RECIDIVISM TREATMENT MANUALS: A CORPUS-BASED EXAMINATION FOR PUBLIC OFFENDER COUNSELORS

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Abstract

Incarceration rates in the U.S. reflect racial disparities, with individuals of color incarcerated over five times the rate of non-Hispanic White males. From a behavioral health perspective, incarceration and recidivism rates are a social justice imperative for clinicians and counselor educators that require purposeful academic research and clinical practices (Chang et al., 2010). The study examined the literature on evidence-based treatment manuals targeting recidivism. The linguistic examination of the literature and therapeutic interventions is vital for the counseling field and for the members of our nation to remain incarceration-free. This study employed a synchronic corpus linguistics design (Brezina, 2018). The corpuses were two recidivism prevention program manuals. The level of measure for keyness and collocation were continuous and nominal. The unit of analysis was single words (Bjekić et al., 2014). Words occurring with greater frequency in *Cognitive Behavioral Interventions for Offenders Core Adult* (*CBI-CA*) were "module" and "success," and those with less frequency were "lesson" and "supplement." The word network of the strongest positive keyword "module" in *CBI-CA* were "session" and "worksheet." The strongest collocates of the word stem "crim*" in *CBI-CA* were "people" and "mental." The strongest collocates of the word stem "crim*" *Thinking for a Change* (*T4C*) were "systems" and "justice." The study compared the words used with greater and lesser frequency in the *CBI-CA* manual to those in the *T4C* recidivism prevention program manual. The study also identified the word network with the strongest positive keyness in the *CBI-CA* manual and examined the word network of the word stem "crim*" in *CBI-CA* and *T4C* manuals.

Keywords: offender counseling, recidivism, evidence-based practices, manualized treatment, corpus linguistics, GraphColl, collocation, keyness

Introduction

[Verse 1: Styles P]
Locked up, they won't let me out
And I had a long day in court, shit stress me out
Won't give me a bail, they can't get me out
Now I'm heading to the County, gotta do a bid here
I used to living luxurious, I don't wanna live here
The walls is gray, the clothes is orange
The phones is broke, the food is garbage
Lotta niggas is living with these circumstances
S.P.'s the same, I still merk your mans-es
Drug money to rap money, work advances
Niggas ran and told, I should've merked to Kansas
Got popped for a murder attempt
Knock me on D-Block when I was burnin' the hemp
Had a brick in the stash
Hope they don't take it to a further extent
Locked up and they won't let me out
When I hit my cellblock, niggas know the dread be out
[Hook: Akon]
They won't let me out, they won't let me out
Oh! I'm locked up
They won't let me out, no, they won't let me out
My nigga I'm locked up, they won't let me out
They won't let me out
I'm locked up, they won't let me out
No, they won't let me out
Akon ft. Styles P

In this popular urban song, Akon and Styles P share the experience of many Blacks and African Americans by describing the despair of incarceration. Two of three individuals released from incarceration reoffend within a short time. The justice system has a revolving door; "an "estimated 68% of persons released from prison were arrested within 3 years, 79% within 6 years, and 83% within 9 years" (U.S. Department of Justice, 2022). Getting out is not the problem; the challenge is helping individuals to stay out. Latessa and Schweitzer (2020) stressed that the ineffectiveness of community supervision contributes to high incidences of recidivism. Incarceration rates reflect racial disparities, with individuals of color incarcerated at "five and a half times the rate of non-Hispanic White males" (Enders et al., 2018, p. 366). From a behavioral health perspective, incarceration and recidivism rates are a social justice imperative for clinicians and counselor educators that requires purposeful academic research

and clinical practices (Chang et al., 2010). The therapeutic interventions presented by the recidivism counselor to the individual have the potential to help or hurt that person to remain free from incarceration. Thus, examining the linguistics within treatment interventions is critical for the clinical field and for members of society to stay out of the penal system.

There was a twofold purpose for the present study. First, it helps fill in gaps in the present literature on recidivism treatment—specifically, the nature of the discourse in widely used treatment manuals. Second, it could disrupt current practice by identifying conceptual holes, cultural blind spots, and pejorative language that may be present in this discourse. As mentioned, BIPOC (Black, Indigenous, and people of color) men are incarcerated at five and a half times the rate of White men. Treatment manuals are not linguistically designed to address the needs of these cultural groups. Latessa et al. (2013) described the limited research examining the reduction of recidivism. For example, the binary definition of recidivism limits offenders' progression toward changing behaviors (Klingele, 2019). For example, recidivism often does not consider the precipitating risk factors that precede a rearrest, such as return to substance use and procrime peer association (Dyck et al., 2018). Furthermore, the literature may exclude the term "recidivism." As a result, professional counselors working in forensic settings could benefit from knowing the limitations present in these manuals so that they can make adjustments for the benefit of their clients.

Literature Background

In the selection of variables for this study, the recidivism prevention literature was explored across multiple topics. These were (a) key definitions, (b) demographics of persons in recidivism treatment programs, (c) description of *Thinking for a Change* (*T4C*) recidivism prevention program, (d) the efficacy of *T4C*, (e) description of the *Cognitive Behavioral Interventions-Core Adult* (*CBI-CA*) recidivism prevention program, (f) the efficacy of CBI, (g) keyness and recidivism, and (h) word networks and recidivism. After these points are examined, the research questions are detailed.

Key Definitions

In this area of research, there are essential technical definitions of widely used words—for example, recidivism. Within the context of criminology research, *recidivism* refers to the act of committing another criminal offense after being previously convicted of a crime (Klingele, 2019). Another word that needs a technical definition is *reoffending*. Thomas et al. (2018) defined reoffending as the act of committing antisocial and illegal behavior. One focus of this study was *keyness*, which is a linguistics term concerning differences in word usage patterns

(Scott, 2022b). A precise scientific definition of keyness is found in the measures subsection of this article. Another focus of the present study was *collocation*, which is a linguistics term for the nature of word networks (Scott, 2022a). Like with keyness, there is a scientific definition of collocation in the measure subsection of this article. The last term *is manualized treatment manuals*—more significantly, those that meet the standards of evidence-based practices (EBP; van Wormer & Davis, 2018). EBP treatment manuals are empirically supported for addressing addictions (Miller & Rollnick, 2013). Several EBP treatment manuals that address recidivism have been developed over the decades, including *CBI-CA* and *T4C*.

Demographics of Persons in Recidivism Treatment Programs

The U.S. government statistical reports reveal racial and ethnic disproportionalities with incarceration (Carson, 2022). Granular details about these disproportionalities can be reviewed in Table 1, which details the race and ethnicity disparities when comparing U.S. prisoner population demographics (Carson, 2022) to U.S. Census Bureau (2023) data for the general population. There is a 30% decrease in the proportion of incarcerated Whites versus the proportion of Whites in the general population. Also noted is a 20% increase in the proportion of incarcerated Blacks versus the proportion of Blacks in the general population. These disproportionalities carry forward into recidivism treatment programs.

Table 1: ***Demographics of U.S. Prisoner Population***

	Prisoner Population		Total Population		
Race/Ethnicity	Count	%	Count	%	Diff. in %
White	356000	31%	204,000,000	61%	-30%
Black	378000	32%	41,000,000	12%	20%
Hispanic	273800	24%	62,000,000	18%	5%
AI/AN	18700	2%	3,000,000	1%	1%
Asian	14700	1%	19,000,000	5%	-4%
Other	122400	11%	9,000,000	3%	8%

Note. The sources for this table were Carson (2022) and U.S. Census Bureau (2023). AI/AN = American Indian/Alaska Native.

Thinking for a Change Manualized Treatment (T4C)

One prominent recidivism prevention program is *T4C* 4.0, which aims to empower individuals by utilizing positive behavior reinforcers. *T4C* was first produced in 1998 under the direction of the National Institute of Corrections. The program combines cognitive restructuring theories to help individuals gain control over their thinking. The fourth edition of the manual was released in 2016. *T4C* facilitators demonstrate how to effectively use cognitive self-change, social skills, and problem-solving skills (Bush et al., 2016). The *T4C* authors noted that each curriculum revision had made it more user-friendly (Bush et al., 2016).

Efficacy of T4C

There exists sound research illustrating that *T4C* is an effective recidivism prevention program. Lowenkamp et al. (2009) indicated a significant statistical difference between individuals who participated in the *T4C* program and those in control groups. Lowenkamp et al. reported that 23% of the treatment group recidivated (i.e., were rearrested for new criminal behavior), whereas 36% of the comparison group recidivated ($\chi 2 = 3.93$; $p = .047$). "Thus, the difference in the odds of recidivating between the control and treatment groups indicates that the control group was 1.57 (or 57%) more likely to be arrested during the follow-up" (Lowenkamp et al., 2009, pp. 142–143). Golden et al. (2006) identified a 33% reduction in the rate of new offenses among individuals in the *T4C* group compared to those who dropped out. *T4C* sustains its effectiveness through various methods of delivery.

When examining pre and posttest results, LaPlant et al. (2020) found that *T4C* is as effective at improving social problem-solving skills via video conference as when the curriculum is delivered in person. *T4C* has been provided for over two decades. LaPlant et al. continue to adjust the curriculum, which is now in its fourth edition. However, *T4C* is not the only treatment manual used to address criminal behavior.

Cognitive Behavioral Interventions-Core Adult Manualized Treatment (*CBI-CA*)

Another program and treatment manual present in the recidivism prevention ecology is the *CBI-CA* program manual. *CBI-CA* is a multicomponent, cognitive-behavioral program that provides a specific intervention that targets criminogenic factors and needs. *CBI-CA* utilizes a cognitive-behavioral therapeutic approach to empower participants with coping and recovery strategies to manage risk factors (University of Cincinnati Corrections Institute [UCCI], 2021). *CBI-CA* focuses on developing skills to assist with cognitive,

social, emotional, and coping skills. The curriculum provides modifications to allow offenders with mental illness to participate, though it is not dedicated exclusively to this population. The curriculum is designed to allow for flexibility across various service settings and intervention lengths using a modified closed group format with multiple entry points. The manual has nine modules: motivational engagement, introduction to cognitive behavioral interventions, cognitive restructuring, emotional regulation, understanding behavior patterns, choosing behavior responses, problem-solving, planning for the future, and success planning (UCCI, 2021). *CBI-CA* has designed specialized modules to address the needs of various offender populations.

Efficacy of CBI-CA

There exists less evidence for *CBI-CA*'s effectiveness as a treatment manual. Rather than outcome studies, the *CBI-CA*'s developers have relied on the underlying outcome research from the cognitive behavioral therapy (CBT) components they selected for their program (UCCI, 2021). Three key components where the CBI developers cite underlying evidence are (a) challenging irrational beliefs, (b) engaging in healthy recovery activities, and (c) addressing criminogenic needs. Regarding the challenging irrational beliefs component, Vaske et al. (2011) found that CBT programs address irrational beliefs and provide participants with effective social skills, coping skills, and problem-solving skills. There is substantial evidence of the effectiveness of CBT in addressing cognitive distortions.

In terms of engaging in healthy recovery activities, McMinn and Campbell (2017) described extratherapeutic factors, such as thinking and behaviors, that support change outside of the counseling setting. Extratherapeutic factors account for 40% of an individual's psychotherapy outcomes. With CBT, most of the growth from therapy for the individual will happen outside of counseling sessions. For example, Corey (2017) stated that the behavioral techniques in CBT include homework assignments, particularly assignments that are carried out in real-life situations. CBT also aims to provide individuals with self-therapy techniques to continue applying throughout their lives outside of counseling services (Corey, 2017). CBT provides individuals with skills and coping strategies to sustain their efforts to change outside of treatment services.

Dyck et al. (2018) listed criminogenic needs: criminal history, family/marital interactions, employment/education status, peer relations, alcohol/drug problems, leisure/recreation activities, antisocial personality/behavior patterns, and procriminal attitudes/orientations. Latessa and Schweitzer (2020) described how CBT can address individuals' criminogenic

needs. They asserted that CBT assists individuals with restructuring their thinking, which, in turn, reduces the chances of reoffending.

Word Usage Patterns (Keyness) and Recidivism

There is limited research on keyness and recidivism. Partch's (2019) study on linguistic composition points to the efficacy of text messages as therapeutic interventions, with one of the benefits being a decrease in recidivism rates. O'Hara (2019) described how language matters in addiction treatment. Their study was the first to compare the linguistic components of 12-step programs. These studies point to the relationship between the linguistic phenomenon in treatment and recidivistic behaviors.

Word Networks (Collocation) and Recidivism

The study of collocations is driven by Firth's (1957) idea that "You shall know a word by the company it keeps" (p. 11). However, no research exists on collocation and recidivism. There is research on collocations for another word in criminology: rape. Tranchese (2019) examined the collocation of the word rape in the media to better understand sexualized violence. The study focused on collocation and a concordance analysis of the words "rape" and "raped" in the corpus. The study examined the collocates of rape and raped in the concordance lines to identify contextual elements that would not be obvious through a collocation analysis alone. Tranchese confirmed the top 20 lexical collocates and six semantically related words, such as the word "victims." Blauenfeldt (2015) examined collocation patterns when comparing the discourse patterns between rapists and pedophiles. The study grouped keywords into four distinct categories and examined the concordance, wordlists, and collocation patterns, such as the category perpetrator (Blauenfeldt, 2015). These studies highlight the significance of performing a collocation analysis on corpuses to understand how a field uses a word. Conducting collocation analyses on treatment manuals can contribute to the literature on best practices in reducing recidivistic behaviors by understanding how words are structured within these manuals.

Statement of Research Questions

Given the aforenoted, three research questions were created to direct this study:

RQ1: In comparing the *CBI-CA* recidivism prevention program manual to the *T4C* recidivism prevention program manual, what words were used with greater and lesser frequency?

RQ2: In the *CBI-CA* manual, what is the word network of the word with the strongest positive keyness in RQ1?

RQ3: What is the word network of the word stem crim* in the *CBI-CA* manual?

RQ4: What is the word network of the word stem crim* in the *T4C* manual?

Method

Design

This study employed a synchronic corpus linguistics design (Brezina, 2018). There were four variables used: manual, keyness, node word, and collocates of the node word. The corpuses were two recidivism prevention program manuals. The level of measure for keyness and collocation was continuous, and for the manual and the node word it was nominal. The unit of analysis was single words (Bjekić et al., 2014). Given the public and published nature of the data, human subjects review was not required. The minimum sample size required was assessed via an a priori power analysis employing G*Power 3.1 (Faul et al., 2009). The analyses for this study included a chi-square derivative, so the Cohen's w was the effect size input. The average effect size (w = .32) was secured from a recent forensics study (Elphick et al., 2021). The input parameters were (a) test family- $\chi 2$ tests; (b) statistical test- goodness-of-fit tests: contingency tables; (c) type of power analysis- a priori: compute required sample size- given α, power, and effect size; (d) w = 0.32; (e) power (1-β error probability) = 0.80; (f) α = .001; and (g) degrees of freedom (Df) = 1. The G*Power 3.1 output suggested a sample size of 167 with an actual power of 0.80.

Corpuses

Three inclusion criteria were used to select the texts for the study and reference corpus. These were (a) theoretical approach, (b) manual pragmatics, and (c) assignment as a study or reference corpus.

Criteria 1: Theoretical Approach. Manual selection criteria for the corpuses were restricted to manuals with a CBT theoretical orientation. This restriction was used because within criminal justice, CBT reduces antisocial thinking and criminal behavior by targeting the offender's behaviors, such as anger issues, accountability for actions, and developing problem-solving and coping skills (Lipsey et al., 2001; Vaske et al., 2011). CBT meta-analyses demonstrate reduced recidivism in the incarcerated population (Aos et al., 2006; Butler et al., 2006; Ferrito & Moore, 2017; Harrison et al., 2020; Henwood et al., 2015; Lipsey et al., 2007). CBT is considered the gold standard of psychotherapy when working with individuals in the criminal justice system (Aos et al., 2006; Butler et al., 2006; David et al., 2018; Feucht & Holt, 2016). There are various

manual-based CBT curricula. Criteria were created to narrow the selection of the treatment manuals for this study.

Criteria 2: Manual Pragmatics. Pragmatics concerns also guided manual selection criteria. In particular, the CBT manuals selected for inclusion needed to be (a) in use for over 5 years, (b) widely adopted, and (c) readily available in an electronic format that could be converted to plain text. These inclusion criteria were employed because of the significance of these manual-based CBT curricula for reentry and recidivism treatment programs and because of accessibility for this study. Application of these three criteria against the known universality of CBT recidivism manuals left two: the *CBI-CA* (UCCI, 2021) and *T4C* (Bush et al., 2016).

Criteria 3: The Assignment as a Study or Reference Corpus. The criteria for assignment as the study corpus or the references corpus comprised two corpuses. The first was *CBI-CA* as the study corpus. The rationale for this assignment was that *CBI-CA* is the more recent addition to the body of CBT curricula. Despite its increased popularity and use, little is known about how it differs from the gold standard of CBT recidivism curricula. The second was *T4C* as the reference corpus. The rationale for this assignment was that *T4C*'s longevity, wide adoption, and body of research, including diverse delivery methods, made it the ideal reference against which to understand the changes present in the newest addition to the CBT recidivism treatment manual ecology.

Study Corpus (CBI-CA)

Register, Scope, and Sources. The register for this study was academic prose. The subregister was psychological treatment manuals. The scope and source were the *CBI-CA* recidivism prevention program manual (UCCI, 2021). In particular, the inclusion criteria were treatment approaches considered EBP and treatment manuals currently being utilized to address recidivism. The exclusion criteria were EPB approaches that did not have a treatment manual and EBP approaches with multiple treatment journals. Two treatment manuals were selected from the inclusion and exclusion criteria, one to be the study corpus and one to be the reference corpus. *T4C* met the inclusion and exclusion criteria and was selected because of its longevity and research substantiating its effectiveness since 1998 (Bush et al., 2016). *CBI-CA* met the inclusion and exclusion criteria and was selected because the UCCI (2023), the developers of the treatment manual, are considered subject matter experts on rehabilitative services for offenders (UCCI, 2023). The size of this corpus was 23,421 words and 2,311 different word types.

Preprocessing. The electronic files containing the manuals were converted into .txt files using AntFileConverter (Anthony, 2017). These .txt files

were then cleaned for non-ASCII characters and diacritics. Stopwords are common words that have a grammatical function (e.g., the, of, an) but reveal nothing about the content (Wilbur & Sirotkin, 1992). These words were removed during preprocessing using a standard list of such words (Natural Language Toolkit [NLTK] stopwords; Bleier, 2010).

Reference Corpus (T4C)

Register, Scope, and Sources. The register and subregister were the same as for the study corpus. The scope and source were the *T4C* recidivism prevention program manual (Bush, 2016). The size of this corpus was 41,541 words and 2,911 different word types.

Preprocessing. Preprocessing was the same as for the study corpus.

Measures

Keyness

A keyness study reflects the words that are of importance within a corpus (Scott & Tribble, 2006). Words that frequently appear in one corpus may infrequently appear in another at a significant level. As such, a keyness study identifies the most prominent and frequent words in a corpus (Jensen, 2020).

Positive Keywords. A word that occurs more often than would be expected by chance when compared with the reference corpus.

Negative Keywords. A word that occurs less often than would be expected by chance when compared with the reference corpus.

Collocation

Collocation examines the placement or position of a word, particularly in relation to the node word within a text (Brezina, 2015; Gablasova et al., 2017).

Node Word

Brezina (2018) described a node as the word, phrase, or grammatical structure of interest. The node word is essential to understanding the frequency, word positioning, and the linguistic relationship between terms. Node words and their related lexical networks were selected from both treatment manuals.

Data Analysis

For RQ1, the descriptive statistics reported include raw frequency count and normalized frequency count (count per 1,000 words). In terms of inferential analysis, differences between the corpuses were assessed using the log-likelihood ratio test (G^2). This study presents statistics for the 10 words with the strongest keyness in each direction. The effect size metric employed was the log ratio (LR). When a word is two times more common in A than in B, then the binary log of the ratio is 1 (Hardie, 2014). The alpha level was set at $p < .001$, and the analysis was completed using the R package "textstat_keyness" (Benoit et al., 2018). Regarding RQs 2–4, the GraphColl module of #Lancsbox was used (Brezina et al., 2018). The GraphColl settings were (a) span: 5 left, 5 right; (b) statistics: 03-MI; (c) threshold: MI = 3, collocation frequency = 5; and (d) type = type; filter = stopwords. Complete keyness results are available at https://osf.io/kngzx/

Results

In terms of RQ1 (words occurring with greater and lesser frequency in the study corpus), the three words with the strongest positive keyness were "module," "success," and "worksheet." The three words with the strongest negative keyness were "lesson," "supplement," and "handout." A list of the top 10 keywords in both directions can be reviewed in Table 2. Regarding RQ2 (the word network of the strongest positive keyword), the most frequent term in the study corpus was "module." This term was further analyzed to yield the strongest collocates: "session" and "worksheet." A complete list of the strongest collocates for the keyword "module" can be found in Figure 1. Concerning RQ3 (the word network of the word stem crim* in the *CBI-CA* manual), the strongest collocates were "people" and "mental." The complete word networks for the word stem crim* in the *CBI-CA* manual can be found in Figure 2. In reference to RQ4 (the word network of the word stem "crim*" in the *T4C* manual), the strongest collocates were determined to be "systems" and "justice." The complete word networks for the word stem crim* in the *T4C* manual can be found in Figure 3.

Discussion

This study sought to explore the word usage of treatment manuals used by the criminal justice systems and treatment providers to reduce recidivism. The study compared the words used with greater and lesser frequency in the *CBI-CA* manual to those in the *T4C* recidivism prevention program manual. It identified the word network of the word with the strongest positive keyness in the *CBI-CA* manual. Lastly, the study examined the word network of the word stem crim* in *CBI-CA* and *T4C* manuals.

Table 2: ***Keyness Results (RQ1)***

Direction	Word	*CBI-CA*	*T4C*	G^2	LR
Positive	module	342	0	315.098	8.645
	success	277	0	255.007	8.339
	chain	255	0	234.690	8.219
	managing	249	0	229.151	8.185
	pointer	231	0	212.539	8.076
	modified	201	0	184.868	7.875
	lifestyle	200	0	183.946	7.868
	worksheet	716	2	639.148	7.719
	coping	172	0	158.139	7.649
	treatment	168	0	154.454	7.615
Negative	supplement	0	192	385.188	-9.373
	lesson	3	789	1,562.022	-8.850
	handout	0	120	240.454	-8.692
	denoted	0	80	160.196	-8.106
	bender	0	75	150.171	-8.012
	sherry	0	67	134.135	-7.849
	shewan	0	67	134.135	-7.849
	appendix	0	61	122.111	-7.714
	slides	0	60	120.107	-7.690
	solver	0	60	120.107	-7.690

Note. Normalized frequency is count per million. The study corpus was the *CBI-CA* manual, and the reference corpus was the *T4C* manual. The critical value for G^2 at $p < .001$ is 10.83.

Analysis of RQ1's Results

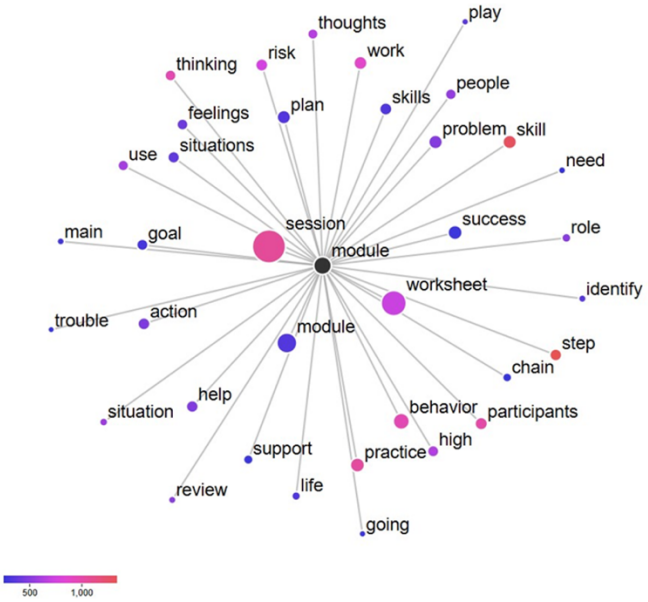
Concerning RQ1 (word usage differences between manuals), two probable reasons exist for the obtained results. One explanation is that the differences reflect minor differences in the CBT approach contained within each manual—for example, *CBI-CA*'s heightened discourse on self-efficacy (e.g., success). An alternative explanation is that *CBI-CA* has a more engaging approach to word usage that reflects a less pedantic stance (e.g., lesson, supplement) than the *T4C* curriculum. The latter is most likely between these two explanations because *CBI-CA* has woven in motivational interviewing, and the word usage reflects the use of motivation engagement techniques throughout the curriculum to focus on successes and to avoid power struggles with

participants.

Analysis of RQ2's Results

Regarding RQ2, the most frequent term in the study corpus was "module," and the two strongest collocates were "session" and "worksheet." Merriam-Webster (n.d.-a) defines a *module* as "an educational unit which covers a single subject or topic," a *session* as "a meeting or period devoted to a particular activity" (Merriam-Webster, n.d.-b), and a *worksheet* as "a sheet of paper on which are printed exercises and problems to be solved by a student" (Merriam-Webster, n.d.-c). There are two probable reasons for the obtained results. First, the use of these words reflects the psychoeducational inherent emphasis in any cognitive-behavioral interventions. Specifically, these words capture the *CBI-CA*'s guided approach to linking thoughts and behaviors, teaching individuals to identify risky thoughts, and implementing new thinking (UCCI, 2021). The goal of the treatment manual is to replace the risky thoughts, feelings, and beliefs (UCCI, 2021). Second, the instruction-tinged words reflect the demands by various recidivism treatment funding authorities for defined intervention outcomes. Between the first and the second reasons, the first is most likely because treatment theory is a more probable driver of recidivism interventionists than external funding mandates.

Figure 1: ***Strongest Positive Keyness in the CBI-CA Manual (RQ2)***



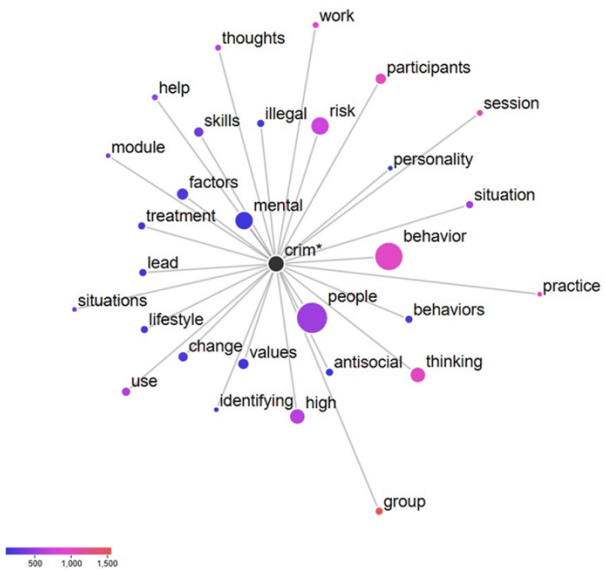
Analysis of RQ3's Results

RQ3 examined the word network of the word stem crim* in the *CBI-CA* manual. The most collocated words to the stem word crim* were "people" and "mental." One explanation is that *CBI-CA* focuses on the therapeutic alliance and mental health needs to address the individual's criminality. The following example illustrates *CBI-CA*'s focus on counselors addressing mental health concerns within correctional institutions:

> The Council of State Governments (CSG) and Bureau of Justice Assistance (BJA) provided funding to the University of Cincinnati Corrections Institute (UCCI) to develop and implement an evidence-based, cognitive-behavioral program for people with mental illnesses involved with the criminal justice system. (UCCI, 2021, p. 2)

An alternative explanation is that *CBI-CA* uses person-centered and softer language to address the criminogenic factors. Here is an example from the *CBI-CA* manual: "Mood is particularly transient for people living with mental illnesses involved in the criminal justice system" (UCCI, 2021, Pretreatment Session 2–3). The former is most likely between these two explanations. As mentioned earlier, *CBI-CA* uses motivational interviewing and motivational engagement techniques throughout the curriculum. These techniques assist the individual in recognizing their mental health and interpersonal barriers to wellness, sobriety, and a crime-free lifestyle.

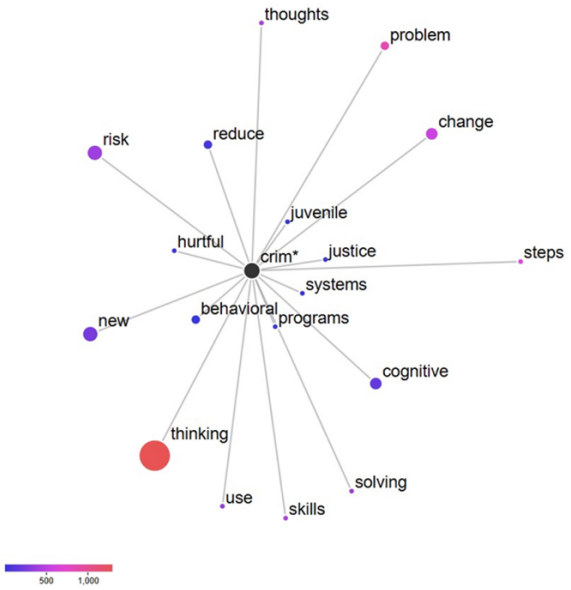
Figure 2: ***Collocates of the Word Stem Crim* in the CBI-CA Manual (RQ3)***



Analysis of RQ4's Results

RQ4 assessed the word network of the word stem crim* in the *T4C* manual. The most collocated words to the stem word crim* were "systems" and "justice." The first explanation is that *T4C* is utilized within correctional institutions. For example, Williams and Hanley (2005) emphasized that it is detrimental for clinicians to focus on criminal thinking errors. The second explanation is that *T4C* uses the term for the orientation of the facilitators and the participants when describing the curriculum to individuals involved with the criminal justice system. For example, Bush et al. (2016) stated, "The work of these individuals set the foundation and benchmarks for many of the programs and cognitive behavioral curricula currently developed and implemented, including those used throughout the criminal and juvenile justice systems" (p. vii). Between the first and the second, the second is most likely because of the foundational history of *T4C* and its inception within the National Institute of Corrections' (NIC) cognitive approaches to changing offender behavior training seminar.

Figure 3: ***Collocates of the Word Stem Crim* in the T4C Manual (RQ4)***



Limitations

When considering the results of this study, two limitations should be kept in mind. The limitations revolve around corpus construction. The first concerns

the number of treatment manuals available for the study. For proprietary reasons, many manual publishers severely restrict access to their products. A second limitation was the availability of digital copies, where there were no direct proprietary barriers, but practical ones were encountered. For example, the Change Companies offers a multitude of evidence-based curricula for addressing criminality and reducing recidivism (https://www.changecompanies.net/industry/jail-and-prison.php). However, this extensive collection of curricula exists only in hard copies. As such, the massive Optical Character Recognition tasks required for adding these texts to the corpuses exceeded practical limitations.

Implications

These are the clinical and research implications. First, the strict designs of EBP recidivism manuals restrict eclectic clinical practices for addressing recidivism treatment. In addition, as part of EBP, some developers require formal facilitator training before access to the treatment manuals is granted. For example, the *CBI-CA* curriculum requires over 20 hours of training, which includes several hours of live observation of group facilitation. *T4C* requires 32 hours of training. The requirement is to ensure fidelity to the curriculum. Completing multiple training for various treatment manuals is time-consuming. In addition, the training can cost thousands of dollars per group facilitator, which is not cost-effective for some clinicians or smaller treatment programs. Second, treatment manuals are unavailable for the study due to proprietary reasons and access to digital copies. These barriers obstruct advancements to EBP, treatment manuals, and future corpus linguistic and comparative analyses research projects because of the access needed for corpus construction. Finally, the treatment manuals do not reflect the cultures with the largest populations inside the correctional system. Future research may consider the demographics of individuals in recidivism treatment programs and the cross-cultural and linguistic attunement of the curriculum. For example, Caldwell (2016) described how practitioners must maintain a basic framework for delivering culturally competent evidence-based treatment services and highlighted the responsibilities of clinicians and facilitators to recognize the client's motivation, readiness for change, strengths, resources, and struggles as they relate to the individual's social-cultural factors within the context of treatment and the meso/macro/chrono levels. The focus on cross-cultural and linguistic attunement is an ethical responsibility based on the statistical reports revealing racial and ethnic disproportionalities with incarceration rates. Although EBP yields more significant results in decreasing recidivism rates compared to treatment as usual, finetuning the cultural and linguistic components towards those disproportionately impacted by incarceration could enhance the facilitators' training and the curriculum's implementation.

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