBT treatments, indicating that MET alone, although designed as a pre-treatment, appeared as effective for these participants as a full course of disorder specific CBT. Several
limitations were apparent in this study. First, there was no follow-up conducted to demonstrate if the treatment gains were maintained post-treatment. Generalization may also be limited, as all of the participants were selected from students in a first year psychology course who received course credit for participating in the study. Psychology students may already have an understanding of MET, AS, and the symptomology researchers would be expecting to see in order to meet criteria for the study.

Humfress et al. (2002) examined how MET could benefit individuals with psychiatric diagnoses who were involved in community outreach programming. Community outreach programs are a valuable component of mental health care; however, due to the fluid nature of many of the lifestyles of individuals seeking help through this medium, there are often low compliance and success rates with treatment. Ninety patients participated in this study, and were divided into treatment and control groups, with 45 individuals in each group. The goal of the study was to examine the effects of different types of initial consultation with clients. The control group received a standard psychiatric assessment in the consultation session, while the treatment group received a pre-treatment motivational enhancement session during the consultation, which was followed by motivational feedback letters written to each individual in the treatment group. The feedback letter emphasized the ability of the individual to help themselves, as well as the therapist’s view of the individuals’ strengths and problem areas. Structured interviews were conducted with all participants before treatment and 3-4 months post treatment to assess participant motivation and stage of change. After the interview, and during a 3-month follow-up, participants in the treatment group reported higher satisfaction with their therapist, and demonstrated higher scores on motivational scales versus those who had not received MET. These results indicate that a MET approach can foster long-lasting increases in motivation for a variety of populations.

Alcohol dependence and HD share low motivation for treatment and challenges in admitting the presence of a problem. MET has been demonstrated in New Zealand and Korea to be more effective in decreasing drinking in individuals with alcohol dependence than other forms of evidence-based treatment and receiving no treatment at all (Kang-Sook, 2011; Sellman et al., 2001). The study by Sellman et al. (2001) included 122 participants and compared four sessions of MET with two control groups: nondirective reflective listening and no further counseling. At the 6 month follow-up, individuals who had been in the MET condition reported 20% less heavy consumption of alcohol than the individuals in either nondirective reflective listening or no further counseling.

MET has also been studied with adolescent offenders who smoked regularly (Helstrom et al., 2007). Adolescents who were considered less impulsive found the MET session to be more effective in reducing smoking behaviours, whereas adolescents who were more impulsive and engaged in drinking more often achieved better results from the control treatment of an education session. However, this study also found that at the 6-month follow-up, individuals who had received the MET were more likely to have retained, and added to, the improvements they experienced during treatment, regardless of impulsivity level. Due to the behavioural disinhibition that is also often present in individuals with HD, this suggests that even a single session of MET could have lasting effects.

Based on the studies examined in this review, it appears that MET could be a useful pretreatment for individuals with HD. MET has been demonstrated to be an effective treatment for many of the symptoms of HD that act as barriers to treatment that are found in other disorders which have been effectively treated with MET; namely low motivation and maladaptive beliefs
(Feld et al., 2000; Dunn et al., 2006; Dean et al., 2008; Hotzel et al., 2013), impulsivity (Helstrom et al., 2007), anxiety (Buckner, 2009), and low treatment compliance (Humfress et al., 2002). The delivery of MET in an individual format could decrease the role that anxiety plays in deterring individuals from entering into group treatments (Buckner, 2009). From the research, a combination of online and in-person MET would appear to be potentially effective at addressing treatment barriers such as social anxiety, but online MET was not considered a viable option for this study due to a lack of agency resources to create programs and the constricted time limits of this study.

The preceding research demonstrates a rationale for exploring the application of MET with individuals with HD. The rationale is presented through the similarities between the symptoms and treatment roadblocks encountered by individuals with HD and individuals attending community outreach programs, experiencing ED, addictions, or anxiety. The use of MET as a pre-treatment has been beneficial for a range of participants, increasing their readiness to engage in treatment. If used with HD, MET could have similar effects and help many individuals to successfully enter treatment.

Chapter III: Method

This study included six participants. Existing clients of the community mental health agency who met the inclusion criteria were referred by agency staff, and additional participants were obtained by posting advertisements (Appendix D) within the walk-in clinic portion of the agency. Participants were between ages 20 and 60 and both male and female. Inclusion criteria for the project were diagnostic level hoarding behaviour based on the Hoarding Rating Scale (HRS) (Tolin, Frost, Steketee, Gray, & Fitch, 2008) (Appendix C), a pre-contemplative, contemplative, or action stage of change result on the URICA (DiClemente & Hughes, 1990) (Appendix B). Fluency in speaking and understanding the English language was also required to qualify to participate in the study. The URICA was modified from its original wording in some areas, in order to be more appropriate for HD (i.e., wording referencing addiction to substances was changed to refer to clutter in the home). A score of 16 on the HRS indicated the presence of HD according to the authors of the scale (Tolin, Frost, Steketee, Gray, & Fitch, 2008). This score was also required in order to qualify for the study. Participants were excluded if they scored less than 16 on the HRS, or if their score on the URICA indicated that they were in the maintenance stage of change (i.e., they had been actively and successfully coping with their problems).

Potential participants were contacted by the researcher and presented with the details, limits, and potential risks/benefits of the project. If the participants demonstrated interest after the initial contact, the researcher scheduled the first session, during which consent and confidentiality were discussed. Participants were provided with a consent form (Appendix E) detailing the procedures and potential risks and benefits of participating in MET, which participants signed and dated if they agreed to participate. Consent forms were stored in a locked cabinet at the agency, where they will be kept for seven years after the completion of the study.

All MET sessions occurred at the community mental health agency, except for one participant who requested their sessions be conducted at a local coffee shop due to the travel expenses of reaching the agency. This study was approved by the St. Lawrence Research Ethics Board.
The HRS was used as a diagnostic tool for this study and as mentioned above determined the suitability of participation for individuals. This rating scale is a self-report interview with five questions to assess the severity of an individual's hoarding behaviour.

MET was delivered on an individual basis in four weekly sessions over the course of one month occurring at the community agency. Individual sessions were preferred over group sessions as a way to manage social anxiety that often accompanies help-seeking behaviour. It also allowed the researcher to be more flexible and acquire more participants in across different offices within the agency. No additional materials were necessary aside from those provided by the therapist (pen, paper). Changes in treatment readiness were measured by scores on the URICA pre- and post-implementation of MET. The HRS was also completed pre- and post-implementation to assess any changes in severity of the participant's hoarding behavior. The researcher aided each individual in the completion of the questionnaires to ensure full comprehension of the questions. If the individual experienced emotional distress resulting from the questions on the scales or the MET, they were offered help to resolve this distress and reminded of the option of discontinuing participation at any time. The URICA and HRS were the primary methods of measuring change in this study.

The dependent variable of this study was treatment readiness, which was defined as any change to the individual's score on the URICA moving closer to, or beyond, the action stage of change. The independent variable was the one-on-one MET sessions provided to the individuals. The MET for this study was adapted from a manual created by Buckner (2009) that was based on the techniques of Miller and Rollnick (2002). The MET treatment modified for HD consisted of nine different stages, compressed into four sessions. In these sessions participants gradually examined the effects of their behaviour (i.e., discussing what they do during a regular day, what they used to do during the day or would do during an ideal day), developed discrepancies between current behaviour and life goals (i.e., listed goals for future and discussed impact current hoarding behaviour might have on reaching those goals), and discussed the pros and cons of attending treatment for their HD (i.e., specifically a group therapy seminar hosted by the agency to which they could be referred after completing the study) (Appendix A).

All data was collected according to the agency and St. Lawrence College regulations. As per these regulations, the data was coded and did not include participant-identifying information. The data was stored in a locked compartment at the agency, separate from the signed consent forms. The information with the key for the code was stored separately from the data, on a password protected USB. As per agency regulations, data will be stored for seven years after the completion of the program.

The research design of this study was a non-experimental pre-test post-test. Data taken from the URICA and HRS results was analyzed with a repeated measures t-test, in order to determine any differences between pre-test and post-test scores. Between-subjects data analyses were also conducted in order to determine the overall trend and effectiveness of the treatment.

At the end of the fourth session participants were given information on upcoming CBT groups for individuals with HD. They were also advised to schedule a follow-up appointment if they wanted to learn about their results. For participants who scheduled this appointment, two graphs were created for them, showing their pre- and post- scores on both the URICA and the HRS. The researcher met with the agency supervisor and the participant to review the graphs and explain the significance of the findings to the participant.
Chapter IV: Results

The focus of the descriptive analyses was the percentage of change for each individual from pre-test to post-test. Data was analyzed using a repeated measures t-test. Since differences between participants were not being compared, no trend was calculated, and because there were only two data points per questionnaire for each individual, the data was placed on bar graphs for the HRS (Appendix F) and the URICA (Appendix G), respectively.

Any changes in hoarding behaviours were based on difference scores calculated using the participants’ responses to the HRS, and the change in treatment readiness was indicated by difference scores calculated based on the participants’ responses on the URICA. The difference scores for the HRS were checked for outliers using a box plot, and there were found to be no outliers farther than 1.5 box-lengths from the edge of the box. The same process was repeated with the URICA difference scores, and it was determined that this data also had no outliers farther than 1.5 box-lengths from the edge of the box.

The Shapiro-Wilk test was used to test for normality within the difference scores of each measure. The HRS difference scores were found to be normally distributed (p = .086). The URICA difference scores were also found to be normally distributed as assessed by the Shapiro-Wilk test (p = .859). After verifying the normality of the data and a lack of outliers for both data sets, a repeated measures T-Test was calculated using the difference scores of both the URICA and the HRS pretest and posttest scores.

The T-Test results for the HRS showed no difference between pre- and post-test responses. Prior to MET treatment the mean HRS score was 28.750, SD = 9.912, and after the MET treatment the mean HRS score was 27.500, SD = 9.399. The mean decrease on the HRS was 1.25, 95% CI [-1.762, 4.262], which was not statistically significant t(3) = 1.321, p = .278.

T-Test results for the URICA were also non-significant. Mean readiness to change prior to the MET sessions was 10.550, SD = 2.533, while mean readiness to change after the MET sessions was 10.605, SD = 1.664. The MET sessions resulted in a mean increase of .055, 95% CI [-1.526, 1.636] on the URICA, however, as noted this was not statistically significant, t(3) = .111, p = .919.

The results indicate that there were no significant differences between treatment readiness or hoarding behaviour following participation in MET and therefore, the null hypothesis was accepted.

Chapter V: Conclusions/Discussion

Interpretation of results and conclusions

It was hypothesized that a 4-week MET intervention would successfully increase treatment readiness in individuals with HD as measured by the URICA. The HRS was also used to measure the HD symptoms before and after treatment. Individuals with HD often experience a lack of motivation and have high dropout rates from treatment (Tolin, 2011). It was hypothesized that MET would increase the motivation of these individuals, with the hopes that participants might be more willing to consider, or enter into, CBT treatment for HD in the future.
There were small changes in both scores after the completion of the MET. HRS scores on average slightly decreased after treatment, and URICA scores demonstrated a slight increase after treatment. However, these changes were not statistically significant.

If an individual requested to see their results from the study, their baseline and treatment data was presented to them individually, in a face-to-face debriefing with the researcher and agency supervisor. The data was simplified and individualized in these charts, which showed only the individual’s pre- and post- scores from both measures. The implications of the data, and any changes that occurred in their scores, were discussed. Resources were given to help participants enter into CBT-oriented therapy for HD after the MET sessions were over.

**Strengths and limitations**

One of the biggest limitations of this study was the small sample size and the dropout rate. There were initially six participants in the study. Only four participants completed all four sessions. Sample size in this study was limited due to the small communities within which the agency functioned, and the time constraints of the study process (a 2-3 week period in which to complete recruitment). The small sample size severely weakened the power of the study to obtain statistically significant results and thus eliminated the ability to draw any conclusions regarding the effectiveness of MET for HD.

Future studies could complete a power analysis in order to determine the minimum sample size necessary to find a significant difference in pre-post scores should one exist. These future studies should also consider using behavioural techniques to track participants' behaviour and commitment to treatment. Directly recording participants' behaviour would address some of the limitations associated with the self-report measures used in this study.

A potential limitation may have been the lack of researcher training in motivational techniques. The researcher conducting the sessions had very little experience in counselling, and motivational techniques specifically, it is therefore difficult to know if MET was implemented correctly. This problem could have been addressed through acquiring training for the researcher in MET, as well as consulting with professionals in MET for recommendations on program implementation. It is strongly recommended that the therapists involved in future studies be thoroughly trained in the use of MET and motivational techniques, and that treatment integrity measures be part of the implementation.

Future researchers should also conduct several follow-up interviews with clients. As discussed in previously, Korte and Schmidt (2013) lacked a long-term follow-up in their study. The current study would have been strengthened by 1-month and 6-month follow-up discussions with the clients. This would have allowed the researcher to determine if the clients had followed through with plans to attend the CBT group for MET.

Another limitation was that there was no alternative treatment control group used to determine the effectiveness of the MET. The inclusion of a control group would allow the researcher to compare the efficacy of MET with an alternate treatment or no treatment. In addition to an alternative treatment control group, a reversal or multiple-baseline design would also increase the ability to demonstrate the efficacy of MET.
The research design also may have introduced confounding variables during the month of MET treatment (i.e., patients entering into a relationship, socializing, etc.), which may have either increased or decreased scores on the URICA between pre- and post-testing. These stronger designs would likely increase the ability of the study to demonstrate the effectiveness of MET with HD individuals, should it exist. It is recommended that future researchers consider a multiple-baseline design across behaviours in order to demonstrate a clearer relationship. Given the lack of significant findings it is impossible to conclude whether or not MET for HD could generalize as an effective intervention to HD patients within other settings.

The target population is one that experiences a number of interpersonal barriers to treatment, such as social anxiety and unwillingness to recognize a problem. Although this is unavoidable, some steps could be taken in the first session and during first contact to lessen the likelihood of client drop out. Potential steps to decrease drop-out in future studies could include the therapist focusing on creating a strong therapeutic relationship in the very first session in order to encourage the clients to commit to treatment, and continue with the later sessions of treatment. Online MET, as used by Hotzel et al. (2013) and Leung et al. (2013), may also be an alternative that addresses the role which social anxiety often plays in deterring individuals with HD from entering, and completing, treatment.

Despite the disappointing results, a strength of the intervention was the flexibility the researcher had in meeting clients’ needs and schedules. Seeing clients individually rather than in groups allowed clients to dictate the timetable for times and days when they felt willing and able to attend sessions. One of the clients commented that they had felt more able to attend these sessions than if they had been required to commit to a specific time and day each week. Several other clients also commented that group therapy was something they were not yet ready for, but they felt able to come to these more casual individual sessions.

**Challenges**

Initially, the MET was going to be delivered in a group format. However, due to the high social anxiety which often accompanies HD, it was decided that individual MET might attract more participants. Although individual therapy uses more agency resources, MET is a short intervention and the agency hours were flexible. It was determined that the potential of more participants offset the slightly higher resource requirements.

One difficulty encountered in the implementation of the MET program was communicating with clients to schedule meetings. Many of the clients participating in the program only had cellular phones, and one of the clients in particular frequently ran out of money on the phone and would therefore be unable to receive or make calls to schedule sessions. This issue led to this particular client dropping out of treatment. The researcher was able to counteract the problem with the other clients through making time every day to attempt to call, and even attending a client’s house with the agency supervisor in order to speak with the client and negotiate a time for the next meeting.

A difficulty encountered within the organization was the lack of staff education about HD. As this specific population was rarely encountered by the case workers, they had never been educated on the diagnostic requirements of the disorder, or received training on how best to deal with these individuals. As well, many of the case workers had been working with the same clients for years and had labelled several clients as being “hoarders” without actually getting a
diagnosis for them or visiting their residence. These clients who had been labelled as “hoarders” by the case workers were referred for the thesis study. Upon investigation, diagnostic levels on the HRS were not met, and the homes of the clients were found to be functional.

A societal challenge which was experienced during the thesis study was the stigma around attending therapy sessions and using the term HD. There was contact made with several individuals interested in the therapy, but upon learning they would have to attend the agency, they became anxious and did not want to proceed, due to fears about what other people in their life would think about them attending sessions for individuals with HD. Some of the clients who did participate in the treatment also became very anxious when the term HD was mentioned, stating that they did not want to be labelled or have other people think negatively of them. This challenge was counteracted as much as possible by the flexibility of the researcher to meet with clients in other locations (i.e., coffee shops) and to not force clients to label themselves as having HD in order to participate in the sessions. This will likely remain a challenge for future researchers, especially as the popularity of reality television shows dramatizing hoarding increases. Future researchers could attempt to counteract these effects through abstaining from using the term HD in the first session, in this study the researcher attempted to focus on using the term “clutter” rather than “hoarding”, as participants in early stages of change are often uncomfortable applying diagnostic terms to themselves. It is also crucial for future studies to ensure that clients completing the HRS in the first session of therapy understand that the HRS is just a scale for behaviours, not necessarily an official diagnosis of any particular disorder, despite its title.

Ethical challenges were also encountered with two of the participants who were married to each other. The participants frequently argued about who was responsible or to blame for the hoarding in their house, and the researcher had to spend time redirecting them. These two individuals also changed their scores dramatically on the measures (Appendix H), depending on whether or not they were in an argument or on good terms at the time of completing the measure. Given that these two individuals comprised half of the total participants, their change in scores could have interfered with obtaining a significant result.

**Implications for behavioural psychology field**

This study contributes to the field of behavioural psychology primarily through the literature review that indicates MET may, in fact, be a viable intervention for individuals with HD, and by demonstrating that MET can be done with this group. The non-significant results were still in the anticipated direction for both measures, suggesting that further research might be more successful in finding changes. As noted previously, the behaviours exhibited by these individuals with HD create barriers to treatment, and the researcher remains optimistic that MET or similar therapies could be an effective intervention.

Despite the limitations of this study, there remains good reason for future researchers to further assess the benefits of using MET as a pre-treatment for individuals with HD. HD is increasingly recognized as an independent disorder, most notably now by the DSM-5, which includes a specific diagnosis for Hoarding Disorder. The increasing awareness of this problem may lead to increased research being conducted regarding the particular challenges in treating individuals with HD.
References


Leung, S. F., Ma, J., & Russell, J. (2013). Enhancing motivation to change in eating disorders


## Appendices

### Appendix A: Outline of MET Steps

**Nine Steps for MET for Hoarding Disorder**

<table>
<thead>
<tr>
<th>Appointment 1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Assessment Feedback</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Appointment 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2</td>
<td>Explore Importance and Confidence</td>
</tr>
<tr>
<td></td>
<td>Review a Typical Day</td>
</tr>
<tr>
<td>Step 3</td>
<td>Explore Pros and Cons of Not doing CBT for Hoarding Disorder</td>
</tr>
<tr>
<td>Step 4</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Appointment 3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 5</td>
<td>Review patient’s short- and long-term goals</td>
</tr>
<tr>
<td>Step 6</td>
<td>Values Exploration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Appointment 4</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 7</td>
<td>Looking Forward</td>
</tr>
<tr>
<td>Step 8</td>
<td>Change Plan (15 minutes)</td>
</tr>
<tr>
<td>Step 9</td>
<td>Assessment Feedback</td>
</tr>
</tbody>
</table>

Appendix B: University of Rhode Island Change Assessment (URICA) (Modified)

<table>
<thead>
<tr>
<th>Problem</th>
<th>SD</th>
<th>D</th>
<th>U</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>As far as I'm concerned, I don't have any problems that need changing.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I think I might be ready for some self-improvement.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I am doing something about the problems that had been bothering me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>It might be worthwhile to work on my problem.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I'm not the problem one. It doesn't make much sense for me to be here.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>It worries me that I might slip back on a problem I have already changed, so I am here to seek help.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I am finally doing some work on my problem.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I've been thinking that I might want to change something about myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I have been successful in working on my problem but I'm not sure I can keep up the effort on my own.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>At times my problem is difficult, but I'm working on it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Being here is pretty much a waste of time for me because the problem doesn't have to do with me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I'm hoping this place will help me to better understand myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I guess I have faults, but there's nothing that I really need to change.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I am really working hard to change.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Key: SD = No Strongly Disagree  D = No Disagree  U = Undecided or Unsure  A = Yes Agree  SA = Yes Strongly Agree
1. I have a problem and I really think I should work at it.

5. I'm not following through with what I had already changed as well as I had hoped, and I'm here to prevent a relapse of the problem.

6. Even though I'm not always successful in changing, I am at least working on my problem.

7. I thought once I had resolved my problem I would be free of it, but sometimes I still find myself struggling with it.

8. I wish I had more ideas on how to solve the problem.

9. I have started working on my problems but I would like help.

10. Maybe this place will be able to help me.

1. I may need a boost right now to help me maintain the changes I've already made.

2. I may be part of the problem, but I don't really think I am.

3. I hope that someone here will have some good advice for me.

4. Anyone can talk about changing; I'm actually doing something about it.

5. All this talk about psychology is boring. Why can't people just forget about their problems?

6. I'm here to prevent myself from having a relapse of my problem.

7. It is frustrating, but I feel I might be having a recurrence of a problem I thought I had resolved.

8. I have worries but so does the next guy. Why spend time thinking about them?

9. I am actively working on my problem.

10. I would rather cope with my faults than try to change them.

1. After all I had done to try to change my problem, every now and again it comes back to haunt me.
### URICA Scoring Form
Transfer the client’s answers from questionnaire. Obtain the average score per subscale using the following grid.

<table>
<thead>
<tr>
<th>Precontemplation (PC)</th>
<th>Contemplation (C)</th>
<th>Action (A)</th>
<th>Maintenance (M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>Omit</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>10</td>
<td>16</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>14</td>
<td>18</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>17</td>
<td>22</td>
</tr>
<tr>
<td>19</td>
<td></td>
<td>20</td>
<td>27</td>
</tr>
<tr>
<td>21</td>
<td></td>
<td>25</td>
<td>28</td>
</tr>
<tr>
<td>OMIT</td>
<td>24</td>
<td>30</td>
<td>32</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>TOTAL</strong></td>
<td><strong>TOTAL</strong></td>
<td><strong>TOTAL</strong></td>
</tr>
<tr>
<td></td>
<td>(avg)</td>
<td>(avg)</td>
<td>(avg)</td>
</tr>
<tr>
<td>[ \frac{\sum \text{items}}{7} = \text{(avg)} ]</td>
<td>[ \frac{\sum \text{items}}{7} = \text{(avg)} ]</td>
<td>[ \frac{\sum \text{items}}{7} = \text{(avg)} ]</td>
<td></td>
</tr>
<tr>
<td>MEAN</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To obtain the Readiness to Change score, first sum items from each subscale and divide by 7 to get the mean for each subscale. Then sum the means from the Contemplation, Action, and Maintenance subscales and subtract the Precontemplation mean \( C + A + M - PC = \text{Readiness} \).

Compare the Readiness for change score to the following group means. Choose the stage whose group average is closest to the computed Readiness Score:

<table>
<thead>
<tr>
<th>Stage</th>
<th>Group Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precontemplation</td>
<td>8 or lower</td>
</tr>
<tr>
<td>Contemplation</td>
<td>8 - 11</td>
</tr>
<tr>
<td>Preparation (Action)</td>
<td>11 - 14</td>
</tr>
<tr>
<td>Maintenance</td>
<td>14 and above</td>
</tr>
</tbody>
</table>

Source: University of Maryland, Health and Addictive Behaviors lab, [http://www.umbc.edu/psyc/habits/content/TTM_measures/urica/readiness.html](http://www.umbc.edu/psyc/habits/content/TTM_measures/urica/readiness.html)
Appendix C: Hoarding Rating Scale

Please use the following scale when answering items below:

0 = no problem 2 = mild problem, occasionally (less than weekly) acquires items not needed, or acquires a few unneeded items 4 = moderate, regularly (once or twice weekly) acquires items not needed, or acquires some unneeded items 6 = severe, frequently (several times per week) acquires items not needed, or acquires many unneeded items 8 = extreme, very often (daily) acquires items not needed, or acquires large numbers of unneeded items

1. Because of the clutter or number of possessions, how difficult is it for you to use the rooms in your home?

   0  1  2  3  4  5  6  7  8
   Not at all Mild  Moderate  Severe  Extreme Difficulty

2. To what extent do you have difficulty discarding (or recycling, selling, giving away) ordinary things that other people would get rid of?

   0  1  2  3  4  5  6  7  8
   No Difficulty Mild  Moderate  Severe  Extreme Difficulty

3. To what extent do you currently have a problem with collecting free things or buying more things than you need or can use or can afford?

   0  1  2  3  4  5  6  7  8
   None Mild  Moderate  Severe  Extreme

4. To what extent do you experience emotional distress because of clutter, difficulty discarding or problems with buying or acquiring things?

   0  1  2  3  4  5  6  7  8
   None/Not at all Mild  Moderate  Severe  Extreme

5. To what extent do you experience impairment in your life (daily routine, job / school, social
activities, family activities, financial difficulties) because of clutter, difficulty discarding, or
problems with buying or acquiring things?

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>None/Not at all</td>
<td>Mild</td>
<td>Moderate</td>
<td>Severe</td>
<td>Extreme</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Interpretation of HRS Total Scores (Tolin et al., 2010)
Mean for Nonclinical samples: HRS Total = 3.34; standard deviation = 4.97.
Mean for people with hoarding problems: HRS Total = 24.22; standard deviation = 5.67.
Analysis of sensitivity and specificity suggest an HRS Total clinical cutoff score of 14.

Criteria for Clinically Significant Hoarding (Tolin et al., 2008):
A score of 4 or greater on questions 1 and 2, and a score of 4 or greater on either question 4 or
question 5.
Get motivated to get rid of your clutter!

Starting September 22nd, you will have the opportunity to participate in 4 free weeks of individual counselling to help you think about the possibility that hoarding behaviour affects your life, and make goals for how to get a happier and healthier lifestyle.

This study is being done by a 4th year psychology student from St. Lawrence College, under the supervision of caseworkers at Leeds and Grenville Mental Health. The study is being done to see if a technique called Motivational Enhancement Therapy could help people figure out if clutter is a problem for them. The goal of the therapy is not to change your behaviour, but to help you think about your behaviour and decide if there is something you want to change.

Topics in the 4 weeks will include;

- Two questionnaire assessments
- Confidence
- Daily life
- Pros and cons of attending treatment
- Exploring values
- Planning for the future

Contact Laura Trefers by email or phone to find out more and schedule your first appointment.
Appendix E: Consent Form

Project title: Use of Motivational Enhancement Therapy to Increase Treatment Readiness in Adults with Hoarding Disorder

Principal Investigator: Laura Treffers
Name of supervisor: Dr. Yolanda Fernandez
Name of Institution: St. Lawrence College

Invitation
You are being invited to take part in a research study. I am a student in my 4th year of the Behavioural Psychology program at St. Lawrence College. I am currently on placement at Leeds and Grenville Mental Health. As a part of this placement, I am completing a research project (called an applied thesis). I would like to ask you for your help to complete this project. The information in this form will help you understand my project. Please read the information carefully and ask all the questions you might have before you decide if you want to take part.

Why is this study being done?
This study is being done to help individuals with Hoarding Disorder feel more comfortable and ready to get help. This will be done with a technique called Motivational Enhancement Therapy, which is a type of talk therapy that might help you feel more ready to change. This therapy has worked really well for people with other types of disorders that have some similar problems.

What will you need to do if you take part?
If you choose to take part in this study, you will be asked to fill out a Hoarding Severity Scale interview. The interview will tell us how much of a problem your hoarding behaviour is, and if you qualify to enter into the therapy. The scale will take around 10 minutes to do. If you qualify, you will be asked to fill out this scale again at the end of the therapy sessions. The only other thing you will be asked to fill out is another questionnaire before the first session, and after the last session. The second questionnaire is called the University of Rhode Island Change Assessment (URICA), and it will take around 15 minutes to complete. This questionnaire will let us know how ready to change you are when you start the sessions, and how ready to change you are when you finish the sessions.

If you consent, I will meet with you once a week, for four weeks. Each session will last around an hour and a half, and the therapy will be over after our fourth session. In the therapy sessions we will mostly be talking about how you think of your lifestyle and if it benefits you or not. We will look at goals you have for yourself, discuss results on the questionnaires, and talk about the pros and cons of changing your behaviour.

After your fourth and final session, you can contact me to set up an appointment to learn about your personal results for the study. My agency supervisor and I will meet with you and talk about your results and what they mean. If you want to learn your
results, you must arrange an appointment before December 5th, which is my last day on placement at Leeds Grenville Mental Health.

What are the potential benefits of taking part?
If you choose to take part in this study you may be more prepared to enter into treatment and feel more confident in your ability to change your behaviour. You may also feel happier and less anxious about dealing with your problems.

What are the potential benefits of this research study to others?
With this study, we hope to figure out if Motivational Enhancement Therapy could help other people who experience problems with Hoarding Disorder. The benefit might be that we contribute to research on Hoarding Disorder and give valuable ideas to other therapists.

What are the potential disadvantages or risks of taking part?
By taking part in this study, there is some small risk to you. Some of the topics we discuss might lead you to have emotional reactions.

What happens if something goes wrong?
If you have any questions before, after, or during, the study, please feel free to contact me at any time. You can call or email myself or my college supervisor if you have any concerns. You can choose to leave the study at any time, without any explanation, or you can choose to continue the therapy but for your data to not be used in the report written about the study. There will be no penalty or negative consequences for leaving the study, and any treatment you are already going to at the agency will not be changed in any way. If at any time you become upset, you will have the option of being referred to another staff member at the agency for continued support.

Will my information you collect from me in this project be kept private?
At no point will your identity be known by anyone other than the therapists. At the beginning of the study you will be assigned a random number, which will be used to identify you instead of your name for all data and papers collected during the study. All of your data will be kept on a password-protected USB, and separate from the code sheet with your name on it. The data on the USB and the code sheet will be destroyed once the project is done.

If you agree to have the results of this study added to your file, please check the “I agree” box at the end of this consent form, and the agency will keep your results from this study in your online file. If you do not want to have your results from this study added to your online file, you can check the “I do not agree” box. The choice is yours and your decision will not affect your participation in this study at all. If the data is put in your online file, it will be kept there for seven years after you stop attending the agency, and then erased. St. Lawrence College will keep the anonymous data for 7 years.

Do you have to take part?
Taking part is your choice. It is up to you to choose if you want to take part in this research project. If you do decide to take part, you will be asked to sign this consent form. If you do decide to take part in this research project, you are still free to withdraw at any time, without giving any reason, and without any penalty, or negative effects.

Contact for further information
This project has been approved by the Research Ethics Board at St. Lawrence College. The project will be developed under the supervision of Dr. Yolanda Fernandez, my supervisor from St. Lawrence College. I really appreciate your cooperation and if you have any additional questions or concerns, feel free to ask me, Laura Treffers (ltreffers25@student.sl.on.ca). You can also contact my College Supervisor (Yolanda.Fernandez@csc-scc.gc.ca) or you may also contact the Research Ethics Board at smatthews@sl.on.ca.

Consent
If you agree to take part in this research project, please complete the following form and return it to me as soon as possible. A copy of this signed document will be given to you for your own records. An additional copy of your consent will be kept in a locked cabinet at the agency for seven years.

By signing this form, I agree that:

- The study has been explained to me.
- All my questions were answered.
- Possible harm and discomforts and possible benefits (if any) of this study have been explained to me.
- I understand that I have the right not to participate and the right to stop at any time.
- I am free now, and in the future, to ask any questions I have about the study.
- I have been told that my personal information will be kept confidential.
- I understand that no information that would identify me will be released or printed without asking me first.
- I understand that I will receive a signed copy of this consent form.

☐ I agree to have my data and results from this study added to my online file with Leeds Grenville Mental Health.

☐ I DO NOT agree to have my data and results from this study added to my online file with Leeds Grenville Mental Health.

I hereby consent to take part.

<table>
<thead>
<tr>
<th>Participant Name</th>
<th>Signature of Participant</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Printed Name</td>
<td>Signature of Student</td>
<td>Date</td>
</tr>
<tr>
<td>----------------------</td>
<td>----------------------</td>
<td>------</td>
</tr>
</tbody>
</table>
Appendix F: HRS Bar Graph

Hoarding Rating Scale Scores

Before and After MET Sessions

HRS Scores

25 26 27 28 29 30
Appendix G: URICA Bar Graph

University of Rhode Island Change Assessment Scores

Before and After MET Sessions
## Appendix H: Raw Data

<table>
<thead>
<tr>
<th>Participant</th>
<th>HRS Pre</th>
<th>HRS Post</th>
<th>URICA Pre</th>
<th>URICA Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16</td>
<td>16</td>
<td>7.91</td>
<td>9.28</td>
</tr>
<tr>
<td>2</td>
<td>28</td>
<td>28</td>
<td>10.29</td>
<td>10.42</td>
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<td>Incomplete</td>
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