POSITIVE PSYCHOLOGY AS A PROTECTIVE FACTOR FOR ILLICIT OPIOID

USE IN INDIVIDUALS RECEIVING METHADONE TREATMENT

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A Thesis

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of the Requirements for the Degree of

Master of Arts

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by

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DEDICATION

This thesis is dedicated to my parents, Nancy and Ed, whom have always been supportive of my ambitions and have paved the way for my success. To my brother, Sebastian, and my sister, Alina, for always reminding me of home when I need it the most. To all four of my grandparents, for their patience, understanding, love, and support. You are all the center of my universe and I would not be the person I am without you.

ABSTRACT

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Illicit Opioid Use (IOU) following treatment for opioid use disorders is extremely high, ranging between 72-94% (Chalana, Kundal, Gupta, & Malhar, 2016; Smyth, Barry, Keenan, & Ducray, 2010). Current treatment modalities are not effective at reducing IOU in this population. The following study utilized Marlatt's cognitive behavioral relapse prevention (CB-RP) model as a framework for understanding the relation between positive psychology traits and IOU for individuals receiving methadone as a medication assisted treatment (MAT) for opioid use disorders. A sample of 298 participants was recruited from various clinics administering methadone MAT in the metropolitan area of a large, Midwestern city. Two multiple moderator analyses were conducted to determine the effect of coping and self-efficacy on the relation between identified risks for IOU for individuals receiving MATs for opioid use disorder and drug screenings positive (DS+) for illicit opioids or treatment attendance days. It was hypothesized that individuals who are at a high risk for IOU but demonstrate effective coping and high self-efficacy will have a fewer proportion of DS+ for illicit opioids and an increased proportion of treatment attendance days.

Results of the present study indicate coping is a predictor of DS+ for illicit opioids and being Black/African American is related to fewer treatment attendance days, but the overall moderation models were not significant.

Keywords: Positive psychology, Opioid use disorder, Risk for illicit opioid use, Treatment attendance

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CHAPTER I

Positive Psychology as a Protective Factor for Illicit Opioid Use in Individuals

Receiving Methadone Treatment

The opioid crisis claims approximately 42,000 people every year from overdose related deaths and the economic costs, including treatment and criminal justice involvement, per year reach $75 Billion (National Institute on Drug Abuse, 2018). Contributors to this nation-wide epidemic include overprescribing, a delayed treatment response, and pharmaceutical companies stating that in the 1990's, prescription opioids were not addictive (National Institute of Health, 2018). Opioids consist of any substance, either naturally occurring or synthetic, derived from the poppy plant and the main effects of opioid use are pain relief and feelings of euphoria. Examples of opioids include heroin, prescription pain pills (morphine, fentanyl, codeine, oxycodone, hydrocodone, buprenorphine) and methadone (National Institute of Health, 2018). Discontinued use of opioids can cause distressful withdrawal symptoms, such as anxiety, worry, nausea, bone pain, and diarrhea (Stotts, Masuda, & Wilson, 2009).

Treatment and Substance Use

Unfortunately, treatment outcomes have been dismal for opioid use disorders, even those with the best track records of research support (e.g., Medication Assisted Treatments [MAT]). MATs are drug replacement options that involve individuals substituting the use of an illicit substance for prescription drugs which do not produce the same euphoric effects. Condelli and Dunteman (1993) found the following rates of continued daily illicit opioid use (IOU) for individuals in a treatment program despite being prescribed methadone for various periods of time: 31 days – 39% reported daily

use, 233 days – 40% reported daily use, 725 days – 17% reported daily use. A more recent study found comparable rates; 32.9% of individuals who were recently released from incarceration to community supervision and enrolled in a methadone program, used illicit opioids, on average, within 89.7 days after starting treatment (Clark, Hendricks, Lane, Trent, & Cropsey, 2014). After receiving inpatient treatment, 94% of patients used illicit opioids after being discharged, 59% of patients used illicit opioids at least once within their first week after discharge, and 91% of patients used illicit opioids more than once after being discharged (Smyth, Barry, Keenan, & Ducray, 2010). After receiving a detoxification treatment, between 72-88% of individuals continuously use illicit opioids (Chalana et al., 2016) and the greatest number of initial IOUs occur within the first week following discharge (Bradley, Phillips, Green, & Gossop, 1989). After a period of six months following detoxification treatment, over 30% of participants report continued daily IOU and around 15% report occasional IOU (Bradley, Gossop, Brewin, Phillips, & Green, 1992; Gossop, Green, Phillips, & Bradley, 1989).

There are multiple factors that increase substance use for people with opioid use disorder. Individuals who continue to use illicit opioids had: (a) used larger amounts of illicit opioids prior to treatment, (b) used for longer, (c) been involved in treatment before (Chalana et al., 2016), (d) had an older age of onset, (e) had a criminal history, and (f) a history of using opioids intravenously (Chalana et al., 2016; Naji et al., 2016; Smyth et al., 2010). Other factors that contribute to continued substance use among opioid users include interpersonal factors, such as being offered drugs (Unnithan, Gossop, & Strang, 1992), peer pressure (Marlatt & Gordon, 1985), cognitive factors (intentions or plans to use), altered mood states (dysphoria, boredom, sadness, loneliness, anger, worry, tension,

or confusion), and external influences (situations or events that are unrelated to drug use, e.g., stress from a messy apartment; Bradley et al., 1989). Withdrawal symptoms, such as anxiety, worry, nausea, bone pain, and diarrhea (Stotts, Masuda, & Wilson, 2009) along with cognitive factors, mood states, and external influences, were found to be contributors to continued substance use (Bradley et al., 1989). Even though MATs are often regarded as the treatment of choice for opioid use disorder, there is room for improvement. More research is needed on the effective components of this treatment modality.

Positive Psychology

Positive psychology is a division of psychology that places an emphasis on an individual's strengths and abilities rather than solely focusing on deficits or negative qualities (Seligman & Csikszentmihalyi, 2000). There has been a recent focus on positive characteristics in the substance abuse field. Krentzman (2013) explains how using positive psychology interventions for substance use disorders can help individuals regain and restore characteristics lost in the development of their addictions. One study found interventions designed to increase happiness, strengths, optimism, and gratitude for adolescents addicted to alcohol decreased alcohol consumption to a third of the original amount (Akhtar & Boniwell, 2010). The positive psychotherapy for smoking cessation (PPT-S) intervention implemented to tobacco smokers attempting to quit resulted in 33% of smokers abstaining from smoking at a six-month follow up (Kahler et al., 2014), which is significantly higher than the abstinence rate of 23% found in a meta-analytic review of smoking use (Fiore et al., 2008). The PPT-S intervention increased positive characteristics such as gratitude, kindness, and focused on an individual's strengths that

assisted continued smoking cessation (Kahler et al., 2014). Gratitude has also been an important component for treatment engagement, enhanced well-being, and maintaining sobriety for individuals participating in Alcoholics Anonymous (LaBelle & Edelstein, 2018; Vaillant, 2014).

Agencies treating various mental health disorders have also explored the benefits of positive psychology. Ujhelyi, Carson, and Holland (2016) found individuals with dual diagnoses (e.g., substance use disorders and another psychological disorder) have less hope, resilience, and lower well-being than those with only substance abuse disorders. Interventions targeted at increasing hope, resilience, and effective coping strategies have been shown to decrease depressive symptoms for individuals with dual diagnoses (Ujhelyi et al., 2016). Positive psychology interventions aimed at increasing enhanced well-being, positive emotions, and personal strengths could reduce signs and symptoms of depression (Santos et al., 2013). Csillik, Aguerre, and Bay (2012) found positive psychology interventions decreased depressive symptoms and have longer lasting effects among individuals diagnosed with depression than other treatments, such as cognitive-behavioral psychotherapy, due to the ability of positive psychotherapy to cultivate a lasting sense of well-being.

Cognitive Behavioral Relapse Prevention Model

The cognitive-behavioral relapse prevention (CB-RP) model developed by Marlatt and Gordon (1985) will be utilized in order to understand the influences of positive psychology characteristics on treatment outcomes in the population of individuals receiving methadone treatment for opioid use disorder (Figure 1).
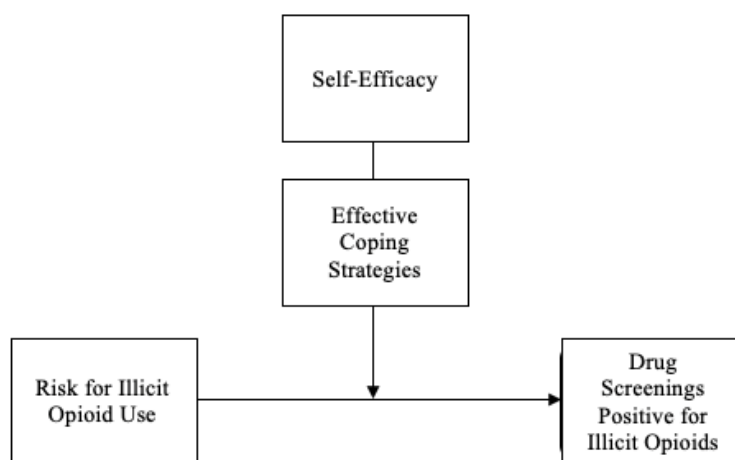
Figure 1: Modified version of the Cognitive Behavioral Relapse Prevention Model developed by Marlatt & Gordon (1985).

This model posits in the presence of high-risk situations, individuals who demonstrate effective coping strategies and enhanced self-efficacy will have fewer drug screenings positive (DS+) for illicit opioids.   High-risk situations include negative emotional states, social pressure, stress surrounding another individual or group, celebratory occasions, lifestyle factors, and urges/cravings (Marlatt & Gordon, 1985; Larimer, Palmer, & Marlatt, 1999). The link between coping and self-efficacy was originally outlined by Bandura's theory of self-efficacy; when people are confronted with stress, they choose to act based on their perceived ability to cope (1977b). Larimer and colleagues hypothesize when exposed to a high-risk situation, individuals who have confidence in themselves to cope with the stress (high self-efficacy) will use illicit substances less frequently (1999).

While a majority of the literature surrounding the CB-RP model has been theoretical, there has been some evidence supporting Marlatt's framework. The CB-RP model has been effectively applied to various classifications of addiction, including alcohol (Rawson, Obert, McCann, & Marinelli-Casey, 1993; Marlatt, 1996; Irvin, Bowers, Dunn, & Wang, 1999), methamphetamines (Abdoli et al., 2018) and substance

use among adolescents (Trudeau, Black, Kamon, & Sussman, 2017). This model has also been studied with individuals diagnosed with opioid use disorder receiving inpatient detoxification treatment (Bradley et al., 1992; Bradley et al., 1989), outpatient detoxification treatment (Unnithan et al., 1992), and drug-free outpatient treatment (Rawson et al., 1993). When the individuals in these studies were confronted with a high-risk or stressful situation, those who possessed the ability to successfully handle the situation (effective coping strategies; Bradley et al., 1989) and believed they were responsible for their actions (enhanced self-efficacy; Bradley et al., 1992) used illicit substances less (Bradley et al., 1992; Bradley et al., 1989; Unnithan et al., 1992). However, the CB-RP model has not been applied to the population of individuals receiving outpatient methadone treatment for opioid use disorder.

Other studies have examined the relation between specific components of the CB-RP model and substance use. For example, ineffective coping strategies are associated with continued substance use when individuals with substance use disorders are confronted with high-risk situations or stressors (Miller, Westerberg, & Harris, 1996; Smyth et al., 2010). One qualitative study showed substance abuse counselors believe negative thinking and mood could be decreased by enhancing confidence in one's ability to work towards goals [self-efficacy] and solve problems/stressors if they arise [coping], which was hypothesized to greatly decrease substance use (Krentzman & Barker, 2016). From both theoretical and evidential viewpoints, the CB-RP model has potential positive implications for populations of individuals manifesting addictive behaviors because of the effect coping and self-efficacy—factors included under the positive psychology umbrella—have on substance use. Due to its ability to significantly reduce substance use

in individuals diagnosed with opioid use disorder, there is sufficient evidence to support the application of the CB-RP model to individuals receiving outpatient methadone treatment.

The Present Study

The purpose of this project was to apply the CB-RP model to individuals receiving methadone treatment for opioid addiction to determine if the relation between elevated risk for IOU and incidents of IOU is moderated by increased coping strategies and enhanced self-efficacy. This study attempted to address a gap in the literature because the CB-RP model has not yet been applied to the population of individuals receiving outpatient methadone treatment for opioid use disorder. This project differed from the CB-RP model because "high risk" was defined as commonly identified risk factors for IOU for individuals receiving MATs, such as intravenous use (Chalana et al., 2016; Naji et al., 2016; Smyth et al., 2010), criminal justice involvement (Chalana et al., 2016; Smyth et al., 2010), longer history of use prior to treatment (Chalana et al., 2016), and greater amount used prior to treatment (Chalana et al., 2016; Naji et al., 2016; Smyth et al., 2010; Termorshuizen et al., 2005). This project was also different from the CB-RP model because risk for substance use was defined as IOU. IOU was measured by calculating a proportion of the number of DS+ for opioids. The primary aim of this study was to examine the moderating effects of both coping and self-efficacy on the relation between high-risk for IOU and DS+. The secondary aim of this study was to examine the moderating effects of both coping and self-efficacy on the relation between high-risk for IOU and treatment attendance in an exploratory analysis. Treatment attendance was measured by the percentage of days individuals attend treatment (at these methadone

clinics, individuals must engage in treatment every day except for Sunday). This number was calculated by dividing the number of days participants attended treatment by the number of days participants were scheduled to attend treatment. Research regarding the moderating effects of coping and self-efficacy on the relation between risk for IOU and treatment attendance has not been explored in the literature. However, several studies have examined the relation between self-efficacy and attendance, demonstrating that higher self-efficacy is related to increased attendance in diabetes clinic appointments (Gunzler et al., 2017), HIV clinic appointments (Wagner et al., 2016), and exercise programs (Byrne, Barry, & Petry, 2011). Selzler and colleagues demonstrated coping related self-efficacy was the strongest predictor of attendance at the end of an exercise program (2019).

Achieving the hypothesized results for the primary aim of the study would provide evidence for the CB-RP model to be explored as an intervention for individuals receiving methadone treatment for opioid use disorder. Likewise, obtaining the hypothesized results for the secondary aim of the study could provide support for applying the CB-RP model to increase treatment attendance at a methadone clinic.

CHAPTER II

Method

Participants

Individuals receiving methadone maintenance treatment from various outpatient clinics in a large, Midwestern city and the metropolitan area surrounding the city were recruited for participation in this study. There are seven clinics in the area and this researcher collected data from each clinic in order to represent a variety of demographics in the population. There are three clinics in Chicago, one in Des Plaines, one in Aurora, one in Harvey, and one in Joliet. In order to qualify for the study, individuals had to be at least 18 years of age, were receiving methadone treatment, and were able to read, write, and speak English. The age range of individuals at the largest clinic is from 18 to 70, with 37% of the sample being between 50-59. Approximately 65% of the individuals at this clinic are male with the following ethnicity distribution: 62% Black/African American, 17% White, 11% Hispanic, less than 1% Asian and Native American, and 8% other. Participants were excluded from the study if they endorsed serious mental illness (i.e. psychotic symptoms) or were diagnosed with an intellectual or learning disability (as reported by the SAMMS Assessment). This researcher performed an a priori power analysis in G*power (Faul, Erdfelder, Lang, & Buchner, 2007) to determine sample size necessary to detect a small effect size (Cohen's $f = .26$) as statistically significant at the $p = .05$ level, assuming 80% power using a linear regression model with fourteen predictors (the four IVs, the two moderators, the eight centered interaction effects). The two potential covariates are race and clinic location. Alpha (α) was set to .05. Based on the power analysis, a sample size of approximately 275 individuals was required.

Measures

      Demographic information. Demographic information was collected from electronic client files on the Standard Automated Material Management System (SAMMS) database. Researchers obtained all information on the face sheet of the file, including age, race, ethnicity, sex, marital status, education, and employment status.

      Risk for IOU. Identified risk factors for IOU were collected from information in electronic client files on the SAMMS database. Researchers accessed the participants' most recent SAMMS assessment, which is completed during the intake appointment. This assessment contained information regarding religious affiliations, family/social history, employment history, substance use/treatment history, medical history, mental health history, and criminal justice involvement. The risk factors utilized in the analysis will be history of intravenous use (yes/no), reported criminal justice involvement (measured in number of convictions), amount of reported daily opioid use prior to treatment (measured in grams), and reported length of continuous opioid use (measured in years).

      Coping Strategies. Effective coping strategies was measured using the Coping Strategies Inventory developed by Tobin (1989). This scale has seven subscales: problem solving, cognitive restructuring, social support, expressed emotions, problem avoidance, wishful thinking, and social withdrawal; four secondary subscales; problem focused engagement, emotion focused engagement, problem focused disengagement, and emotion focused disengagement; and two tertiary subscales; engagement and disengagement. This project utilized the problem focused engagement secondary subscale, which includes the problem-solving subscale (nine items) and the cognitive

restructuring subscale (nine items). Scores were calculated by adding up numerical values from Likert items on the problem-solving subscale and the cognitive restructuring subscale, then adding these two values together to obtain a total score for problem focused engagement. Scores on the Likert items are: "Not at All" = 1, "A Little" = 2, "Somewhat" = 3, "Much" = 4, "Very Much" = 5. Scores range between 18 and 90, with higher scores indicating increased coping strategies. Reliability estimates from this scale's administration have resulted in Cronbach's alpha levels of .82 (problem-solving), .83 (cognitive restructuring), and .87 (problem focused engagement; Tobin, 1989). In the present sample, reliability for the problem focused engagement subscale of the Coping Strategies Index was $\alpha = .96$.

Self-Efficacy. Self-efficacy was measured using the General Self-Efficacy Scale developed by Schwarzer and Jerusalem (1995). It is a unidimensional scale that consists of 10 Likert items. Scores on the Likert items are: "Not True at All" = 1, "Hardly True" = 2, "Moderately True" = 3, "Exactly True" = 4. Scores for the scale can range between 10 and 40, with higher scores indicating increased self-efficacy. The total score for the scale was calculated for this project. Reliability estimates from this scale's administration have resulted in Cronbach's alpha levels between .76-.90 (Schwarzer & Jerusalem, 1995). In the present sample, reliability for the General Self-Efficacy Scale was $\alpha = .91$.

Illicit Opioid Use (IOU). IOU was measured by calculating the proportion of drug screenings a participant took which were positive for opioids over the number of drug screenings they took in the past year. Clients at these methadone clinics are given, on average, eight random drug screenings per year. Typically, participants receive a

screening once every 45 days. Drug screenings are given as oral swabs measuring

substances in individuals' saliva. They can detect methadone, opioids, benzodiazepines,

cocaine, and methamphetamines. False positives for individuals with prescription

medications for any of these substances, i.e. benzodiazepines, are manually changed by

nursing staff at the clinic. Prior to beginning treatment, individuals must forfeit all

prescriptions for other opioids. The oral swabs were analyzed by Clinical Science

Laboratory until May of 2019 when the clinic switched labs to Premier Biotech. The

detection window for these drug screenings is 1-36 hours (Dolan, Rouen, & Kimber,

2004). Results from drug screenings are recorded in the SAMMS database. The

proportion of DS+ for opioids was compared to the proportion of DS+ for any substance

in order to discern any difference between participants still using opioids and those using

any of the above listed substances.

  Treatment Attendance. Treatment attendance was measured by accessing the

SAMMS database and counting the number of days participants have attended treatment

in the past year then dividing days attended by the number of days participants were

scheduled to attend treatment. For individuals in treatment for longer than a year, this

number was 365. For individuals in treatment for less than a year, this number was the

total number of days they have been in treatment. At these methadone clinics, clients are

required to come in everyday Monday through Saturday to take their oral dose of

methadone. The clinics are closed on Sunday's, so the clients receive a take-home bottle

of methadone on Saturday for their Sunday dose. The amount of methadone taken, date,

time, and the nurse administering the methadone are all recorded in the SAMMS

database.

Procedure

This researcher, along with a collaborator, traveled to the various methadone clinics in order to collect data. Appropriate IRB (Appendix A) and respite center approvals (Appendix B) were obtained prior to data collection. After being asked and agreeing to participate in the study, individuals signed a consent form (Appendix C) and a HIPAA Medical release form (Appendix D), giving consent for researchers to access all of the information in their electronic files on the SAMMS database. Participants were asked to provide their name as well as their client ID so the researchers could access their files in SAMMS. After signing the consent form, participants were given a paper survey (Appendix E) on a clipboard containing the two measures for coping and self-efficacy. There was a participant ID number on each paper survey corresponding to an ID number on the consent form. Estimated time for completing the survey was between 10-15 minutes. Participants were compensated with a small snack item for participating in the study. All completed surveys and consent forms are kept in a locked filing cabinet in the locked office of the principle investigator.

Data Analysis Plan

The researcher utilized the Statistical Package for Social Sciences (SPSS), version 25, for the proposed data analysis. Univariate analyses were conducted for the demographic information of the sample. This information was used to determine if there were any covariates significantly related to the independent variables, the moderators, or the outcome variable. If participants answered less than half of the questions on the General Self-Efficacy Scale or the Coping Strategies Index, missing data was accommodated using multiple imputation. If participants answered less than all of the

items but more than half of the items, they were given a proportional score for the items they did answer. Outliers analyses were conducted by viewing a scatterplot of the data for points more than three standard deviations away from the mean.

Data analysis for the study aims used moderated multiple linear regression. Skewness and kurtosis for the dependent variables were analyzed for normality. The researcher applied centering to the variables to minimize multicollinearity and correlations among predictors. In order to test the first hypothesis, a continuous, multiple moderator analysis was conducted. The moderators in the analysis were coping strategies and self-efficacy. The independent variables were the different risk factors for IOU in individuals receiving methadone treatment for opioid use disorder. The independent variables are history of intravenous use (yes/no), reported criminal justice involvement (measured in number of convictions), amount of reported daily opioid use prior to treatment (measured in grams), and reported length of continuous opioid use (years). Thus, the regression included fourteen predictors: each of the four IVs (4), the two moderators (2), and each centered interaction term (8). The dependent variable was the proportion of DS+ for illicit opioids in the past year. It was hypothesized the interaction effects will be significant (p's < .05), such that as coping strategies and self-efficacy increase, the relation between an individual's risk for IOU and proportion of DS+ positive for illicit substances will become less positive.
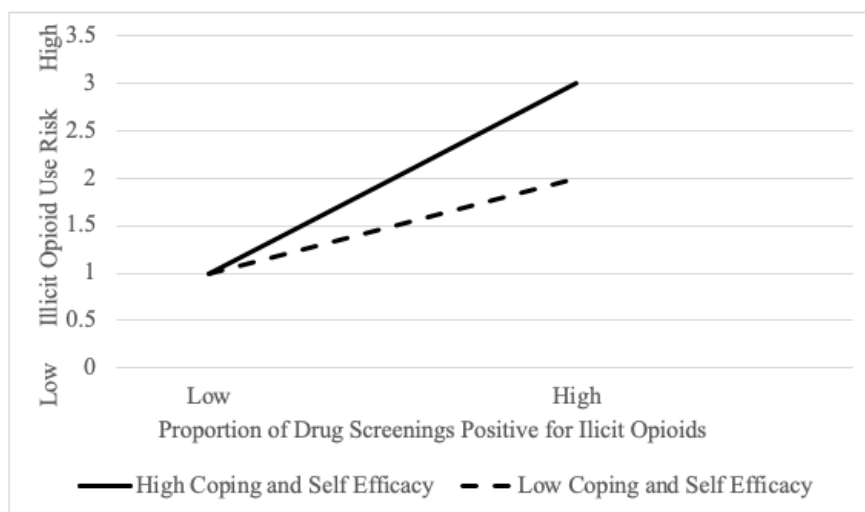
The researcher also conducted a moderator analysis on the exploratory

hypothesis. Specifically, a continuous, multiple moderator analysis was used to test the

effect coping strategies and self-efficacy have on the relation between high risk for IOU

and number of treatment attendance days. The moderators were coping strategies and

self-efficacy, the independent variable will be four identified risk factors for IOU, and the

dependent variable will be the percentage of treatment days attended. Thus, the

regression included fourteen predictors: each of the four IVs (4), the two moderators (2),

and each centered interaction term (8). It was hypothesized the interaction effects will be

significant (p's < .05), such that as coping strategies and self-efficacy increase, the

relation between an individual's risk for IOU and percentage of treatment attendance

days will become more positive.
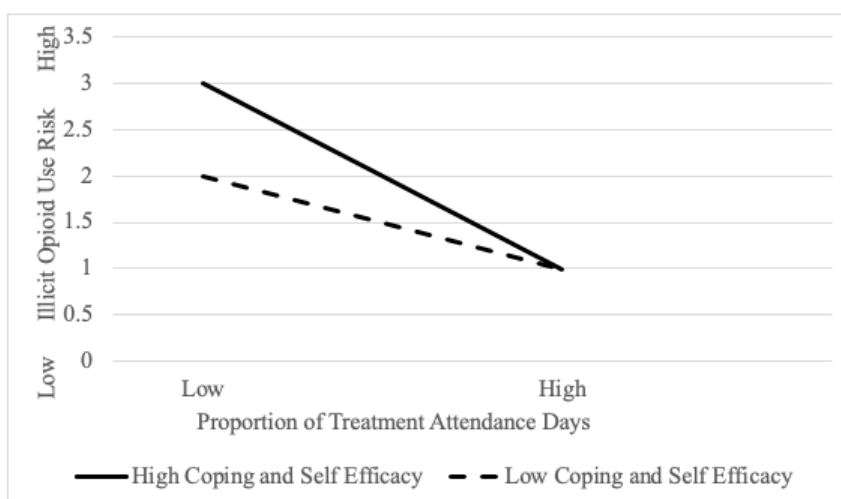
CHAPTER III

Results

Demographics

Demographic information for the sample is available below (Table 1). Initially, 298 individuals participated in the study. The sample was 57% male. Regarding race, it was predominantly Black/African American (61.7%) with White/Caucasian (37.2%) and Pacific Islander, Native American, and Other (all .3%) making up a much smaller proportion of the sample. The sample's ethnicity was largely Non-Hispanic/Latino (87.9%) with only 11.1% identifying as Hispanic/Latino and 1% identifying as Other. Participants had an average of six completed drug screenings ($M = 6.00$, $SD = 2.63$) and around 260 total days in treatment ($M = 262.18$, $SD = 123.53$). Descriptive statistics for the outcome variables, proportion of DS+ for opioids ($M = .31$, $SD = .28$) and proportion of treatment days attended ($M = .93$, $SD = .07$) was also calculated. After removing individuals who took less than four drug screenings or did not have a full SAMMS assessment completed, the remaining sample comprised 243 participants. Preliminary analyses indicated that the data satisfied assumptions underlying the analyses described below. Proportion of drug screenings positive for opioids and proportion of treatment days attended (exploratory analysis) did not violate assumptions of normality, evidenced by acceptable skewness and kurtosis. Reliability was calculated for both of the measures using Cronbach's alpha; the General Self-Efficacy Scale ($\alpha = .907$) and the Coping Strategies Index ($\alpha = .960$).

Table 1
Demographics of Participants

Participant Characteristic:	Total (N=298) M ± SD; %
Age	49.43 ± 11.32

Sex	
Male	57%
Female	43%
Ethnicity	
Hispanic/Latino	11.1%
Not Hispanic/Latino	87.9%
Other	1%
Race	
Black/African American	61.7%
White/Caucasian	37.2%
Pacific Islander	.3%
Native American	.3%
Other	.3%
Location	
Clinic 1	28.5%
Clinic 2	24.2%
Clinic 3	10.4%
Clinic 4	6.7%
Clinic 5	9.1%
Clinic 6	19.5%
Clinic 7	1.7%
Total Days in Tx	262.18 ± 123.53
Total Drug Screenings Taken	6.00 ± 2.63
Proportion of DS+ Opioids	$.31 \pm .28$
Proportion of Tx Days Attended	$.93 \pm .07$

Confirmatory Analyses: Moderated Multiple Linear Regression

Pearson correlations were conducted between the predictor variables, the

moderators, the outcome variable, and potential covariates. Race and Clinic Location

were significantly correlated with variables in the model and were therefore included in

the analyses as covariates [r's > .3, p's < .05]. Because R squared, the standard errors for

the model, and F were not available for the pooled, multiply imputed data, the researcher

averaged them from the imputations. Overall, the moderated multiple linear regression

was not significant. Coping and self-efficacy did not moderate the relation between risk

for continued IOU and proportion of DS+ for opioids (R^2 = .101, SE = .306, F = 1.310, p

$> .05)$[1]. Coping was found to be a significant predictor of proportion of DS+ for opioids

(B = -.003 ± .002, p = .038; Table 2) and was negatively correlated with proportion of

DS+ for opioids [r (241) = -.151, p = .007]. However, once the interaction terms were

included, coping was no longer statistically significant (B = -.003 ± .002, p = .117).

Moderation also did not occur when the outcome variable was changed to the

proportion of DS+ for any illicit substance (R^2 = .093, SE = .350, F (22, 211) = 1.194, p >

.05). In contrast to the previous model, coping was not significantly associated with DS+

for any illicit substance (B = -.002 ± .002, p = .290).

Table 2
The Relation Between Risk for IOU and DS+ Positive for Illicit Opioids Moderated by Coping and Self-Efficacy

Block 2				
Variable	B	SE	t	p
Location				
Clinic 2	.011	.053	.209	.834
Clinic 3	.050	.066	.756	.450
Clinic 4	-.103	.084	-1.217	.223
Clinic 5	-.052	.078	-.663	.507
Clinic 6	-.021	.059	-.352	.725
Clinic 7	.363	.161	2.256	**.024***
Race				
Black	.051	.056	.906	.365
Other	.493	.183	2.696	**.007***
IV User	.032	.053	.610	.542
Convictions	.003	.006	.569	.570
Amount used	-.003	.005	-.566	.572
Years used	-.001	.002	-.805	.421
GSE	.003	.004	.645	.519
CSI	-.003	.002	-2.076	**.038***
Block 3				
Variable	B	SE	t	p
Location				
Clinic 2	.012	.054	.216	.829
Clinic 3	.051	.067	.763	.445
Clinic 4	-.096	.087	-1.106	.269
Clinic 5	-.050	.080	-.620	.535
Clinic 6	-.020	.060	-.331	.740
Clinic 7	.379	.163	2.323	**.020***

[1] Degrees of freedom was not reported because the researcher used a multiple imputation and pooled results from the ANOVA table were not available.

Race				
Black	.046	.057	.806	.421
Other	.496	.186	2.670	**.008***
IV User	.036	.055	.654	.513
Convictions	.004	.006	.594	.553
Amount used	-.004	.005	-.833	.405
Years used	-.001	.002	-.673	.501
GSE	.002	.005	.505	.614
CSI	-.003	.002	-1.570	.117
IV User × GSE	-.003	.016	-.171	.865
IV User × CSI	-.001	.006	-.207	.836
Convictions × GSE	-.001	.001	-.447	.655
Convictions × CSI	.000	.001	.540	.589
Amount used × GSE	.000	.002	-.207	.836
Amount used × CSI	.001	.001	1.158	.247
Years used × GSE	.000	.000	-.137	.891
Years used × CSI	.000	.000	.565	.572

Note: Outcome variable = Proportion of DS+ for opioids, GSE = General Self-Efficacy Scale, CSI = Coping Strategies Index

Note: Hierarchical linear regression was used with three blocks. Block 1 (not included in the table) consisted of the covariates (race and clinic location). Block 2 consisted of the covariates, predictor variables (IV User, Convictions, Amount Used, Years Used), and moderators (GSE and CSI). Block 3 consisted of the covariates, predictor variables, moderators, and interaction terms between predictor variables and moderators.

Exploratory Analyses: Moderated Multiple Linear Regression

For the exploratory analysis, when the outcome variable was proportion of treatment days attended, the set of predictors as a whole did not significantly predict treatment attendance. (R^2 = .138, SE = .069, F = 1.537, p > .05)[2]. Although the model was not significant as a whole, identifying as Black/African American compared to the reference group of White/Caucasian, was a statistically significant predictor (B = -.031 ± .014, *p* = .027; Table 3).

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[2] Degrees of freedom was not reported because the researcher used a multiple imputation and pooled results from the ANOVA table were not available.

Table 3
The Relation Between Risk for IOU and Treatment Attendance Days Moderated by Coping and Self-Efficacy

Variable	B	SE	t	p
Block 3				
Location				
STBH	.022	.014	1.610	.107
W	-.006	.016	-.401	.688
H	.071	.020	3.515	**.000***
J	.011	.021	.507	.612
DP	.004	.015	.294	.769
A	-.085	.043	-1.982	**.047***
Race				
Black	-.031	.014	-2.215	**.027***
Other	-.047	.052	-.913	.361
IV User	.004	.014	.283	.777
Convictions	.000	.001	-.150	.881
Amount used	-.002	.001	-1.154	.248
Years used	.000	.000	-.096	.923
GSE	.001	.001	1.130	.260
CSI	.000	.001	-.394	.693
IV User × GSE	-.004	.004	-1.143	.253
IV User × CSI	.000	.001	.134	.893
Convictions × GSE	.000	.000	-.745	.457
Convictions × CSI	.000	.000	.645	.519
Amount used × GSE	.001	.000	1.320	.187
Amount used × CSI	.000	.000	-.858	.391
Years used × GSE	.000	.000	-.120	.905
Years used × CSI	.000	.000	-.385	.700

Note: Outcome variable = Proportion treatment attendance days, GSE = General Self-Efficacy Scale, CSI = Coping Strategies Index

Note: Hierarchical linear regression was used with three blocks. Block 1 (not included in the table) consisted of the covariates (race and clinic location). Block 2 (not included in the table) consisted of the covariates, predictor variables (IV User, Convictions, Amount Used, Years Used), and moderators (GSE and CSI). Block 3 consisted of the covariates, predictor variables, moderators, and interaction terms between predictor variables and moderators.

CHAPTER IV

Discussion

Coping and IOU

Under the CB-RP model, coping and self-efficacy have been found to reduce the

relation between risk for illicit substance use and incidents of illicit substance use in

various populations (Abdoli et al., 2018; Bradley et al., 1992; Bradley et al., 1989; Irvin,

Bowers, Dunn, & Wang, 1999; Marlatt, 1996; Rawson et al., 1993; Rawson, Obert,

McCann, & Marinelli-Casey, 1993; Trudeau, Black, Kamon, & Sussman, 2017; Unnithan

et al., 1992). The current results suggest an increased ability to cope was related to a

lower proportion of positive drug screenings for illicit opioids. In other words, if an

individual reported more effective coping strategies, then, out of all the drug screenings

they have taken at the clinic, they were more likely to have fewer positive for illicit

opioids than individuals who reported less effective coping strategies. Research on other

substance abuse populations has confirmed effective coping skills are related to reduced

risk for substance use (Miller, Westerberg, & Harris, 1996; Smyth et al., 2010).

However, the current results indicate self-efficacy was not related to a decrease in the

proportion of DS+ for illicit opioids. This could be explained by limited evidence for it

in the literature as compared to coping; the one study identified in the literature review

utilized counselors' perceptions of their clients' self-efficacy rather than using the clients

themselves as participants (Krentzman & Barker, 2016).

More interestingly, researchers found an increase in coping was related to a

decrease in the proportion of DS+ for illicit opioids, but there was no relation between

coping and the proportion of DS+ for any illicit substance. This indicates coping is

related to a reduction in IOU, but not a reduction in any illicit substance use. This might

be explained by the fact that, in order to be eligible for the study, participants had to be

enrolled in the methadone MAT program at the clinic and methadone is used primarily

for the treatment of opioid-related withdrawal symptoms (U.S. Department of Health and

Human Services, 2020); therefore, the main target of treatment at the clinic is a reduction

of IOU. As clients at the clinic, participants who demonstrate increased coping abilities

are using opioids, the target of treatment efforts, less frequently.

IOU can also co-occur frequently with cocaine use which would lead to a higher

proportion of DS+ for any illicit substance. According to a data analysis project

completed by the clinic, cocaine use reported at intake was related to an increase in DS+

for illicit substances (Nottage, n.d.). In a large sample of 10,539 individuals with cocaine

use disorder, 23% of them were found to also have a comorbid opioid use disorder

(Colell, Domingo, Espelt, Parés, & Brugal, 2018).

Race and Treatment Attendance

The results indicate being Black/African American, as compared to being

White/Caucasian, was associated with a lower proportion of treatment attendance days.

This result was part of the exploratory analysis and could be partially explained by a

disparity in the sample, with 61.7% Black/African American and only 37.2%

White/Caucasian. The results could also be explained by previous research finding

Black/African Americans attend treatment less frequently than White/Caucasian

individuals (Peters, Hendricks, Clark, Vocci, & Cropsey, 2014; Taft, Murphy, Elliott, &

Keaser, 2001), findings which are likely attributed to structural factors such as

dependence on public transportation in the presence of requirements of attending clinic six days per week.

Limitations and Future Directions

There were several limitations to the present study. After excluding participants who did not qualify, the final sample was slightly under-powered to detect a small effect size. The measures containing the moderators, coping and self-efficacy, were given on paper surveys and they were not randomized to adjust for order-effects. The researchers also did not include validity indicators in the measures. The researchers did not account for the participants' reading level when selecting measures and several participants had questions regarding the definitions of words, such as "oppose" and "congruent" and the wording of other questions.

The SAMMS assessment, which contained the independent variables (risk factors for IOU), was collected by various counselors at the clinic during the participants' intakes and may not be reflective of the participants' current status. The various counselors conducting the intakes might have interpreted the participants responses to the assessment differently. All of the data, except for the outcome variables, were also collected through self-report. The participants were recruited through convenience sampling and if clients did not come into the clinic when researchers were there, they were not able to participate. Lastly, relapse was operationalized as the number of DS+ for illicit opioids as opposed to measuring every time participants used opioids illicitly and risk for IOU was conceptualized as commonly identified risk factors for IOU found in the literature rather than the factors described in the CB-RP model. Drug screenings

are also administered randomly to clients at the clinic and it is possible some individuals received more screenings than others.

Future research should focus on coping as a moderator for the relation between risk for IOU and incidents of IOU, as self-efficacy did not appear to have an effect. Other identified risk factors for IOU in the literature, such as number of treatment episodes (Chalana et al., 2016; Smyth et al., 2010) could also be analyzed in this sample. Researchers also have access to a number of additional variables available in the SAMMS assessment to explore in relation to risk for IOU for individuals receiving methadone MAT for opioid use disorder. Overall, further research is needed to identify which risk factors are the most predictive of increased IOU in this population.

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APPENDIX A

IRB-2019-126 - Initial: Protocol Decision - Full Expedited Review

Date: Aug 1, 2019 11:30 AM CDT

TO: Beata Krembuszewski
Craig Henderson, Emma Anderson-White
FROM: SHSU IRB
PROJECT TITLE: Examining Relapse and Treatment Attendance in a Methadone
Maintenance Treatment Sample
PROTOCOL #: IRB-2019-126
SUBMISSION TYPE: Initial
ACTION: Approved
DECISION DATE: July 31, 2019
EXPIRATION DATE: July 30, 2020
FULL EXPEDITED REVIEW JUSTIFICATION: §46.111 Criteria for IRB approval of
research (Subpart A)

Greetings,

The above-referenced submission has been reviewed by the IRB and it has been
Approved. This decision expires on July 30, 2020. This approval is based on an
appropriate risk/benefit ratio and a project design wherein the risks have been
minimized. All research must be conducted in accordance with this approved
submission.

**Since Cayuse IRB does not currently possess the ability to provide a "stamp of
approval" on any recruitment or consent documentation, it is the strong
recommendation of this office to please include the following approval
language in the footer of those recruitment and consent documents: IRB-2019-
126/July 31, 2019/July 30, 2020.**

Please remember that informed consent is a process beginning with a description of
the project and insurance of participant understanding followed by a signed consent
form. Informed consent must continue throughout the project via a dialogue
between the researcher and research participant. Federal regulations require each
participant receive a copy of the signed consent document.

Modifications: Please note that any revision to previously approved materials must
be approved by this committee prior to initiation. **Please submit a Modification**

Submission through [Cayuse IRB](#) for this procedure.

Incidents: All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. **Please submit an Incident Submission through [Cayuse IRB](#) for this procedure. All Department of Health and Human Services and sponsor reporting requirements should also be followed.**

Renewals: Based on the risks, this project requires renewal reviews by this committee on an annual basis. **Please submit a Renewal Submission through [Cayuse IRB](#) for this procedure. Your documentation for renewal must be received with sufficient time for review and updated approval before the expiration date of July 30, 2020.**

Closures: When you have completed the project, **a Closure Submission must be submitted through [Cayuse IRB](#) in order to close the project file. Please note that all research records should be retained for a minimum of three years after the completion of the project.**

If you have any questions, please contact the Sharla Miles at 936-294-4875 or irb@shsu.edu. Please include your protocol number in all correspondence with this committee.

Sincerely,

Donna M. Desforges, Ph.D.
Chair, Committee for the Protection of Human Subjects
PHSC-IRB

APPENDIX B

FGC
Family Guidance Centers, Inc.

Brian Nottage
Vice President
Family Guidance Centers, Inc.
April 18, 2019

To Whom It May Concern,

I am writing this letter to show my awareness, approval, and support of the research project, titled "Examining Relapse and Treatment Attendance in a Methadone Maintenance Treatment Sample", being conducted by Beata Krembuszewski and Emma Anderson-White at Sam Houston State University. I am allowing the researchers to visit all of our Family Guidance Centers, Inc. locations in the Chicagoland area and collect data from our clients. They will be allowed to recruit participants for their study from the clients that are in the waiting room of our clinics. The participants can fill out their informed consent forms, their medical release forms, and take the surveys before or after they receive their methadone or when they are waiting to speak with their counselors.

After clients consent to being participants in the study, I am giving permission to Beata Krembuszewski to log on to our SAMMS database and obtain the additional data from our clients' electronic files. I understand that all of the information from the database will be kept in an Excel spreadsheet on encrypted flash drives that are only accessible by the IRB approved research personnel. I also understand that the information kept on the Excel spreadsheet will be de-identified and the only identifiable information will be the consent forms that will be kept in a locked filing cabinet behind a locked door in Beata Krembuszewski's office.

I believe that this project is relevant and timely and I think it will make a significant contribution to the field of addiction studies.

Sincerely,

Brian Nottage
Vice President
Family Guidance Centers, Inc.
bnottage@fgcinc.org
(773) 841-9200

Sam Houston State University
Consent for Participation in Research

Examining Relapse and Treatment Attendance in a Methadone Maintenance Treatment Sample

Principal Investigator: Beata Krembuszewski
Department of Psychology
Sam Houston State University
Phone: (847) 989-4250
Email: bak021@shsu.edu

Co-Principal Investigator: Emma Anderson-White
Department of Psychology
Sam Houston State University
Phone: (817) 584-4564
Email: eaa051@shsu.edu

You are being asked to be a participant in a research study about factors influencing relapse and treatment attendance conducted by Beata Krembuszewski and Emma Anderson-White at Sam Houston State University. We are conducting this research under the direction of Dr. Craig Henderson. You have been asked to participate in the research because you are currently receiving treatment at a methadone clinic and may be eligible to participate. We ask that you read this form and ask any questions you may have before agreeing to be in the research.

NON-PARTICIPATION STATEMENT

Your participation in this research is voluntary. Your decision whether or not to participate will involve no penalty or loss of benefits to which the subject is otherwise entitled, and the subject may discontinue participation at any time without penalty or loss of benefits to which the subject is otherwise entitled.

PURPOSE

The purpose of this research is to examine protective factors for relapse for individuals receiving methadone maintenance treatment for opioid use disorder. This study will also examine individual factors that affect average treatment attendance days at a methadone clinic.

PROCEDURES

Approximately 250 participants will take part in this study.

If you agree to be in this research, we would ask you to do the following things:

Read and sign the HIPAA medical release form and give consent to researchers accessing electronic files on the SAMS database. Provide your SAMS client ID to researchers. Take a brief survey (55 questions, 5-10 minutes) while in the waiting room of the clinic regarding various personal factors and perceived social support.

RISKS/DISCOMFORTS

Risk for participation in this project is minimal. However, due to the personal nature of the questions in the survey, you may feel uncomfortable answering. You do not have to answer every question and may discontinue your participation at any time. If you are feeling distressed or discomforted because of your participation and wish to speak with someone, you may contact the Crisis Hotline at 1-800-273-8255 or the mental health program at Family Guidance Center at 1-312-943-6545.

BENEFITS

While you will not directly benefit from participation, your participation is valuable to researchers in determining the underlying factors that influence relapse and treatment attendance.

ALTERNATIVES

Participation in this project is voluntary and the only other alternative to participating in this project is non-participation,

CONFIDENTIALITY

The only people who will know that you are a research participant are members of the research team. No information about you, or provided by you during the research will be disclosed to others without your written permission, except:
  - if necessary to protect your rights or welfare; or
  - if required by law.
When the results of the research are published or discussed in conferences, no information will be included that would reveal your identity. All information that is collected for this study will be kept confidential on password protected flash drives and will only be accessible by the research staff. You will be assigned an ID number and all responses and information collected from the SAMS database will only be linked to your assigned ID number. Consent forms and paper copies of surveys will be kept in a locked filing cabinet behind a locked door in the Principal Investigator's office.

Consent forms, HIPAA Medical Release forms, and the Excel spreadsheet containing data from the paper surveys and SAMS database will be kept for a period of 4-5 years after the

study. Paper copies of the surveys will be destroyed after being entered into the spreadsheet and then examined for errors by the research team.

What if I am injured as a result of my participation?

In the event of injury related to this research study, you should contact your physician or the nearest medical provider. However, you or your third party payer, if any, will be responsible for payment of this treatment. There is no compensation and/or payment for medical treatment from Sam Houston State University for any injury you have from participating in this research, except as may be required of the University by law. If you feel you have been injured, you may contact the researcher, Beata Krembuszewski at 847-989-4250.

COSTS

There are no additional costs to the participant for participating in this research project.

REIMBURSEMENT

Participants will be given a choice of snack food items if they agree to participate in the research and complete the survey.

VOLUNTARY PARTICIPATION

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you do not want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

OFFER TO ANSWER QUESTIONS

The researchers conducting this study are Beata Krembuszewski & Emma Anderson-White under the supervision of Dr. Craig Henderson. You may ask any questions you have now. If you have questions later, you may contact the Dr. Craig Henderson at: Phone: (936) 294-3601 or Email: ceh003@shsu.edu

SUBJECT RIGHTS

If you feel you have not been treated according to the descriptions in this form, or you have any questions about your rights as a research participant, you may call the Office of Research and Sponsored Programs – Sharla Miles at 936-294-4875 or e-mail ORSP at sharla_miles@shsu.edu.

You may choose not to participate or to stop your participation in this research at any time. Your decision whether or not to participate will involve no penalty or loss of

benefits to which the subject is otherwise entitled, and the subject may discontinue participation at any time without penalty or loss of benefits to which the subject is otherwise entitled.

You will not be offered or receive any special consideration if you participate in this research.

AGREEMENT TO PARTICIPATE

I have read (or someone has read to me) the above information. I have been given an opportunity to ask questions and my questions have been answered to my satisfaction. I agree to participate in this research.

Consent: I have read and understand the above information, and I willingly consent to participate in this study. I understand that if I should have any questions about my rights as a research subject, I can contact Dr. Craig Henderson or by email at ceh003@shsu.edu or by phone at (936) 294-3601. I have received a copy of this consent form.

Your name (printed):_____

Signature: _____ Date: _____

APPENDIX D

HIPAA-Compliant PHI Release Form

Authorization for Disclosure of Protected Health Information

I,_____, authorize the disclosure of my protected health information[1] as described herein. I understand that this authorization is voluntary and made to confirm my direction. I understand that, if the person(s) or organization(s) that I authorize to receive my protected health information are not subject to federal and state health information privacy laws[2], subsequent disclosure by such person(s) or organization(s) may not be protected by those laws.

1. I authorize the following organization to disclose my protected health information (as specified below):

Organization: **Family Guidance Centers, Inc.**

2. I authorize the following person(s) and/or organizations to receive my protected health information as disclosed by the organization above.

    Health Behaviors Research Lab
    Sam Houston State University
    1905 University Ave, Huntsville, TX 77340
    936-294-4011

3. Specific description of the protected health information that I authorize for disclosure: diagnoses, mental health treatment, progress notes, demographic information, social history, history of substance use, biopsychosocial assessment, criminal background history, treatment plans, discharge and admission dates, and program enrollment.

4. Specific description of the purpose for each use or disclosure: academic psychological research.

5. I understand that I may revoke this authorization in writing at any time, except to the extent that the person(s) and/or organization(s) named above have taken action in reliance on this authorization.

I have had the opportunity to read and consider the contents of this authorization. I confirm that the contents are consistent with my direction.

Signed _____   Date _____   _____

Name: _____

Client ID: _____

This Authorization to disclose PHI constitutes a waiver of privilege per 76 O.S. §19. Photostatic copies of this Authorization carry the same authority as the original.

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[1] Protected health information ("PHI") is health information that is created or received by a health care provider, health plan, or health care clearinghouse which relates to: 1) the past, present or future physical or mental health of an individual; 2) the provision of healthcare to an individual; or 3) the past, present, or future payment for the provision of healthcare to an individual. To be protected, the information must be such that it identifies the individual or provides a reasonable basis to believe that the information can identify the individual. 45 C.F.R. 164.588

[2] These laws apply to health plans, health care providers, and health care clearinghouses.

APPENDIX E

General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995)

Coping Strategies Index (Tobin, 1989)

Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988)

Index of Autonomous Functioning (Weinstein & Przybylski, 2012)

Please answer the questions to the best of your ability. Please ask the researchers if you have any questions while you are completing the survey.

GSE	Not at all True	Hardly True	Moderately True	Exactly True
1. I can always manage to solve difficult problems if I try hard enough				
2. If someone opposes me, I can find the means and ways to get what I want.				
3. It is easy for me to stick to my aims and accomplish my goals.				
4. I am confident that I could deal efficiently with unexpected events.				
5. Thanks to my resourcefulness, I know how to handle unforeseen situations.				
6. I can solve most problems if I invest the necessary effort.				
7. I can remain calm when facing difficulties because I can rely on my coping abilities.				
8. When I am confronted with a problem, I can usually find several solutions.				
9. If I am in trouble, I can usually think of a solution.				
10. I can usually handle whatever comes my way.				

Please answer the following questions about a problematic situation you have experienced.

CSI	Not at All	A Little	Some-what	Much	Very Much
1. I just concentrate on what I had to do next: the next step.					
2. I changed something so that things would turn out all right.					
3. I stood my ground and fought for what I wanted.					
4. I made a plan of action and followed it.					
5. I tackled the problem head-on.					
6. I knew what had to be done, so I doubled my efforts and tried harder to make things work.					
7. It was a tricky problem, so I had to work around the edges to make things come out OK.					
8. I worked on solving the problems in the situation.					
9. I struggled to resolve the problem.					
10. I tried to get a new angle on the situation					
11. I looked for the silver lining, so to speak; tried to look on the bright side of things.					
12. I told myself things that helped me feel better.					
13. I looked at things in a different light and tried to make the best of what was available.					
14. I asked myself what was really important, and discovered that things weren't so bad after all.					
15. I convinced myself that things aren't quite as bad as they seem.					
16. I stepped back from the situation and put things into perspective.					
17. I recognized the way I looked at the situation, so things didn't look so bad.					
18. I went over the problem again and again in my mind and finally saw things in a different light.					

MSPSS	Very Strongly Disagree	Strongly Disagree	Mildly Disagree	Neutral	Mildly Agree	Strongly Agree	Very Strongly Agree
1. There is a special person who is around when I am in need.							
2. There is a special person with whom I can share joys and sorrows							
3. My family really tries to help me.							
4. I get the emotional help & support I need from my family.							
5. I have a special person who is a real source of comfort to me.							
6. My friends really try help me.							
7. I can count on my friends when things go wrong.							
8. I can talk about my problems with my family.							
9. I have friends with whom I can share my joys and sorrows.							
10. There is a special person in my life who cares about my feelings.							
11. My family is willing to help me make decisions.							
12. I can talk about my problems with my friends.							

IAF	Not at all True	A Bit True	Some - what True	Mostly True	Completely True
1. My decisions represent my most important values and feelings.					
2. I do things in order to avoid feelings badly about myself.					
3. I often reflect on why I react the way I do.					
4. I strongly identify with the things that I do.					
5. I am deeply curious when I react with fear or anxiety to events in my life.					
6. I do a lot of things to avoid feeling ashamed.					
7. I try to manipulate myself into doing certain things.					
8. My actions are congruent with who I really am.					
9. I am interested in understanding the reasons for my actions.					
10. My whole self stands behind the important decisions I make.					
11. I believe certain things so that others will like me.					
12. I am interested in why I act the way I do.					
13. I like to investigate my feelings.					
14. I often pressure myself.					
15. My decisions are steadily informed by things I want or care about.					

Thank you for your participation

<div align="center">**VITA**</div>

PROFILE

 The focus of my academic, professional, and personal life has been to provide therapy to people who suffer from severe mental health issues, substance abuse disorders, and are involved in the criminal justice system. I have also showcased this interest through my research projects and experience. I constantly find myself asking empirical questions about this field that I wish to research. The combination of my desire to provide clinical services to patients and research the answers to my questions has led me to pursue a Ph.D. in Clinical Forensic Psychology.

EDUCATION

Sam Houston State University   Clinical Psychology Ph.D. Candidate
Huntsville, TX   Forensic Emphasis
Expected Graduation: 2024
GPA: 4.0/4.0

Tiffin University   Bachelor of Criminal Justice
Tiffin, Ohio   Major: Forensic Psychology
2013-2017   Major: Corrections
GPA: 4.0/4.0   Minor: Addictions Counseling

Academic Awards and Honors:
- Graduate School General Scholarship recipient (Fall 2018-Fall 2019)
- Dean's list (Fall 2013-Spring 2017)
- Dragon Leadership Scholarship for outstanding leadership both academically and in extracurricular activities
- Tiffin University Honors Program participant
- F.H. "Cap" Wilkinson Award for highest academic achieving Criminal Justice student
- OCCJE's 2017 top achieving criminal justice student in the state of Ohio
- Provost Award for the highest academic achieving student graduating in 2017

Academic Programs:
The Washington Center   **January 2016-May 2016**   **Washington, D.C**

RESEARCH EXPERIENCE

Health & Human Behaviors Lab   August 2018-Present Day   Huntsville, TX
Graduate Research Assistant

PUBLICATIONS

Richeson, E. & **Krembuszewski, B.** (in press). Little bits of paper. *Texas Psychologist.*

BOOK CHAPTERS

Christensen, M., Anderson-White, E., Ryan, L., Ricardo, M., Krembuszewski, B.A., Sze, C., & Henderson, C. E. (Under contract) Substance use disorders. In Venta, A., Sharp, C., Fonagy, P., & Fletcher, J. (Eds.). *Developmental Psychopathology*. (pp. pages of chapter). Hoboken, NJ: Wiley-Blackwell.

PRESENTATIONS

Krembuszewski, B., Anderson-White, E., Henderson, C. E., Sze, C. (2020, August). Positive Psychology as a Protective Factor for Illicit Opiate Use in Individuals Receiving Methadone Treatment. *Poster to be presented at the annual convention Of the American Psychological Association,* Washington, DC.

Anderson-White, E., **Krembuszewski, B.**, Henderson, C. E. (2020, August). Motivation in a Methadone Maintenance Treatment Program from a Self-Determination Theory Framework. *Poster to be presented at the annual convention of the American Psychological Association,* Washington, DC.

Krembuszewski, B., Anderson-White, E., Henderson, C., Lewis, K., Ryan, L., Sze, C., & Trinka, M. (2020, February). Affirmative action: Are we solving or creating a problem? Presented at *the Diversity Leadership Conference at Sam Houston State University*, Huntsville, TX.

Salami, T., Henderson, C.E., Anderson-White, E., Boland, G., **Krembuszewski, B.**, Bailey, C., & Harmon, J. (Oct., 2019). Working with Religiously Diverse Clients. *Workshop presented at the annual convention of the Texas Psychological Association,* San Antonio, TX.

Henderson, C.E., Anderson-White, E., Frampton, A.E., Mellenkompf, K., Smith, T., **Krembuszewski, B.**, Stallard, C., Duane, C., Crosby, J., & Henderson, S.E. (2019, August). Daily variation in spiritual experiences and relation with life satisfaction among emerging adults. Poser presented at the *Annual Convention of the American Psychological Association,* Chicago, IL.

Ricardo, M. M., Henderson, C. E., Anderson-White, E., Christensen, M. R., **Krembuszewski, B.** & Kurus, S. J. (2019, August) Assumptions of Defendant Identity at the Intersection of Crime and Substance Use. Poster presented at the A*nnual Convention of the American Psychological Association*, Chicago, IL.

Krembuszewski, B., Anderson-White, E., Boland, G., Blossom, L., Walker, M., & Henderson, C. (2019, February). Inclusion, acceptance, and bumps along the road. Presented at *the Diversity Leadership Conference at Sam Houston State University*, Huntsville, TX.

Krembuszewski, B. & Largent, C. (2017, September). The reliability of memory under stress. Presented at the *Midwestern Criminal Justice Association's Annual Meeting*, Chicago, IL.

Krembuszewski, B. & McKenna, C. (2017, April). The knowledge, perception, and attitudes towards sex offenders. Presented at the *Ohio Council of Criminal Justice*

Education's Annual Research Conference, Cedarville, OH.

Krembuszewski, B. (2016, September). The occurrence of abusive relationships and domestic violence. Presented at the *Midwestern Criminal Justice Association's Annual Meeting*, Chicago, IL, September 23, 2016.

PROFESSIONAL AFFILIATIONS

September 2019-Present	Texas Psychological Association – Student Member
June 2019-Present	Graduate Student Psychology Organization - Secretary
September 2018-Present	Society of Addiction Psychology – Student Member
September 2018-Present	American Psychology Association – Student Member
September 2018-Present	Sam Houston Area Psychology Association – Extern
May 2017-Present	American Psychology-Law Society - Student Member
April 2017-Present	Alpha Phi Sigma - Criminal Justice Honor's Fraternity
November 2014-Present	National Society of Leadership and Success - Member

PROFESSIONAL DEVELOPMENT AND TRAINING

April 2020
Telepsychology 101: Best Practices
American Psychological Association
Presenter: Marlene M. Maheu, Ph.D.

March 2020
Behavioral Health and Ethical Challenges as We Respond to Pandemics
Texas Psychological Association
Presenter: Rebecca Hamlin, Ph.D.

March 2020
Webinar Resources for Telepsychology Practice in the Age of COVID-19
National Register of Health Service Psychologists
Presenter: Mary Alvord, Ph.D.

February 2020
2020 Physicians for Human Rights Asylum Network Training
Baylor College of Medicine
Presenters: Jodi Berger-Cardoso, Ph.D., Rosalie Hyde, LCSW

February 2020
Best Practices and Risk Management in Working with Suicidal Clients:Ethical and Practical Considerations
Sam Houston Area Psychological Association
Presenter: Katrina Ruffino, Ph.D.

February 2020
The Impact of Anti-Immigrant Politics on the Psychological Well-Being Immigrants
Diversity Leadership Conference at SHSU
Presenters: Grace Boland, Betsy Galicia, and Temilola Salami, Ph.D.

January 2020
Geropsychology
Sam Houston Area Psychlogical Association
Presenter: Maria Quintero-Conk, Ph.D.

October 2019   *Let's Talk About Sex: Porn, Problem Sex Behavior, and Prevention Practices*
Sam Houston Area Psychological Association
Presenter: Aleha Cantu, Ph.D.

September 2019   *Enhancing School Safety Using a Threat Assessment Model*
Sam Houston Area Psychological Association
Presenters: Darryl Johnson, Ph.D., Captain Matthew Blakelock

March 2019   *Post-Partum Family Health*
Sam Houston Area Psychological Association
Presenter: Lorissa Eichenberger, MA, LMFT, PMH-C

February 2019   *Outpatient Competency Restoration Programs*
Sam Houston Area Psychological Association
Presenter: Ron Massey, Ph.D.

January 2019   *Psychological Assessment of ASD and Other Comorbid Disorders*
Sam Houston Area Psychological Association
Presenter: Grace Reyes-McDonald, Ph.D.

November 2018   *Issues with Immigration*
Sam Houston Area Psychological Association
Presenter: Amanda Venta, Ph.D.

October 2018   *Psychotropic Medication: Refresher and Update*
Sam Houston Area Psychological Association
Presenter: Brenda Schiavone, NP

PROFESSIONAL EXPERIENCE

Psychological Services Center   **August 2019-Present Day.**   **Huntsville, TX**
Student Clinician

Assessments:
Weschler Adult Intelligence Scale 4th ed. (WAIS-IV)
Weschler Abbreviated Scale Intelligence 2nd ed (WASI-II)
Weschler Individual Achievement Test 3rd ed (WIAT-III)
Weschler Intelligence Scale for Children 5th ed. (WISC-V)
Woodcock-Johnson Tests of Cognitive Abilities 3rd ed. (WJ-COG-III)
Woodcock-Johnson Tests of Achievement 4th ed. (WJ-ACH-IV)
Wide Range Achievement Test 5th ed. (WRAT5)
The Minnesota Multiphasic Personality Inventory 2nd ed (MMPI-2)
The Minnesota Multiphasic Personality Inventory 2-Restructured Form (MMPI-2-RF)
Personality Assessment Inventory (PAI)

Heartland Alliance   **January 2018-August 2018**   **Chicago, IL**
Resource Pool-Part Time

Family Guidance Center, Inc.   **January 2018-August 2018**   **Chicago, IL**
Intake Manager/STR Logistics

Family Guidance Center, Inc. *Acute Detox Counselor*	**May 2017-January 2018.**	**Chicago, IL**
Offender Aid and Restoration *Community Service Intern*	**January 2016-May 2016**	**Arlington, VA**
Cook County Sheriff's Department *Sheriff's Department Intern*	**June 2015-August 2015**	**Chicago, IL**

TEACHING EXPERIENCE

Sam Houston State University *Teaching Assistant*	**August 2019-Present Day**	**Huntsville, TX**
Murphy Academic Center *Student Tutor*	**August 2015-April 2017**	**Tiffin, OH**

COMMUNITY SERVICE INVOLVEMENT

CASA of Walker County *CASA Volunteer/Guardian Ad Litem*	**February 2019-Present Day**	**Huntsville, TX**
Howard Brown Health Center *Volunteer*	**July 2017-August 2018**	**Chicago, IL**
American Red Cross *Student Representative*	**April 2014-April 2017**	**Tiffin, OH**
Autism Awareness *Student Representative*	**April 2014-April 2017**	**Tiffin, OH**
Love 146 *Student Representative*	**November 2015-January 2017**	**Tiffin, OH**

Proficient In:
Microsoft Office Suite (Word, Excel, PowerPoint, Access)
Statistical Package for the Social Sciences (SPSS)
PROCESS Macro (Andrew F. Hayes)