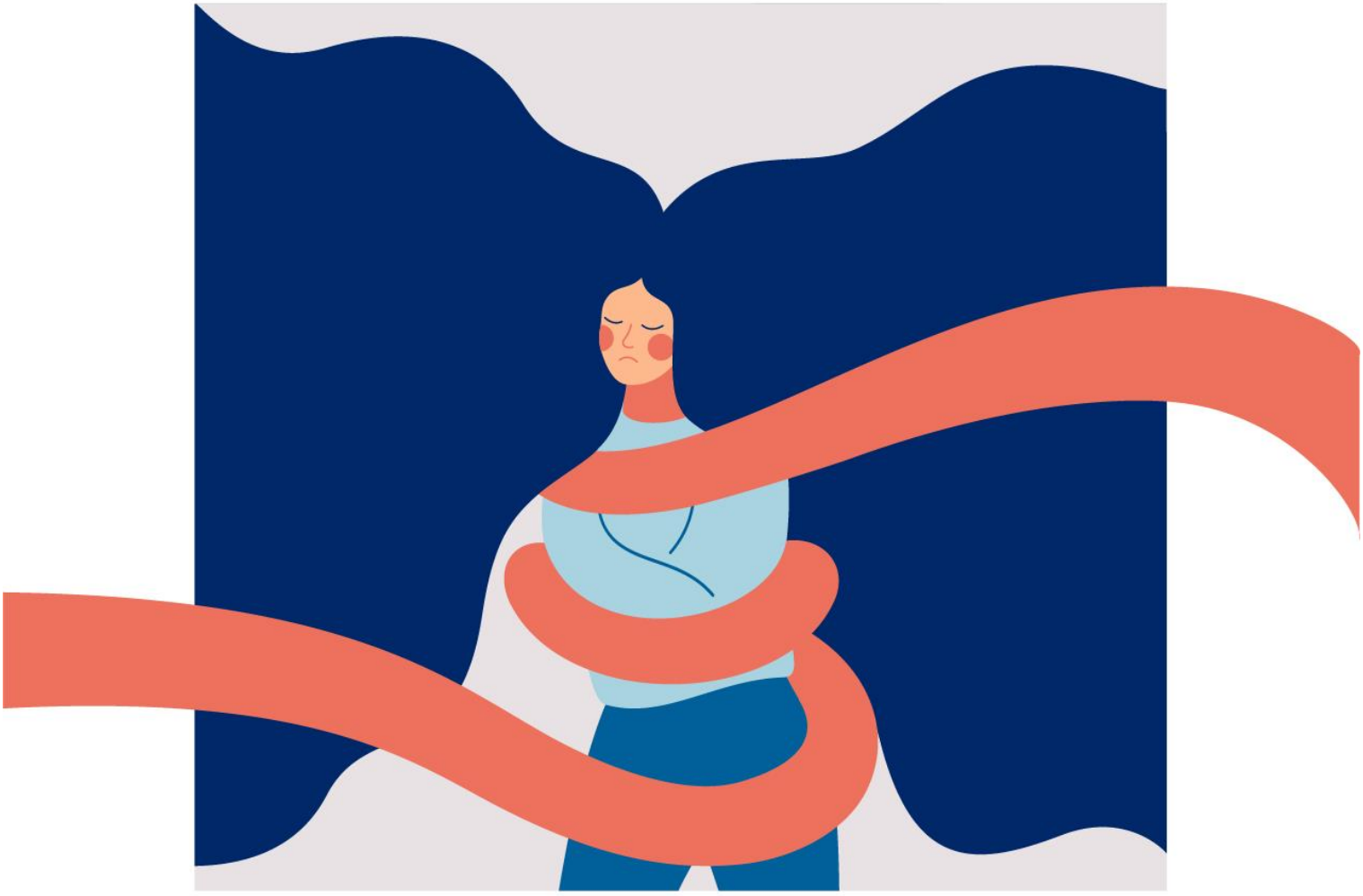
IJRD @FSU

WORKING PAPER 07-2020

Trauma-Informed Care Groups with Incarcerated Women

AN ALTERNATIVE TREATMENT DESIGN COMPARING SEEKING SAFETY & STAIR

Stephen Tripodi, PhD, MSW | Michael Killian, PhD, MSW
Matt Gilmour, MSW | Elizabeth Curley, MSW | Lauren Herod, BA



INSTITUTE FOR JUSTICE RESEARCH AND DEVELOPMENT
FLORIDA STATE UNIVERSITY • COLLEGE OF SOCIAL WORK • IJRD.CSW.FSU.EDU

Abstract

Objective: Almost all incarcerated women have experienced at least one lifetime traumatic event that often leads to limited coping skills and mental health problems. Accordingly, this study aims to evaluate the utility of two different trauma-informed care groups for incarcerated women – Seeking Safety and STAIR – by determining whether they help coping self-efficacy and symptoms of anxiety, depression, and PTSD.

Method: Using an alternative treatment design with a 1:1 allocation ratio, the current study evaluates two cognitive-behavioral based trauma-informed care groups with incarcerated women who volunteered to participate in programming. Anxiety, depression, PTSD, and coping self-efficacy were assessed with validated and reliable outcomes measures at pretest and posttest.

Results: Repeated measures ANOVA indicate that participants who participated in Seeking Safety or STAIR showed statistically significant improvements in anxiety ($F[1, 45] = 27.27$, $p < .001$, $\eta^2 = .377$), depression ($F[1, 45] = 24.93$, $p < .001$, $\eta^2 = .356$), PTSD ($F[1, 45] = 27.34$, $p < .001$, $\eta^2 = .378$), and coping self-efficacy ($F[1, 45] = 14.93$, $p < .001$, $\eta^2 = .245$). The only difference between Seeking Safety and STAIR is that Seeking Safety was more effective in helping participants improve their coping self-efficacy.

Conclusion: The trauma-informed programs improved incarcerated women's mental health problems and coping self-efficacy. Results indicate the importance of screening for trauma and offering correctional-based programming to address trauma and related issues before release.

Keywords: incarcerated women, trauma-informed care, mental health, coping self-efficacy

Trauma Informed Care Groups with Incarcerated Women:

An Alternative Treatment Design Comparing Seeking Safety and STAIR

Despite overall national incarceration rates consistently declining on an annual basis since its peak in 2009, rates for women continue to increase as women comprise the fastest growing incarcerated population in the United States (Carson, 2020; Sawyer, 2018). As of 2017 there were more than 225,000 women held in jails and prisons across the country, an increase of 750% over the past four decades (The Sentencing Project, 2019). Most women in prison have experienced trauma, including experiences of interpersonal violence and childhood victimization (Komarovskaya et al., 2011; Tripodi & Pettus-Davis, 2013). In fact, between 65% and 75% of women in prison report having experienced interpersonal childhood trauma, including physical abuse, sexual abuse, emotional abuse, and neglect (Carlson et al., 2010; Kennedy, Tripodi, Pettus-Davis, & Ayers 2016), compared to just 5% to 10% of non-incarcerated populations (Stensrud et al., 2019).

The high prevalence of trauma among incarcerated women suggests that adults who have experienced victimization are at higher risk for criminal justice involvement, including incarceration in jails and prisons (Cuadra et al., 2014; Kennedy & Mennicke, 2018). The disproportionate number of incarcerated women who have traumatic childhood experiences compared to the non-incarcerated population remains disproportionate when comparing rates of victimization experienced as an adult (Grella et al., 2013). For example, between 50% and 70% of incarcerated women reported they were abused by a partner or spouse prior to incarceration (Lake, 1993; Harlow, 1999; Tripodi, Pettus-Davis et al., 2019).

Recent research has uncovered gendered pathways to the criminal justice system for women where trauma and childhood victimization oftentimes initiate a path to prison (DeHart et al., 2014; Salisbury & Van Voorhis, 2009). The Gendered Pathways Perspective (GPP) helps explain women's involvement in the criminal justice system by addressing the unique

experiences of women and identifying common pathways. Salisbury and Van Voorhis (2009) propose that women involved in the criminal justice system engage in behaviors that lead to incarceration based on factors which are: 1) not typically seen among justice-involved males, and 2) more prevalent among justice-involved women compared to men, or 3) common among both justice-involved women and men, but have distinctly gendered effects for women. Trauma has also been found to be associated with recidivism for justice-involved women; experiencing trauma often leads to higher mental health problems and substance use disorders, which are related to higher rates of recidivism (Salisbury &Van Voorhis, 2009; Tripodi, Pettus-Davis et al., 2019).

Considering trauma is in most cases untreated in prisons despite being a common pathway to the criminal justice system for incarcerated women (Salisbury & Van Voorhis, 2009), and traumatic experiences lead to mental health problems that are related to increased rates of recidivism (Tripodi, Pettus-Davis et al., 2019), the purpose of this study is to implement and evaluate two different trauma-informed care group programs - Seeking Safety and Skills Training in Affective and Interpersonal Regulation (STAIR) - in a women's prison. This research project begins to determine if these trauma-informed programs are useful at improving mental health problems (anxiety, depression, and PTSD) and coping self-efficacy, and to assess whether one of the trauma-informed programs is more impactful for incarcerated women with trauma experiences than the other.

Influence of Trauma on Incarcerated Women

Research consistently finds that exposure to trauma is associated with mental health diagnoses and an increased likelihood of developing a substance use disorder (Olff et al., 2005). Trauma has specifically been linked to mental health diagnoses such as anxiety, depression, and PTSD (Dye, 2018; Hedtke et al., 2008). Regarding incarcerated women, research suggests that experiences of trauma increase the risk for anxiety, depression, substance use disorders, and

adult victimization (Golder et al., 2015; Tripodi & Pettus-Davis, 2013). Approximately 75% of incarcerated women meet criteria for at least one mental health disorder (anxiety, depression, and PTSD being the most common), and multiple diagnoses are more prevalent than a single condition, particularly following exposure to a traumatic event (Beck et al., 2009; Green et al., 2005; Kennedy et al., 2016; O'Donnell et al., 2004). The development of mental health problems for people who experience trauma is sometimes exacerbated by the impact of the traumatic event on coping skills, particularly the ability to cope well in stressful situations.

Research indicates that people who experience trauma are more likely to have maladaptive coping skills such as heavy substance use, emotional numbing, and social withdrawal (Miller & Marsee, 2019). The ability to successfully cope with stress may predict mental health outcomes even more than the severity of the traumatic experience (Aldwin & Yancura, 2004). One meta-analysis found that avoidant coping was associated with depression, PTSD, and general distress for trauma survivors (Littleton et al., 2007). Avoidance behaviors, such as giving up on coping, are associated with the exacerbation of mental health disorder symptoms, particularly general life distress and PTSD (Littleton et al., 2007; Olff et al.,2005). Therefore, participating in trauma-informed programming may help incarcerated women who have experienced trauma improve their coping skills and ultimately the symptoms of mental health diagnoses.

Trauma-Informed Care Programs

Considering most incarcerated women report experiencing at least one traumatic event in their past, it is critical to begin addressing trauma during incarceration to increase chances they will improve their overall well-being and reduce their odds of recidivating when released. Research consistently suggests that addressing trauma significantly improves women's functioning, mental health, and coping skills (Edwards et al., 2007). Seeking Safety is a trauma-informed and cognitive-behavioral intervention that addresses the relationship between trauma,

mental health problems, and substance abuse disorders specifically associated with traumatic experiences (Najavits, 2002). Seeking Safety has a promising evidence of effectiveness (Najavits & Hien, 2013) and is considered an encouraging intervention for co-occurring PTSD and substance use disorders by the Society for Traumatic Stress Studies (Foa et al., 2008). Seeking Safety has generally been implemented and evaluated among samples of women who experienced trauma and have a substance use disorder. Results indicate participation in Seeking Safety, particularly when embedded in substance use disorder treatment programs, significantly decreases depression, PTSD, and substance use, and shows slight improvements in coping skills (Hien et al., 2004; Najavits et al., 1996).

Five known empirical studies have been conducted evaluating Seeking Safety among incarcerated women – two pre-experimental studies (Wolff et al., 2012; Zlotnick et al., 2003), one quasi-experiment (Lynch et al., 2012), and two randomized controlled trials (Tripodi, Mennicke, McCarter, & Ropes, 2019; Zlotnick et al., 2009). While the pre-experimental and quasi-experimental studies found Seeking Safety to help reduce PTSD symptoms, substance misuse, and other mental health problems, the most rigorous published randomized controlled trial (Zlotnick et al., 2009) did not find differences between Seeking Safety and a treatment-as-usual control group in a substance use disorder treatment ward of a prison. Tripodi, Mennicke et al. (2019) found Seeking Safety group participants to have greater improvement with depression and PTSD symptoms from pretest to posttest compared to the treatment-as-usual control group, although the control group also significantly improved their depression and PTSD symptoms.

Skills Training in Affective and Interpersonal Regulation (STAIR) is a cognitive-behavioral intervention focused on social and emotion-management skills originally developed for treatment of PTSD due to childhood victimization (Cloitre & Schmidt, 2015). There are currently six known evaluations of STAIR evaluating its ability to help people who have experienced trauma. Specifically, STAIR has been found to be a promising intervention with

victims of childhood trauma who have PTSD symptoms in terms of reducing symptoms of PTSD, anxiety, depression, and dissociations while improving affect regulation and perceived social support (Cloitre et al., 2002; 2010; 2012). Evaluations of STAIR in a group format found participants had enhanced resilience and reduced psychopathology, reduced severity of PTSD symptoms, and improved coping efficacy when discharged from an inpatient setting (Gudiño et al., 2016; Trappler & Newville, 2007). Overall, STAIR has been found to be a promising intervention with adult victims of childhood trauma, but there is a dearth of research on its effectiveness for people who have experienced other forms of trauma and victimization leading to mental health problems. While there are currently no known intervention studies on the ability of STAIR to help people in a correctional setting, or with persons who have experienced trauma other than childhood victimization, the targeted outcomes of STAIR programming – increased emotional regulation and improved coping skills – are quite relevant for incarcerated women, most of whom have experienced stressful life events and associated trauma.

The purpose of this study is to explore the utility of Seeking Safety and STAIR for incarcerated women by assessing within group change (improvements between pretest and posttest for participants) and between group change (differences between Seeking Safety and STAIR participants) on the following outcomes: anxiety, depression, PTSD, and coping self-efficacy. The specific aims of this study are to: (1) determine whether incarcerated women who participate in Seeking Safety or STAIR are more likely to have reductions in anxiety symptoms, depression symptoms, and PTSD symptoms, (2) determine whether incarcerated women who participate in Seeking Safety or STAIR are more likely to have improvements in coping self-efficacy, (3) determine whether Seeking Safety or STAIR is more impactful at reducing symptoms of anxiety, depression, and/or PTSD, and (4) determine whether Seeking Safety or STAIR is more impactful at improving coping self-efficacy.

The four hypotheses examined in the study are:

1. Incarcerated women who complete Seeking Safety or STAIR programming will have less severe symptoms of anxiety from pretest to posttest.
2. Incarcerated women who complete Seeking Safety or STAIR programming will have less severe symptoms of depression from pretest to posttest.
3. Incarcerated women who complete Seeking Safety or STAIR programming will have less severe symptoms of PTSD from pretest to posttest.
4. Incarcerated women who complete Seeking Safety or STAIR programming will have improved coping skills from pretest to posttest.

Methods

This study used an alternative treatment design with a 1:1 allocation ratio in which research participants were randomly assigned to participate in Seeking Safety group programming or STAIR group programming. This research project was approved by all appropriate human subjects institution reviews. A certified Seeking Safety facilitator delivered Seeking Safety programming and two trained STAIR facilitators delivered STAIR programming – one facilitated the first round of STAIR groups and the other facilitated the second round of STAIR groups. There were two rounds of Seeking Safety groups and two rounds of STAIR groups; one of each in the prison's main unit and one of each in the prison's annex. Six members of the research team administered standardized measures at pretest and again at posttest. The research team members who collected posttest data did not know whether the participants were in the Seeking Safety groups or the STAIR groups.

Sample

This study took place at a minimum/medium/closed level facility in the Southeast United States. The primary author discussed the research project with all women at the prison who were within three years from release and interested in learning more about the voluntary opportunity

to participate. These conversations focused on Seeking Safety and STAIR, what being a research participant entailed, expectations for research participants, and eligibility criteria. Eligibility criteria included: having experienced at least one trauma experience according to the Trauma History Questionnaire, being at least 18 years of age, speaking English, providing informed consent, and being cognitively and emotional functioning to the extent they understand the meaning and expectations of participating in this research study. Random assignment to Seeking Safety or to STAIR was conducted by the primary author and a doctoral-level research assistant using SPSS software. The primary author and the research assistant also enrolled participants into the study and assigned participants to either Seeking Safety or STAIR.

Recruitment and screening

The Primary author gave six talks to groups of women throughout the recruitment phase of the study. Three recruitment talks took place in the prison's main unit and three talks took place in the prison's annex. Women who remained interested in participating in the study after listening to the recruitment talk informed their classification officers and were then screened for participation by the research team. Interested participants were screened for eligibility between December 2017 and August 2018. The participants provided informed consent after screening and then completed their baseline interviews. All women who volunteered for the study had experienced a traumatic event in their lifetime according to the Trauma History Questionnaire.

Programs

Seeking Safety is a manualized cognitive-behavioral program that addresses trauma and behavioral health problems associated with previous exposure to traumatic experiences. Seeking Safety is present-focused and designed to increase coping strategies and address mental health issues related to trauma such as anxiety, depression, and PTSD (Najavits, 2002). The Seeking Safety program consists of 25 modules that cover a range of cognitive-behavioral and interpersonal skills (e.g., detaching from emotional pain, healthy relationships). Not all 25

modules need to be covered during the program, and the program allows group leaders and participants to tailor topics to the specific needs of each group (Najavits, 2002; Wolff et al., 2012).

STAIR is also a manualized cognitive-behavioral program, focused on social and emotion-management skills originally developed for treatment of PTSD due to childhood victimization. STAIR is designed to destigmatize the mental health issues commonly associated with trauma exposure by having group participants learn new emotional regulation skills, and then apply the new emotional regulation skills to help achieve their personal and interpersonal goals (Cloitre et al., 2010). Common social and interpersonal goals often include cognitive restructuring and appropriate expressions of both positive and negative feelings (Cloitre et al., 2010). Each STAIR session follows the same format: 1) education about the effect of trauma on the targeted skill of that particular session, 2) demonstration of the skill, and 3) in-session practice of the skill.

Measures

Experience of Trauma. The *Trauma History Questionnaire* (THQ; Hooper et al., 2011) was used to collect information on participants' histories of traumatic experience to determine if they were eligible for participation. The THQ is a 24-item self-report measure that examines experiences with potentially traumatic events such as crime, general disaster, and sexual and physical assault using a dichotomous yes/no format. For each event endorsed by the participant, respondents are asked to provide the frequency of the event along with their age at the time of the event. Participants were considered eligible for the study if they answered affirmatively to any of the items on the questionnaire.

Demographic. A demographic survey was used to collect information about participant age, race, length of incarceration, current charges, age at first arrest and incarceration, charges at first arrest, and information on their history in jails.

Anxiety. The 7-item *General Anxiety Disorder scale* (GAD-7; Spitzer et al., 2006) was used at pretest and posttest to assess the participants' anxiety. The GAD-7 has been found to be reliable and valid with a Cronbach's Alpha of .92 and high test-retest intraclass correlation (r =.83) (Spitzer et al., 2006). The GAD-7 was also found to have good construct validity assessed through correlation with the PHQ-2 (r =.64), the Questionnaire on Life Satisfaction (r = -.43), and the Resilience Scale (r = -.34) (Löwe et al., 2008). Similar rates of internal and convergent validity have been replicated with psychiatric and general population samples (Johnson et al., 2019; Löwe et al., 2008).

Coping Self-Efficacy. The 26-item *Coping Self-Efficacy Scale* (Chesney et al., 2006) was used at pretest and posttest to assess the participants' self-efficacy and confidence in coping with stress. The Coping Self-Efficacy scale has been found to be reliable and valid with Cronbach's alpha ranging from .80 to .91 (Chesney et al., 2006). Convergent and divergent validity were demonstrated for the three factor scales within the measure when partial correlations were calculated for measures of psychological distress and well-being, ways of coping, and social support (Chesney et al., 2006).

Depressive Symptomology. The 20-item *Center for Epidemiology Studies Depression Scale* (CES-D; Radloff, 1977) was used to assess depressive symptomatology at pretest and posttest. The CES-D measures depression by asking the participant to respond to each item on a 4-point scale ranging from "not at all" to "almost every day." The CES-D has shown strong reliability and validity with alphas ranging from .89-.90. The CES-D has strong construct validity, determined by assessing its correlation with other validated depression scales (Hann et al., 1999).

PTSD. The 20-item *PTSD Checklist for DSM-5* (PCL-5; Weathers et al., 2015) was used to identify PTSD and severity of PTSD symptoms at pretest and posttest. Research has found strong reliability with Cronbach's alpha scores at .94 and test-retest correlations at .82 (Blevins

et al., 2015). The initial evaluation of the PCL-5 demonstrated strong convergent and discriminant validity (Blevins et al., 2015). Convergent and divergent validity were further supported by correlations with the Impact of Event Scale-Revised Scale (r = .82) and the Center for Epidemiological Studies – Depression Scale (r = .64) (Ashbaugh et al., 2016). Validation of the scale for PTSD diagnosis based on the DSM-5 criteria found high sensitivity (.85), specificity (.95), and efficiency (.95).

Statistical Analyses

Sample characteristics were provided through descriptive statistics conducted in SPSS 25.0. Chi-square ($\chi 2$) and t-tests were used to test for association between sample characteristics and intervention groups. Repeated measures ANOVA with a between-subjects factor was used to examine changes in anxiety, depression, PTSD, and Coping Self-Efficacy scores. Differences between groups was examined with an additional test for a time-by-group interaction. Sample size was estimated via partial eta squared statistic ($\eta 2$).

Results

Participant Characteristics and Demographics

Full sample and treatment completion. A total of 85 women were recruited and found eligible for participation in the study (Table 1).

Table 1

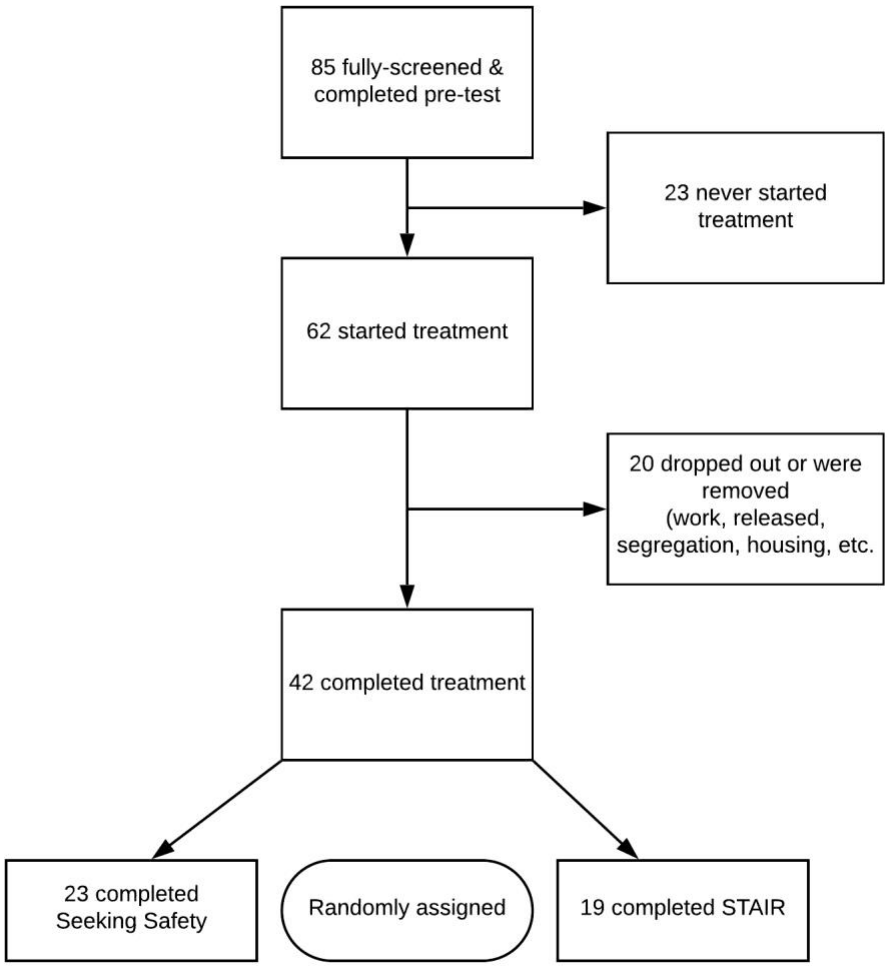
Sample Characteristics, Comparisons Across Groups

	Participants across Study				Tests	Completion by Intervention Type		Tests
	Full sample n = 85	Completed Treatment n = 42	Attrition Group n = 20	Agreed, never entered program n = 23		Seeking Safety Group n = 23	STAIR Group n = 19	
Age, *M (SD)*	40.08 (11.46)	40.43 (11.46)	39.55 (11.66)	39.91 (11.79)	F=.042	42.43 (12.04)	38.00 (10.51)	t=1.26
Race/Ethnicity, *n (%):*					χ_2=9.44			χ_2=1.23
White	55 (64.7)	32 (76.2)	10 (50.0)	13 (59.1)		16 (69.6)	16 (84.2)	
Black	22 (25.9)	10 (23.8)	6 (30.0)	6 (27.3)		7 (30.4)	3 (15.8)	
Hispanic	5 (5.9)	0 (0.0)	4 (20.0)	2 (9.1)		0 (0.0)	0 (0.0)	
Other	3 (3.6)	0 (0.0)	0 (0.0)	1 (4.5)		0 (0.0)	0 (0.0)	

Length of current incarceration *M (SD)*	46.20 (30.75)	45.77 (32.77)	46.63 (25.70)	32.37 (6.90)	*F* =.007	43.62 (34.03)	48.28 (32.02)	*t*=0.44
Number of previous incarcerations, *M (SD)*	1.29 (2.03)	0.83 (1.29)	1.80 (2.80)	2.24 (0.47)	*F* =2.219	0.83 (1.30)	0.84 (1.30)	*t*=0.04
Number of times in jail, *M (SD)*	10.71 (13.60)	9.46 (10.62)	12.68 (16.77)	15.82 (3.54)	*F* =.374	7.05 (7.50)	12.00 (12.86)	*t*=1.48
Age of first arrest, *M (SD)*	22.36 (8.82)	22.39 (8.99)	21.10 (5.61)	23.43 (10.91)	*F* =.361	24.36 (10.81)	20.11 (5.72)	*t*=1.54
Age of first prison incarceration *M (SD)*	30.81 (9.97)	32.36 (10.28)	29.11 (9.84)	29.20 (9.34)	*F* =1.046	32.26 (11.01)	32.47 (9.63)	*t*=0.07
Age of first jailing, *M (SD)*	23.99 (8.33)	24.44 (8.69)	21.35 (5.53)	25.54 (9.48)	*F* =1.464	26.52 (10.33)	21.78 (5.14)	*t*=1.78
Depression - CESD scores, *M (SD)*	28.81 (12.65)	27.46 (11.49)	30.15 (10.13)	30.09 (16.41)	*F* =.464	28.55 (12.24)	29.07 (13.19)	*t*=0.19
PTSD - PCL scores, *M (SD)*	43.31 (17.80)	40.83 (17.68)	47.38 (13.96)	44.28 (20.75)	*F* =.963	41.35 (18.84)	45.31 (18.85)	*t*=1.03
Anxiety - GAD7 scores, *M (SD)*	15.13 (6.32)	15.17 (6.23)	16.90 (4.94)	13.52 (7.33)	*F* =1.548	14.77 (6.36)	15.50 (6.34)	*t*=0.53
Coping self-efficacy, *M (SD)*	151.82 (53.36)	156.41 (56.54)	153.05 (33.71)	142.37 (61.61)	*F* =.516	160.66 (48.83)	142.77 (56.78)	*t*=1.56

Women were randomly assigned to Seeking Safety (n = 43, 50.6%) or STAIR (n = 42, 49.4%). As indicated in Figure 1, of the 85 randomized participants, 62 (72.9%) agreed to participate and entered one of the two programs and of those, 42 participants completed programming (49.4%). Across the study, there were no significant differences among those who completed treatment (n = 42), left the study after some participation in the program (n = 20), and those who agreed to participate yet never attended their assigned program (n = 23) in terms of their age, race/ethnicity, criminal justice involvement characteristics, or outcome scores at baseline. Of the 42 participants that completed programming, 23 participated in Seeking Safety and 19 participated in STAIR. No significant differences were found between the intervention groups across these participant characteristics.

Figure 1: QUOROM flow chart of participant flow.



Trauma among participants. One area of interest was the nature and extent of traumatic events reported by participants. All participants reported having experienced at least two types of trauma, with the most reported trauma being "Have you ever seen someone seriously injured or killed?" (n = 45, 73.8%) followed by "Have you ever been in any other situation in which you feared you might be killed or seriously injured?" (n = 44, 72.1%), and "Has anyone ever made you have intercourse, oral or anal sex against your will?" (n = 40, 65.6%). Women in the sample reported extensive trauma histories with 7.87 number of traumatic events reported on average per participant completing programming (Median = 8, SD = 3.41).

Table 2
Trauma Characteristics in Sample

Trauma Type	*n* (%)
Has anyone ever tried to rob you or actually robbed you by using force or the threat of force, such as a mugging?	35 (57.4)
Have you ever experienced a "man-made" disaster such as a train crash, building collapse, bank robbery, fire, or other man-made disasters, where you felt you or your loved ones were in danger of death or injury?	29 (47.5)
Have you ever seen someone seriously injured or killed?	45 (73.8)
Have you ever had a close friend or family member murdered?	38 (62.3)
Excluding anyone in the last question, have you ever had a spouse, romantic partner, or child die?	31 (50.8)
Have you ever had a serious or life-threatening illness?	25 (41.0)
Has anyone ever made you have intercourse, oral or anal sex against your will?	40 (65.6)
Has anyone ever touched private parts of your body, or made you touch their private parts, under force or threat?	37 (60.7)
Other than incidents mentioned in the last two questions, have there been any other situations in which another person tried to force you to have an unwanted sexual contact?	27 (44.3)
Has anyone, including family members or friends, ever attacked you with a gun, knife, or some other weapon?	35 (57.4)
Has anyone, including family members or friends, ever attacked you without a weapon and seriously injured you?	35 (57.4)
Has anyone in your family ever beaten, spanked, or pushed you hard enough to cause injury?	27 (44.3)
Have you ever been in any other situation in which you feared you might be killed or seriously injured?	44 (72.1)
Have you experienced any other extraordinarily stressful situation or event that is not covered above?	32 (52.5)

Trauma type was not significantly associated with study completion ($\chi 2$ ranged from .005 to 2.18, df = 1, each $p > .05$) or group assignment for those completing the programming ($\chi 2$ ranged from .006 to 3.69, df = 1, each $p > .05$). Similarly, the mean number of trauma types reported were not significantly different between those who completed programming (compared to attrition group, $t = 0.507$, df = 59, $p = .614$) and between Seeking Safety and STAIR ($t = 0.144$, df = 59, $p = .886$).

Programming Results

Participants on average reported significant improvements in the four outcome measures over the course of the intervention (Table 3). Depression ($F[1, 45] = 24.93$, $p < .001$, $\eta 2 = .356$), PTSD ($F[1, 45] = 27.34$, $p < .001$, $\eta 2 = .378$), anxiety ($F[1, 45] = 27.27$, $p < .001$, $\eta 2 = .377$), and coping self-efficacy scores ($F[1, 45] = 14.93$, $p < .001$, $\eta 2 = .245$) demonstrated significant within-subjects effects with medium effect sizes. Only coping self-efficacy scores demonstrated

a significant between-groups effects (F[1, 46] = 5.01, p = .030, η^2 = .098) with the Seeking Safety group reporting significant differences at posttest. A time by group interaction term for the coping self-efficacy scores was not significant (F[1, 46] = .021, p = .885)

Table 3
Change Over Time and Between Groups for Main Outcome Variables

Variables	Test	η^2	Pre - Intervention		Post-Intervention	
			Seeking Safety *n* = 23	STAIR *n* = 19	Seeking Safety *n* = 23	STAIR *n* = 19
Depression:						
CESD scores, *M (SD)*	*F*=24.93***	.356	28.55 (12.24)	29.07 (13.19)	18.97 (10.88)	21.57 (10.33)
Group	*F*=0.09	.002				
Change*Group	*F*=0.001	<.001				
PTSD:						
PCL scores, *M (SD)*	*F*=27.34***	.378	41.35 (18.84)	45.31 (18.85)	25.10 (15.13)	31.43 (20.37)
Group	*F*=0.817	.018				
Change*Group	*F*=1.14	.025				
Anxiety;						
GAD7 scores, *M (SD)*	*F*=27.27***	.377	14.77 (6.36)	15.50 (6.34)	10.90 (6.50)	10.21 (5.00)
Group	*F*=0.15	.003				
Change*Group	*F*=3.10+	.064				
Self-Efficacy:						
Self-Efficacy scores, *M (SD)*	*F*=14.93***	.245	160.66 (48.83)	142.77 (56.78)	195.10 (49.87)	164.01 (54.35)
Group	*F*=5.01*	.098				
Change*Group	*F*=0.021	<.001				

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

Discussion

Existing literature is encouraging yet inconclusive on the effectiveness of Seeking Safety for incarcerated women, and there are no known studies assessing the utility of STAIR in a correctional setting. This study sought to determine the effect of these two manualized cognitive-behavioral trauma programs on coping self-efficacy and symptoms of anxiety, depression, and

PTSD in a population of incarcerated women randomly assigned to each treatment group, as well as comparing the interventions for effectiveness across the same outcome measures. The researchers hypothesized that incarcerated women who complete Seeking Safety or STAIR will have less severe symptoms of anxiety (hypothesis 1), depression (hypothesis 2), and PTSD (hypothesis 3), and improved coping skills (hypothesis 4) from pretest to posttest. The changes in the mean scores from pretest to posttest for each outcome measure were found to be statistically significant for participants in both the Seeking Safety and STAIR treatment groups, meaning the statistical models indicated both programs helped women improve their anxiety, depression, PTSD, and coping skills. These results are in line with much of the existing research on the effectiveness of the two treatment programs – some studies have found Seeking Safety is successful at reducing symptoms of depression and PTSD, and helps improve coping skills (Hien et al., 2004; Lynch et al., 2012; Najavits et al., 1996; Tripodi et al., 2019). Studies on STAIR have shown reductions in anxiety, PTSD and depression and improvements in coping efficacy (Cloitre et al., 2002; 2010; 2012; Gudiño et al., 2016; Trappler & Newville, 2007). Regarding the third aim of the study - determining whether Seeking Safety or STAIR is more impactful at reducing symptoms of anxiety, depression, and/or PTSD and improving coping skills – the results are less conclusive. The between-groups difference in means at posttest for the Coping Self-Efficacy measure being statistically significant in favor of Seeking Safety suggests it was more impactful on improving coping skills than STAIR, but there were no statistically significant between-group differences for any of the three mental health outcome measures.

The results of the study provide continuing evidence that Seeking Safety is a promising treatment program for incarcerated women with a history of trauma (Lynch et al., 2012; Tripodi, Mennicke et al., 2019; Wolff et al., 2012; Zlotnick et al., 2003; 2009). This is the first known evaluation of STAIR in a correctional setting, as well as the first known study on STAIR with people who have experienced trauma other than childhood victimization, providing evidence that STAIR is a promising treatment model, and – same as with Seeking Safety – warrants further

empirical research. Women are the country's fastest growing incarcerated population and have disproportionately high rates of trauma (Carlson et al., 2010; Carson, 2020; Grella et al., 2013; Harlow, 1999; Kennedy et al., 2016; Komarovskaya et al., 2011; Lake, 1993; Sawyer, 2018; Tripodi & Pettus-Davis, 2013), so it is critical to identify trauma-informed interventions and evaluate their effectiveness with women participants given research on the population's uniquely gendered pathways to the criminal justice system (DeHart et al., 2014; Salisbury & Van Voorhis, 2009) and the association between trauma and higher rates of recidivism (Salisbury & Van Voorhis, 2009; Tripodi, Pettus-Davis et al., 2019).

Limitations

The primary limitation to this study is the high attrition rate. As can be seen in the quorum flow chart, of the 85 women who volunteered for the study, 23 never showed up to programming, and 20 who started programming were lost to attrition. Reasons included changed work assignments within the prison that interfered with being able to attend groups, being released from prison, being put into segregation for disciplinary purposes, and being transferred to a different prison. Thus, program effectiveness is based on the approximately 50% of the recruited sample that completed programming. Fortunately, there were no differences on key demographic variables or outcome variables at pretest between participants who never showed up to treatment, participants who did not finish treatment, and participants who completed treatment. Yet, sample size was smaller than anticipated, limiting power to detect the true effect of programming. The second limitation to the study is that the certified facilitator for the Seeking Safety groups remained the same throughout the course of the study, but there was a different facilitator for the two different rounds of STAIR groups. The two facilitators for the STAIR groups were similarly trained in conducting STAIR programming, yet it is important to recognize there was continuity in Seeking Safety having the same group facilitator, but this was not the case for STAIR. This is potentially important to recognize because Seeking Safety was found to be more effective in improving coping self-efficacy than STAIR. Finally, a third

limitation to this study is that there is limited generalizability because women were not randomly selected from the larger population of incarcerated women, and because of the high attrition rates.

Implications for Practice

Despite the limitations, results to this study provide potentially important implications for practice, specifically in terms of trauma-informed care for incarcerated women. The majority of incarcerated women have experienced traumatic experiences in their lifetime, and most have subsequent mental health problems and symptoms of PTSD (Tripodi & Pettus-Davis, 2013). In this study, all research participants experienced at least two traumatic experiences in their lifetime, indicating that correctional mental health professionals should screen for traumatic experiences, and assess for related mental health problems and PTSD symptoms. Trauma is associated with mental health problems such as anxiety, depression, and PTSD. Trauma has also been found to increase chances of recidivism for women on probation/parole (Salisbury & Van Voorhis, 2009), and women releasing from prison who also have depression (Tripodi, Pettus-Davis et al., 2019). Thus, it is important to begin trauma treatment for incarcerated women while they are still in prison. Ultimately, the aim of correctional programming should be to improve the overall well-being for incarcerated women, and results from this study indicate that Seeking Safety and STAIR seem to be appropriate programs for incarcerated women who have experienced trauma and have problems of anxiety, depressions, PTSD, and coping skills. On average, women in this study who participated in trauma-informed care – Seeking Safety or STAIR – improved symptoms for anxiety, depression, and PTSD; and they improved their coping self-efficacy as well. The only significant difference between the two groups was that Seeking Safety appeared to be more effective than STAIR at improving participants' coping self-efficacy.

**This study was funded by the Florida Department of Corrections. There are no conflicts of interest.*

References

Aldwin, C. M., & Yancura, L. A. (2004). Coping and health: A comparison of the stress and trauma literatures. In P. P. Schnurr & B. L. Green (Eds.), *Trauma and health: Physical health consequences of exposure to extreme stress* (p. 99–125). American Psychological Association. https://doi.org/10.1037/10723-005

Ashbaugh, A. R., Houle-Johnson, S., Herbert, C., El-Hage, W., & Brunet, A. (2016). Psychometric validation of the English and French versions of the Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5). *PLoS ONE*, *11*(10), 1–16. https://doi.org/10.1371/journal.pone.0161645

Beck, J. G., Grant, D. M., Clapp, J. D., & Palyo, S. A. (2009). Understanding the interpersonal \ impact of trauma: Contributions of PTSD and depression. *Journal of Anxiety Disorders*, *23*(4), 443–450. https://doi.org/10.1016/j.janxdis.2008.09.001

Blevins, C. A., Weathers, F. W., Davis, M. T., Witte, T. K., & Domino, J. L. (2015). The Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5): Development and initial psychometric evaluation. *Journal of Traumatic Stress*, *28*(6), 489–498. https://doi.org/10.1002/jts.22059

Carlson, B. E., Shafer, M. S., & Duffee, D. E. (2010). Traumatic histories and stressful life events of incarcerated parents II: Gender and ethnic differences in substance abuse and service needs. *The Prison Journal*, *90*(4), 494-515. https://doi.org/10.1177/0032885510382226

Carson, E.A. (2020). Prisoners in 2018. U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics. April 2020, NCJ 253516. https://www.bjs.gov/content/pub/pdf/p18.pdf

Chesney, M. A., Neilands, T. B., Chambers, D. B., Taylor, J. M., & Folkman, S. (2006). A validity and reliability study of the coping self-efficacy scale. British Journal of Health Psychology, 11(3), 421–437. https://doi.org/10.1348/135910705X53155

Cloitre, M., Koenen, K. C., Cohen, L. R., & Han, H. (2002). Skills training in affective and interpersonal regulation followed by exposure: A phase-based treatment for PTSD related to childhood abuse. *Journal of consulting and clinical psychology*, *70*(5), 1067-1074. https://doi.org/10.1037/0022-006X.70.5.1067

Cloitre, M., Miranda, R., Stovall-McClough, K.C., & Han, H. (2005). Beyond PTSD: Emotion regulation and interpersonal problems as predictors of functional impairment in survivors of childhood abuse. *Behavior Therapy*, *36*, 119-124. https://doi.org/10.1016/S0005-7894(05)80060-7

Cloitre, M. & Schmidt, J. A. (2015). STAIR narrative therapy. In U. Schnyder & M. Cloitre (Eds.), *Evidence Based Treatments for Trauma-Related Psychological Disorders* (pp. 277-297). Springer. https://doi.org/10.1007/978-3-319-07109-1_14

Cloitre, M., Stovall-McClough, K.C., Nooner, K., Zorbas, P., Cherry, S., Jackson, C.L., ... & Petkova, E. (2010). Treatment for PTSD related to childhood abuse: A randomized controlled trial. *American Journal of Psychiatry*, *167*(8), 915-924. https://doi.org/10.1176/appi.ajp.2010.09081247

Cloitre, M., Petkova, E., Wang, J., Lu, F. (2012). An examination of the influence of a sequential treatment on the course and impact of dissociation among women with PTSD related to childhood abuse. *Depression and Anxiety, 29*(8), 709-717. https://doi.org/10.1002/da.21920

Cuadra, L. E., Jaffe, A. E., Thomas, R., & DiLillo, D. (2014). Child maltreatment and adult criminal behavior: Does criminal thinking explain the association?. *Child Abuse & Neglect*, *38*(8), 1399-1408. https://doi.org/10.1016/j.chiabu.2014.02.005

DeHart, D., Lynch, S., Belknap, J., Dass-Brailsford, P., & Green, B. (2014). Life history models of female offending: The roles of serious mental illness and trauma in women's pathways to jail. *Psychology of Women Quarterly*, *38*(1), 138-151. https://doi.org/10.1177/0361684313494357

Dye, H. (2018). The impact and long-term effects of childhood trauma. *Journal of Human Behavior in the Social Environment*, *28*(3), 381–392. https://doi.org/10.1080/10911359.2018.1435328

Edwards, V. J., Dube, S. R., Felitti, V. J., & Anda, R. F. (2007). It's OK to ask about past abuse. *American Psychologist*, *62*(4), 327–328. https://doi.org/10.1037/0003-066X62.4.327

Foa, E. B., Keane, T. M., Friedman, M. J., & Cohen, J. A. (2008). *Effective treatments for PTSD, Second Edition: Practice guidelines from the International Society for Traumatic Stress Studies*. Guilford Press.

Golder, S., Engstrom, M., Hall, M. T., Higgins, G. E., & Logan, T. K. (2015). Psychological distress among victimized women on probation and parole: A latent class analysis. *American Journal of Orthopsychiatry*, *85*(4), 382. https://doi.org/10.1037/ort0000057

Green, B. L., Miranda, J., Daroowalla, A., & Siddique, J. (2005). Trauma exposure, mental Health functioning, and program needs of women in jail. *Crime & Delinquency*, *51*(1), 133–151. https://doi.org/10.1177/0011128704267477

Grella, C. E., Lovinger, K., & Warda, U. S. (2013). Relationships among trauma exposure, familial characteristics, and PTSD: A case-control study of women in prison and in the general population. *Women & Criminal Justice*, *23*(1), 63–79. https://doi.org/10.1080/08974454.2013.743376

Gudiño, O. G., Leonard, S., & Cloitre, M. (2016). STAIR-A for girls: A pilot study of a skills-based group for traumatized youth in an urban school setting. *Journal of Child & Adolescent Trauma*, *9*(1), 67-79. https://doi.org/10.1007/s40653-015-0061-0

Hann, D., Winter, K., & Jacobsen, P. (1999). Measurement of depressive symptoms in cancer patients: Evaluation of the center for epidemiological studies depression scale (CES-D). *Journal of Psychosomatic Research, 46*, 437–443. https://doi.org/10.1016/S0022-3999(99)00004-5

Harlow, C. W. (1999). Prior abuse reported by inmates and probationers. U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics. April 1999, NCJ 172879. https://www.bjs.gov/content/pub/pdf/parip.pdf

Hedtke, K. A., Ruggiero, K. J., Fitzgerald, M. M., Zinzow, H. M., Saunders, B. E., Resnick, H. S., & Kilpatrick, D. G. (2008). A longitudinal investigation of interpersonal violence in relation to mental health and substance use. *Journal of Consulting and Clinical Psychology*, *76*(4), 633–647. https://doi.org/10.1037/0022-006X.76.4.633

Hien, D. A., Cohen, L. R., Miele, G. M., Litt, L. C., & Capstick, C. (2004). Promising treatments for women with comorbid PTSD and substance use disorders. *American journal of Psychiatry*, *161*(8), 1426-1432. https://doi.org/10.1176/appi.ajp.161.8.1426

Hooper, L. M., Stockton, P., Krupnick, J. L., & Green, B. L. (2011). Development, use, and psychometric properties of the Trauma History Questionnaire. *Journal of Loss and Trauma*, *16*(3), 258-283. https://doi.org/10.1080/15325024.2011.572035

Johnson, S. U., Ulvenes, P. G., Øktedalen, T., & Hoffart, A. (2019). Psychometric properties of the General Anxiety Disorder 7-Item (GAD-7) Scale in a heterogeneous psychiatric sample. *Frontiers in Psychology*, *10*, 1-8. https://doi.org/10.3389/fpsyg.2019.01713

Kennedy, S. C., & Mennicke, A. M. (2018). "Behind every woman in prison is a man": Incarcerated women's perceptions of how we can better help them in the context of interpersonal victimization. *Journal of Progressive Human Services*, *29*, 206–229. https://doi.org/10.1080/10428232.2017.1399034

Kennedy, S. C., Tripodi, S. J., Pettus-Davis, C., & Ayers, J. (2016). Examining dose-response relationships between childhood victimization, depression, symptoms of psychosis, and substance misuse for incarcerated women. *Women & Criminal Justice*, *26*, 77-98. https://doi.org/10.1080/08974454.2015.1023486

Komarovskaya, I. A., Booker Loper, A., Warren, J., & Jackson, S. (2011). Exploring gender differences in trauma exposure and the emergence of symptoms of PTSD among incarcerated men and women. *Journal of Forensic Psychiatry & Psychology*, *22*(3), 395-410. https://doi.org/10.1080/14789949.2011.572989

Lake, E. S. (1993). An exploration of the violent victim experiences of female offenders. *Violence and Victims*, *8*(1), 41–51. https://doi.org/10.1891/0886-6708.8.1.41

Littleton, H., Horsley, S., John, S., & Nelson, D. V. (2007). Trauma coping strategies and psychological distress: A meta-analysis. *Journal of Traumatic Stress*, *20*(6), 977–988. https://doi.org/10.1002/jts.20276

Löwe, B., Decker, O., Müller, S., Brähler, E., Schellberg, D., Herzog, W., & Herzberg, P. Y. (2008). Validation and standardization of the Generalized Anxiety Disorder Screener (GAD-7) in the *General Population. Medical Care, 46*(3), 266–274. https://doi.org/10.1097/MLR.0b013e318160d093

Lynch, S. M., Heath, N. M., Mathews, K. C., & Cepeda, G. J. (2012). Seeking Safety: An intervention for trauma-exposed incarcerated women? *Journal of Trauma & Dissociation, 13,* 88-101. https://doi.org/10.1080/15299732.2011.608780

Miller, M. A., & Marsee, M. A. (2019). Emotional reactivity and antisocial behavior relative to posttraumatic stress symptom expression: A latent profile analysis. *Journal of abnormal child psychology*, *47*(8), 1339-1350. https://doi.org/ 10.1007/s10802-019-00514-9

Najavits, L. (2002). *Seeking safety: A treatment manual for PTSD and substance abuse*. Guilford Publications.

Najavits, L. M., & Hien, D. (2013). Helping vulnerable populations: A comprehensive review of the treatment outcome literature on substance use disorder and PTSD. *Journal of clinical psychology*, *69*(5), 433-479. https://doi.org/10.1002/jclp.21980

Najavits, L. M., Weiss, R. D., & Liese, B. S. (1996). Group cognitive-behavioral therapy for women with PTSD and substance use disorder. *Journal of Substance Abuse Treatment*, *13*(1), 13-22. https://doi.org/10.1016/0740-5472(95)02025-X

O'Donnell, M. L., Creamer, M., & Pattison, P. (2004). Posttraumatic stress disorder and depression following trauma: Understanding comorbidity. *American Journal of Psychiatry*, *161*(8), 1390–1396. https://doi.org/10.1176/appi.ajp.161.8.1390

Olff, M., Langeland, W., & Gersons, B. P. R. (2005). The psychobiology of PTSD: Coping with trauma. *Psychoneuroendocrinology*, *30*, 974–982. https://doi.org/10.1016/j.psyneuen.2005.04.009

Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*, 385-401. https://doi.org/10.1177/014662167700100306

The Sentencing Project. (2019). Incarcerated women and girls. June 6. https://www.sentencingproject.org/publications/incarcerated-women-and-girls/

Trappler, B., & Newville, H. (2007). Trauma healing via cognitive behavior therapy in chronically hospitalized patients. *Psychiatric Quarterly*, *78*(4), 317-325. https://doi.org/10.1007/s11126-007-9049-8

Salisbury, E. J., & Van Voorhis, P. (2009). Gendered pathways: A quantitative investigation of women probationers' paths to incarceration. *Criminal justice and behavior*, *36*(6), 541-566. https://doi.org/10.1177/0093854809334076

Sawyer, W. (2018). The gender divide: Tracking women's state prison growth. Prison Policy Initiative. January 9. https://www.prisonpolicy.org/reports/women_overtime.html

Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine, 166*(10), 1092–1097. https://doi.org/10.1001/archinte.166.10.1092

Stensrud, R. H., Gilbride, D. D., & Bruinekool, R. M. (2019). The childhood to prison pipeline: Early childhood trauma as reported by a prison population. *Rehabilitation Counseling Bulletin*, *62*(4), 195-208. https://doi.org/10.1177/0034355218774844

Tripodi, S. J., Mennicke, A. M., McCarter, S. A., & Ropes, K. (2019). Evaluating Seeking Safety for women in prison: An RCT. *Research on Social Work Practice, 29*, 132-160. https://doi.org/10.1177/1049731517706550

Tripodi, S. J., & Pettus-Davis, C. (2013). Histories of childhood victimization and subsequent mental health problems, substance use, and sexual victimization for a sample of incarcerated women in the US. *International journal of law and psychiatry*, *36*(1), 30-40. https://doi.org/10.1016/j.ijlp.2012.11.005

Tripodi, S. J., Pettus-Davis, C., Bender, K., Fitzgerald, M., Renn, R., & Kennedy, S C. (2019). Pathways to recidivism for women released from prison: A mediated model of abuse, mental health issues, and substance use. *Criminal Justice and Behavior*, *46*(9), 1219-1236. https://doi.org/10.1177/0093854819867119

Weathers, F. W., Litz, B. T., Huska, J. A., & Keane, T. M. (1994). *PTSD Checklist-Civilian version*. National Center for PTSD, Behavioral Science Division. https://doi.org/10.1037/t02622-000

Wolff, N., Frueh, B. C., Shi, J., & Schumann, B. E. (2012). Effectiveness of cognitive–behavioral trauma treatment for incarcerated women with mental illnesses and substance abuse disorders. *Journal of Anxiety Disorders*, *26*(7), 703-710. https://doi.org/10.1016/j.janxdis.2012.06.001

Zlotnick, C., Najavits, L. M., Rohsenow, D. J., & Johnson, D. M. (2003). A cognitive-behavioral treatment for incarcerated women with substance abuse disorder and posttraumatic stress disorder: Findings from a pilot study. *Journal of Substance Abuse Treatment, 25*(2), 99-105. https://doi.org/10.1016/S0740-5472(03)00106-5

Zlotnick, C., Johnson, J., & Najavits, L. M. (2009). Randomized controlled pilot study of cognitive-behavioral therapy in a sample of incarcerated women with substance use disorder and PTSD. *Behavior Therapy*, *40*(4), 325-336. https://doi.org/10.1016/j.beth.2008.09.004