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Psychometric Evaluation of the Offender Coping Self-Efficacy Scale in the Context of Incarceration and Upon Re-entry

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Psychometric Evaluation of the Offender Coping Self-Efficacy Scale in the Context of

Incarcerated Offenders and Upon Re-entry

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Dedication

This is dedicated to my family (Bố, Me, Minhdung, and Minhtan)
for all of your sacrifices, encouragement, and love to get me where I am today.

Acknowledgements

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Abstract

Minhdan Ta (343 words)

Incarceration presents unique stressors that affect psychological well-being. Identifying self-efficacy for different types of coping strategies to manage stressors may help treatment teams develop appropriate interventions aimed at reducing recidivism. Consequently, I developed and evaluated the preliminary psychometric properties of the Offender Coping Self-Efficacy Scale (OCSS). An initial pool of 47 items was used to assess inmates' confidence in their ability to cope with stressors related to incarceration and re-entry. The scale was completed by a sample of inmates ($N = 144$) who were 18 years or older and serving time at one of two county jails. The majority of the participants were male (78.4%), White (51.4%), and had a high school diploma or equivalent (39.2%). About 60% of the participants had been sentenced and were serving their sentence in the county jail.   Items were selected using standardized estimates, item-total correlations, and construct definitions. The final 30-items had an internal consistency alpha of .92, with subscale alphas ranging from .70 to .86. The OCSS's underlying factor structure was examined using confirmatory factor analysis (CFA) of seven models, in addition to an exploratory factor analysis (EFA). Based on item-level analyses, the OCSS best fit a bi-factor model with three coping strategies and two settings (χ^2 [371; $N = 144$] = 733.293, $p < .01$, CFI = 0.82, and RMSEA = 0.083). A single-order, six-factor structure, of coping strategy and setting factors with a total OCSS had similar fit (χ^2 [395; $N = 144$] = 789.589, $p < .001$, CFI = 0.81, and RMSEA = 0.084). Structural equation modeling was used to estimate the OCSS's construct validity in a nomological net of related constructs. A strong, positive correlation was found between the OCSS and a related measure of coping self-efficacy. Less strong correlations were found with the OCSS and measures of general self-efficacy, coping, career decision-making self-

efficacy, and incarceration history. The OCSS was not significantly related to psychological

well-being. The results of this study support that with continued research, the OCSS offers

utility in assessing the likelihood of and supporting successful re-entry into the community.

Keywords: coping, self-efficacy, offender, inmate, social cognitive theory, social

cognitive career theory.

CHAPTER I

The purpose of this dissertation is to provide a psychometric evaluation of the Offender

Coping Self-Efficacy Scale (OCSS), a measure that has been developed to assess offenders' self-

efficacy (SE) for three coping strategies: (a) tasks and problems, (b) emotions, and (c) social

support in two settings (while incarcerated and shortly after re-entry into the community). This

measure was created to address a lack in coping self-efficacy (CSE) measures specifically for the

incarcerated population and the stressors they face while serving their sentence and upon re-entry.

For the purpose of this study, I defined CSE among offenders as a person's judgment of his or

her capability to cope with stressors encountered during incarceration and during the transitional

re-entry period back into society. I will refer to inmates still serving their sentence as *offenders*

and those who have served their sentences and are released into the community as *ex-offenders*.

The need for this measure is driven by the rising rates of recidivism, contributing to

overcrowding populations in jails and prisons. With the development of the OCSS, the goal is to

produce a validated CSE measure that correctional facilities can utilize to develop, revise, and

evaluate individualized treatment plans and interventions offered to offenders to reduce the rate

of recidivism. The OCSS aims to address concerns that offenders face during incarceration and

upon re-entry, allowing for the OCSS to be used at any time point.

About 1.6 million men and women are currently incarcerated in either prison or jail

(Sabol, West, & Cooper, 2008; Warren, Gelb, Horowitz, & Riordan, 2008). The incarceration

rate has increased from 221 to 762 per 100,000 people since 1980 to 2008, respectively (Western

& Pettit, 2010). Many of the correctional facilities across the U.S. are overcrowded, which

increases rates of health problems among offenders, and exacerbates the safety risks for both

staff and offenders (Hartney, 2006). At nearly eight times the average rate of incarceration

historically (Western & Pettit, 2010), the correctional system is under pressure to accommodate these increasing numbers while also managing the re-entry of about 95% of those incarcerated from jail back into local communities (Bahr, Harris, Fisher, & Armstrong, 2010). With recent reductions in funds for correctional facilities, many offenders do not receive help in the form of rehabilitation or adequate re-entry services (Hartney, 2006) that may ultimately promote successful re-entry into local communities and reduce rates of recidivism.

Incarcerated individuals live in unique conditions that are likely to negatively affect offenders both physically and mentally. They are likely to experience stressors ranging from managing mental and physical health problems, dealing with substance use issues, finding social support, to adapting to the environment. Once offenders begin release planning, they are considered to be preparing for re-entry. During this period, offenders face even greater stressors such as finding employment and affordable stable housing, paying back financial obligations, finding social support, all of which lower the risk of re-offending.

As offenders proceed through the re-entry process and transition from prison or jail and back into society, many report difficulty reintegrating into their local community, finding stable housing and employment, and receiving social support (Shinkfield & Graffam, 2009). With a national recidivism rate of 67.5%, most released offenders do not successfully complete parole or are re-arrested within three years of release (Langan & Levin, 2002; Wormith et al., 2007). By identifying how offenders and ex-offenders are able to cope with these stressors, early steps can be taken to intervene and address maladaptive coping strategies, improve treatment planning, and prepare them for successful re-entry and reduce recidivism rates.

With the rise in the number of incarcerated individuals, coping with the stressors they face during incarceration and after re-entry is critical to an individual's ability to adapt and,

consequently, reduce the rate of re-offending and being re-incarcerated. The poor ability to cope

with stressors while incarcerated and after re-entry can lead to negative outcomes such as re-

offending, thus contributing to the rate of recidivism. Within correctional systems, needs

assessments are often administered to offenders upon admission. However, few studies offer

predictive models that investigate offender needs during the course of incarceration. As a result,

I chose to focus my dissertation on factors that can be used to assess offender CSE while serving

their sentence and upon re-entry into the community. Specifically, I am interested in examining

the role of CSE in relation to stressors faced during incarceration and upon re-entry.

Three major theoretical perspectives were taken into account during the development of

the OCSS and served as a guide for providing a conceptual understanding of CSE and its

relationship to other constructs. Lazarus and Folkman's (1984) stress and coping theory

recognizes the role of coping and its relationship to cognitive and behavioral outcomes.

Bandura's (1982) self-efficacy theory acknowledges the effect of SE on one's capability to deal

with stress. Lastly, Lent, Brown, and Hackett's (1994) social cognitive career theory (SCCT)

models the relationship between past experiences, CSE, and coping success. The OCSS utilizes

each of these theories by yoking Lazarus and Folkman's (1984) concept of coping and Bandura's

(1982) concept of SE into a construct that attempts to explain why individuals with higher CSE

for stressors are more likely to engage in healthy behaviors, and applies Lent and colleagues'

theory within an offender and ex-offender context. These three theories are used together to

provide a theoretical understanding of predictors of CSE and the outcomes dependent on level of

CSE.

Studies have found that CSE is an important predictor of psychological well-being

(Cieslak, Benight, & Lehman, 2008; Gullone, Jones, & Cummins, 2000); however, offenders

experience stressors that require coping strategies that the general public may consider

maladaptive. In addition, the stressors faced by offenders may be drastically different from

stressors with which ex-offenders are concerned. Therefore, I believe that the OCSS will be a

useful tool in assessing CSE with the unique stressors during incarceration and after re-entry.

The a priori theorized factors, based on Lazarus and Folkman's (1984) and Bandura's (1982)

theories, of the OCSS include three different strategies (i.e., task and problem, emotion, and

social support) used in two different settings (i.e., during incarceration and after re-entry). This

3:2 structural format of the OCSS allows for subscales to measure specific strategies for specific

settings, which I believe is the key to understanding the diversity of CSE among offenders and

ex-offenders.

The OCSS is a measure developed to address the lack of scales designated specifically

for incarcerated populations. Such a tool will be helpful in treatment planning while the offender

is incarcerated and release planning before returning back into the community. It is also a useful

tool in developing, revising, and evaluating interventions for offenders. Bandura (2006) stated

that SE beliefs are domain specific, suggesting SE is likely to vary depending on the activity and

environment or context. Since there are no previous studies that have utilized a CSE scale

specifically for offenders, the OCSS is being developed to address the lack of CSE scales

specifically for the incarcerated population and the unique issues they face while incarcerated

and after re-entry into society. A limitation of my study is that the measures are all administered

in English, limiting participants to only offenders fluent in English. However, it would be

irresponsible to begin immediate translation of English-only instruments to other languages

without first establishing its efficacy. The next steps in this program of research will be to

conduct a cross validation (i.e., replication of this entire study) in different languages and to

conduct invariance testing for the OCSS and the nomological net.

Consequently, the purpose of my dissertation is to provide a psychometric evaluation of the OCSS. In my dissertation, I will provide an evaluation of the underlying structure and subscales of the OCSS, report reliability, and evaluate validity by comparing the OCSS with measures of general SE, CSE, coping for stressful situations, career decision-making SE, and psychological well-being.

Literature Review

Stressors and Coping Self-Efficacy among Offenders

In this section, I will discuss the stressors offenders face during incarceration and stressors that ex-offenders face upon re-entry. The issues that are present in the context of incarceration are vastly different from issues experienced by the general population. Living in these unique conditions requires specific strategies for effective coping because deprivation in prison environments can negatively affect offenders physically and mentally. Offenders are likely to experience difficulty related to separation from social support, issues with mental and physical health, substance use, and building relationships with other offenders (Appelbaum, 2005). As offenders prepare for release and begin the re-entry process, new stressors accrue, increasing the risk for recidivism. New stressors may stem from the fear of re-offending, finding stable employment and housing, paying back financial obligations, experiencing social stigma due to ex-offender status, and finding social support (Weisman et al., 2004). With the extensive list of stressors and the effects on psychological well-being, identifying CSE in handling stressors while incarcerated and upon re-entry may help treatment teams improve daily functioning while incarcerated as well as prevent re-offending.

Stressors faced during incarceration. Incarceration is a unique situation that requires

correctional officers, mental health providers, and other staff to have an understanding of the

context in which offenders live. Examples of a stressor may be when offenders are left for long

periods of time in their cells; this situation can lead to tedium and boredom. In addition,

offenders must cope with separation from social support, limited privacy and autonomy, and fear

of assault (Appelbaum, 2005). Incarceration has a high likelihood of increasing stress and

maladjustment of offenders. With recent government budget cuts, funding for correctional

facilities has been significantly reduced, leading to overcrowding in many prisons (Harrison &

Beck, 2003). This section provides various examples of stressors an offender may face during

incarceration.

Medical conditions contribute to stress. Medical concerns related to safety and the

avoidance of spreading and contracting illness through bacterial and viral infections are

common, particularly influenza and pneumonia. Offenders have a high prevalence of

transmittable diseases such as HIV/AIDS, tuberculosis, viral hepatitis B and C, and other

sexually transmitted infections (Maruschak, Berzofsky, & Unangst, 2015). Offenders also have

high rates of chronic somatic illnesses (e.g., asthma, diabetes, and hypertension) and mental

illness (National Commission on Correctional Health Care; NCCHC, 2002).

Dealing with mental illness in prison adds another dimension of stress to the lives of

some offenders. Unlike many medical conditions, most mental illnesses are not visible and are

therefore harder to detect. The prevalence of mental illness in correctional settings ranges from

45-64% in local jails, state prisons, and federal prisons (James & Glaze, 2006). Offenders with

mental disorders are more vulnerable and are at higher risk for victimization by other offenders

(Dumond, 2003). Furthermore, symptoms of mental illness may be exacerbated by

incarceration. Individuals with mental disorders may have difficulty understanding and

following rules and expectations, leading to more rule infractions and reduced chances of obtaining parole (Ditton, 1999).

Substance use disorders are frequently comorbid with other mental illness (Appelbaum, 2005). In a controlled environment, offenders are likely to experience withdrawal symptoms, which increases adjustment difficulty. Conklin, Lincoln, and Tuthill (2000) found substance use disorders to be prevalent in 66% of males and in 60% of females within three months prior to prison admission. In fact, over 80% of criminal offenders in the U.S. were arrested for drug/alcohol related offenses (National Center on Addiction & Substance Abuse, 2010). With the stress of incarceration, there may also be a higher risk of relapse and potential for suicide (Weisman, Lamberti, & Price, 2004). Higher supervision and subsequent treatment of these individuals is necessary to maintain safety within the unit, especially the control of illegal substances. This process requires more time, money, and resources that could be better allocated towards other areas within corrections.

In regard to relationships, offenders are expected to avoid fights with other offenders and maintain respect for the staff and facility. This task can be difficult when individuals are separated from their normal environment and are placed in a new situation with high risk for harm. Gang membership is common among offenders, and offers a source of social support; however, it predicts violent behavior (Austin, 2003). A large number of violent offenders are housed in correctional settings under stressful circumstances, often for lengthy periods of time (Weinstein, Kim, Mack, Malavade, & Saraiya, 2005). This situation is likely to lead to aggressive behavior toward other offenders, treatment providers, and custodial staff (Weinstein et al., 2005), requiring more security to maintain the safety of the institution.

Aging and accelerated aging is of special concern in the prison context. Accelerated

aging refers to the development of chronic illness and disability at a younger age than the general

U.S. population (Aday, 2003). Aging is a stressor because it introduces additional challenges

regarding safety, functional ability, and health. This factor may greatly affect older offenders

and lead to more difficulties upon re-entry, including being frail in their unsafe neighborhoods,

having medical conditions with limited access to health care, and returning to a community they

have not lived in for years (Williams & Abraldes, 2007).

      Some correctional facilities offer support to help manage stressors related to

incarceration. With sufficient funding, prisons are able to provide better access to treatment,

shelter, structure, and safety in an attempt to reduce homelessness and unemployment

(Appelbaum, 2005). It is ultimately up to the offender to improve his/her CSE in order to deal

with stressors. Skill development may help with being a functional and productive citizen upon

release.

      The living conditions while incarcerated introduce unique stressors that the general

population may never experience, which argues the point that CSE measures that are normed

with the general public may not be as psychometrically sound for use with offenders. While

taking into consideration the context of how an offender experiences these stressors, a CSE

measure specifically geared towards offenders may unveil information useful in treatment

planning and in ultimately reducing recidivism rates. The OCSS also recognizes re-entry as an

important part of incarceration and specifically addresses stressors related to re-entry. The

OCSS recognizes that stressors faced during incarceration and stressors faced after re-entry are

vastly different. In the next section, I will describe issues faced after re-entry and discuss

stressors that carry on from incarceration into the re-entry process and introduce new stressors

that ex-offenders manage upon release into the community.

Stressors faced during re-entry. In the past, ex-offenders were left to fend for themselves and all responsibility of the correctional agencies stopped upon release (Greifinger, 2007). Contrary to previous belief, the period of re-entry is a critical time for working with offenders toward reducing chances of recidivism. Planning for release may start as early as six months, or it can occur as late as one week prior (Gaynes, 2005; Taxman, Young, Byrne, Holsinger, & Anspach, 2002). The American Medical Association (AMA, 2001) has advocated that the re-entry period is the chance for correctional and public health practitioners to honor their moral duty to provide continuity of care for their patients, the offenders.

One of the most pervasive contributors to high incarceration rates is the high rate of recidivism, making re-offending one of the biggest stressors during re-entry. Offenders tend to cycle within the criminal justice system and more than 66% of all offenders end up back in jail or prison within three years of release, and 25% return to prison with a new sentence (Mumola & Karberg, 2006). Upon release, ex-offenders are frequently unemployed, homeless, and without financial or social support (Peters, Sherman, & Osher, 2008). Other factors important for consideration are problems related to receiving medical attention, psychiatric consultation, affordable housing, transportation, and reinstatement of income supports (Lamberti & Price, 2004).

A major challenge upon re-entry is finding employment that will meet financial needs associated with housing, food, and other necessities. Finding employment is often challenging because employers have the legal right to ask if applicants have ever been convicted of a crime if it is relevant to the job. Consequently, Holzer, Rapheal, and Stoll (2003) found that low employment rates appear to be closely related with the high rate of recidivism among those recently released from prison. Factors that also contribute to difficulties attaining employment

are limited education and cognitive skills, limited work experience, a history of substance abuse, and other physical or mental health problems (Holzer et al., 2003).

Financial obligations may be overwhelming as ex-offenders learn to support themselves; this stressor creates greater pressure to find stable employment. Offenders who received financial support from the government often learn that their support was discontinued due to their incarceration (Weisman et al., 2004). Delays in re-activating accounts or applying for new accounts can exacerbate issues related to an inability to pay for medication, housing, and transportation. Additionally, ex-offenders may be responsible for charges they accrued during incarceration (e.g., including charges for any prison furniture they damaged and restitution).

In addition to these factors, the stigma related to having a history of arrest and incarceration can be a significant factor in how they are treated in the community (Weisman et al., 2004). Offenders may be considered a disadvantaged group because of their ex-offender status after release. It has been suggested that disadvantaged groups face threats to the degree that they feel marginalized or devalued (Outten, Schmitt, Garcia, & Branscombe, 2009). Finding stable housing may be difficult because some property managers may discriminate and decline housing because of the ex-offender's criminal history. Without stable housing, ex-offenders are at risk for homelessness, which increases the risk of re-offending (Metraux, Roman, & Cho, 2007). In the absence of appropriate help, offenders are likely to recidivate and return to correctional facilities.

Social support is important for ex-offenders to thrive after release. In order to successfully transition from incarceration to the community, it is necessary to develop connections with local social services offices (Weisman et al., 2004). These social services can advocate for the offender and serve as gateways for re-connecting with family, friends, and other

community support services. Services vary from vocational services to finding available support

groups such as Alcoholics Anonymous or Narcotics Anonymous. Services related to substance

abuse are important, as relapse has been found to precipitate or contribute to the high rate of

recidivism (Prendergast, 2009). Many ex-offenders rely on the assistance of others, such as

friends and family, in addition to public agencies. Only a small portion of offenders with mental

illness have a stable support network of family and friends that are able to provide for them

(Draine, Wolff, Jacoby, Hartwell, & Duclos, 2005). Therefore, most ex-offenders with mental

illness lack social support, and must find housing, food, and a source of income with little

assistance (Draine et al., 2005).

The process of incarceration and re-entry is taxing for offenders and society. There are

various barriers and challenges faced during and after incarceration. During incarceration,

offenders with maladaptive coping strategies are more likely to experience psychological distress

(Grennan & Woodhams, 2007) and score higher on measures of depression, paranoia,

schizophrenia, and social introversion (Kirchner, Forns, & Mohino, 2007). Zamble and

Porporino (1990) found coping ability and recidivism to be negatively correlated, suggesting that

offenders with low levels of coping ability are more likely to recidivate once they are released.

Furthermore, only about 11% of offenders exhibit adaptive coping skills after re-entry and they

tend to demonstrate similar coping behaviors in the community as they did while incarcerated

(Zamble & Porporino, 1990). About 70% of offenders utilize coping strategies that make the

problem worse (Zamble & Porporino, 1990). It is the correction agency's duty to keep the public

safe while ensuring that offenders receive due process and all legal rights are afforded to them.

With the high rate of recidivism, focusing on details that may improve functioning and reduce

recidivism among offenders seems necessary.

During the course of incarceration, offenders actually cope less effectively the more time

they spend in prison (Zamble & Porporino, 1990). To address this issue, a starting point may be

to identify offender CSE and create interventions to develop CSE. I propose that greater CSE in

adjustment during incarceration and re-entry will contribute to greater success with their goals to

avoid recidivism. A step toward understanding the role of CSE within the incarcerated

population is the creation of a reliable and valid CSE measure for the unique tasks and contexts

facing these individuals. In the development of a new CSE measure, three different theories

were taken into account to provide the theoretical framework and support for the measure.

Theoretical Framework for the Development of the OCSS

In this section, I will discuss the three major theoretical perspectives that guided the

initial development of the OCSS and its evaluation. First, Lazarus and Folkman's (1984) stress

and coping theory addresses the role of coping in response to stress, and the resulting cognitive

and behavioral outcomes. Second is Bandura's (1982) self-efficacy theory, which stems from

Bandura's social cognitive theory (SCT; 1986), and emphasizes the influence of SE on one's

ability to manage stress and execute actions. Finally, social cognitive career theory (SCCT;

Lent, Brown, & Hackett, 1994) provides a model I believe will be relevant in demonstrating the

relationship between past experiences, CSE, and coping success among offenders. These

theories together provide a theoretical perspective of the role of CSE in the context of

incarceration and re-entry.

Coping. Lazarus and Folkman's (1984) stress and coping theory explains the relevance

of stress and how the appraisal of stress influences coping strategies used by the individual. This

theory was included as part of the framework for the development of the OCSS due to its

emphasis on coping as the main consequence of stress appraisal. Lazarus and Folkman (1984)

discuss the relevance and importance of two strategies of coping (i.e., problem-focused and emotion-focused) that were included as two of three coping strategies assessed by the OCSS.

Lazarus and Folkman (1987) identified two coping strategies: (a) problem-focused and (b) emotion-focused or cognitive coping. These coping strategies serve two functions. Specifically, they help individuals: (a) change the situation, and (b) regulate their emotional distress. Problem-focused coping elicits responses that focus on changing problematic aspects of stressful situations or events (i.e., planful problem solving). Emotion-focused coping elicits responses that focus on managing emotional reactions to stressful situations or events (i.e., avoidance or acceptance). Problem- and emotion-focused coping can result in either maladaptive or adaptive coping, depending on which type is used in that specific situation.

Maladaptive coping occurs when the strategy individuals use to cope fails to regulate distress or alleviate the underlying problem. This outcome is likely to result when problem-focused coping strategies are used in response to uncontrollable stressors, or when emotion-focused coping is used in response to controllable stressors. Adaptive coping refers to situations in which the coping strategy matches the level of controllability of the stressful event or situation. When people are able to manage stressful situations with appropriate coping strategies, they are less likely to experience psychological symptoms of distress than when there is a lack of fit between the stress and strategy (Park, Folkman, & Bostrom, 2001). Coping also includes the individual's appraisal of SE for specific situations and environments, which makes Lazarus and Folkman's (1984) theory important in the analysis of CSE.

Stress and coping theory informs coping strategies used in the OCSS. Lazarus and Folkman's (1984) stress and coping theory suggests that stress is an inevitable aspect of life and it influences how people cope. Stress is often defined as either a stimulus or response that puts

an emphasis on the relationship between the person and his/her environment (Lazarus &

Folkman, 1984). The level of psychological stress an individual experiences is influenced by

personal characteristics and individual differences in his/her responses to stressful situations.

When people experience stressful events, their ability to behaviorally and cognitively cope with

these situations influence their psychological and physical well-being (Lazarus & Folkman,

1987). Lazarus and Folkman (1987) suggested that self-directed cognitive appraisals are central

to the degree of psychological stress that is experienced.

Cognitive appraisal refers to the evaluative cognitive process that mediates the

relationship between the situational experience (stress) and the reaction (coping; Lazarus &

Folkman, 1984). If a situation is evaluated as stressful (primary appraisal), then various coping

options are considered (secondary appraisal). According to Lazarus (1991), the main result of

appraisal is the type of coping strategy the individual decides to use. Coping strategies are the

continuous cognitive and behavioral efforts to manage specific demands of the stressful situation

(Lazarus, 1999).

Although not included as its own coping strategy, Lazarus and Folkman (1984) identified

seeking social support as an element of emotion-focused coping. Seeking social support has

been found to contribute to positive psychological outcomes (Bradley, Schwartz & Kaslow,

2005) and enhanced health, and is considered to be an important protective factor against stress

and depression (Benight & Bandura, 2004). Supporters may model effective coping attitudes

and skills, promote engagement in beneficial activities, and increase motivation. This enabling

function of social support can also enhance SE (Benight & Bandura, 2004). Social support has

been found to produce beneficial outcomes to the extent that it increases perceived SE to manage

environmental demands (Benight, Swift, Sanger, Smith, & Zeppelin, 1999; Cheung & Sun,

2000).

Lazarus and Folkman's (1984) stress and coping theory directly and indirectly informed the initial creation of the OCSS. I included Lazarus and Folkman's (1984) problem-focused and emotion-focused coping strategies as two of the three coping strategies utilized in the OCSS. However, I believe that the role of seeking social support is unique enough to be considered as its own factor in the OCSS and will be used as the third coping strategy utilized in the OCSS.

Coping as a predictor of psychological outcomes. Coping strategies are important predictors of psychological well-being. Folkman and Lazarus (1988) developed the Ways of Coping Questionnaire, which separates coping into eight domains: confrontive, distancing, self-control, seeking social support, accepting responsibility, escape-avoidances, planful problem-solving, and positive reappraisal. They administered the questionnaire to a sample of 85 married couples and 161 independent participants. Results indicated that planful problem-solving was associated with positive outcomes such as increased positive emotions and decreased negative emotions. In the younger married sample, confrontive coping was found to be predictive of negative emotional states (Folkman & Lazarus, 1988). Both planful problem-solving and confrontive coping are considered problem-focused strategies, although they were associated with different outcomes. This result supports the notion that coping strategies can be either adaptive or maladaptive, depending on the environment and situation.

Researchers have reported that emotion-focused coping strategies (e.g., positive reframing or acceptance) may be protective factors and be correlated with higher meaning in life (Culver, Arena, Antoni, & Carver, 2002), especially if the problem is unlikely to be resolved (Heckhausen, Wrosch, & Schulz, 2010). However, other emotion-focused coping strategies (e.g., denial, substance use, or venting) are less likely to help the situation and are correlated with

undesirable outcomes (Culver et al., 2002).

Elliot, Thrash, and Murayama (2011) interviewed undergraduates regarding their personal goals for the school semester and measured their level of subjective well-being in terms of life satisfaction over the course of the semester. In their analysis of cognitive avoidance, they found avoidant coping (a form of emotion- focused coping) was a significant predictor of poorer subjective well-being at the end of the semester ($\beta = -.14$, $p < .05$), suggesting that participants who used more cognitive avoidance to cope during the semester showed a greater decrease in life satisfaction from beginning to the end of the semester. They also found that avoidance coping was a significant predictor of life stressors ($\beta = .35$, $p < .01$), indicating that students who used more avoidance coping over the course of the semester experienced more negative events.

Seeking social support from family and peers as a coping strategy may boost feelings of self-esteem and belongingness, and may provide information and guidance that helps with assessing threats and planning strategies to cope with stressors (Sarason, Sarason, & Pierce, 1994). Family and friends may provide support that add to the enhancement of SE by providing knowledge about how to address problems and utilize problem-solving strategies. Holahan, Moos, and Bonin (1997) stated that personal and social resources are correlated with better psychological adjustment to challenges because the social support encourages more adaptive coping strategies. Saltzman and Holahan (2002) found that social support is significantly associated with approach coping (e.g., problem or task-focused coping; $r = .50$, $p < .01$) and negatively related with depressive symptoms ($r = -.48$, $p < .01$). Results supported their hypothesis that social support and subsequent depressive symptoms are fully mediated by SE, and, in turn, approach coping. These results show that seeking and receiving social support is inversely related to depressive symptoms because it increases SE and encourages adaptive

coping strategies.

Results from research emerging from Lazarus and Folkman's (1984) stress and coping

theory support the idea that the three previously discussed coping strategies appear to be stable

constructs with clear patterns of influence on psychological variables and outcomes. Therefore, I

expect that they will transfer to the context of incarceration and re-entry. With various findings

supporting adaptive coping predicting psychological well-being, I propose that identifying and

evaluating coping strategies among offenders will be important in improving outcomes for

offenders and ex-offenders, particularly in reducing the rate of recidivism. In addition to coping,

it is also important to know the extent to which one is confident in his/her ability to cope, a

concept known as self-efficacy (SE). By understanding one's perceived SE in the use of these

coping strategies, we can better predict future performance in related tasks and behaviors. This

may be an important component to consider when evaluating an offender's risk of recidivism.

Self-Efficacy. SE, as explained by Bandura's social cognitive theory (SCT; 1986) and

self-efficacy theory (1982), is the appraisal of one's ability to perform in various situations. This

theory influenced the development of the OCSS with its focus on the influence of acquired

knowledge on human agency or action. These two theories emphasize the importance of

situation-specific SE, and I propose the OCSS will address situations specific to offenders.

Social cognitive theory introduces the concept of self-efficacy. SCT addresses the

development of competencies and how individuals are able to regulate their actions. According

to this theory, people gain knowledge through observational learning, exploratory activities,

verbal instruction, and innovative cognitive syntheses of acquired knowledge (Bandura, 1986).

The development of skills depends on how knowledge is acquired and practiced. SCT examines

factors that act as regulators and motivators for different cognitive, social, and behavioral skills

(Bandura, 1986). This development involves forethought, predictive knowledge, and outcome expectancies that influence the process of motivation and resulting behaviors. This theory suggests that behavior depends on what individuals believe they can do and their beliefs about the outcomes of various actions (Bandura, 1986). SCT proposes a triadic reciprocal system including personal attributes, external factors, and overt behavior. SE is a core concept of SCT.

SE is defined as the belief in one's capabilities that influence motivation, cognitive resources, and the behavioral actions needed to meet the demands of the given situation (Wood & Bandura, 1989). SE beliefs help to regulate human agency through cognitive, motivational, affective, and decisional processes. Belief in one's ability to exercise some level of control in the presence of taxing stressors promotes resilience (Benight & Bandura, 2004).

SE is a factor of SCT that allows individuals to assess their confidence in their ability to execute behaviors (e.g., I am confident in my ability to arrive at appointments on time) and their motivational levels (e.g., high, medium, or low). A sense of SE provides support in regulating motivations and helps determine whether individuals make good or poor use of their capabilities (Bandura, 1986). Even when outcome expectations are uncertain, a strong sense of SE may influence individuals to continue executing their chosen behavior, despite the outcome.

Self-efficacy theory. Bandura's (1982) self-efficacy theory addresses the influence of SE in human agency. To be an agent requires one to intentionally make things happen by one's own actions (Bandura, 2001). The purpose of the self-efficacy theory was to bridge the gap between the correlation of knowledge and action. Simply put, this theory states that people are able to conceive unique events and various courses of action and choose to execute one of them (Bandura, 2001).

SE is an important predictor of behavior and performance (Bandura, 1994). According to

Bandura's (1997) structure of SE scales, SE has three dimensions: (a) level, (b) generality, and

(c) strength. *Level* refers to an individual's range of perceived capability in performing tasks

based on the level of difficulty or how challenging the task is. *Generality* addresses the

generalizability of an individual's SE across various activities or domains of functioning.

Strength refers to the individual's certainty in his or her ability to successfully perform a

particularly challenging task addressed by *level*. SE affects the goals people try to achieve, the

way they try to reach the goals, and the perseverance they show in trying to attain them.

Measures of SE look at people's beliefs in their abilities to accomplish a task of varying levels of

difficulty across domains. It is helpful in studying the relationship between SE, psychological

well-being, and adaptive coping.

   Predictors of SE. According to SCT, SE stems from four informational sources: personal

performance accomplishments, vicarious learning, social persuasion, and physiological states

and reactions. Personal performance accomplishments refer to the experiences of successfully

performing a task. Vicarious learning is the observation of others who are in similar situations

and either succeed or fail at a specific activity. Social persuasion may influence individuals to

either attempt or sustain behaviors. An example would include telling a person that he or she can

do the task at hand. An individual's physiological state, such as anxiety, fatigue, or feelings of

composure, while performing tasks may interfere with his/her perceived SE. Of all of these

sources, personal performance accomplishments are usually thought to be the most influential in

determining levels of SE (Bandura, 1982). Further evidence for this belief can be found in

studies that utilize the SCT framework and its contribution to various outcomes, such as career

development. This will be discussed further in the social cognitive career theory section of this

document.

SE as a predictor of psychological outcomes. SE has been studied in various

populations and has been found to be a significant predictor in the treatment of alcoholism

(Collins & Lapp, 1991), the differences among genders in abstinence from drug use (Pelissier &

Jones, 2006), and the psychological well-being among African American and European

American adolescents (Arroyo & Zigler, 1995). Collins and Lapp (1991) found that a lack of SE

influences and predicts excessive drinking and alcohol-related problems. These studies suggest

that SE is an important predictor of various behaviors.

In a study comparing drug abstinence in male and female offenders, female offenders

with lower levels of SE had lower agency scores, meaning they had a lower sense of confidence

in their ability to attain their goals and in their ability to plan for reaching those goals (Pelissier

& Jones, 2006). These findings led to further investigation related to the offenders' coping

abilities. Results indicate that the failure to cope adequately could possibly lead to decreased SE

and a higher probability of drug relapse (Pelissier & Jones, 2006). The ability to cope also plays

an important role in one's SE in abstaining from behaviors such as using substances or other

behaviors with negative consequences.

Bandura's (1982) self-efficacy theory was considered in the development of the OCSS

because it emphasizes the importance of SE as a predictor of behavior. Bandura's (1982) theory

explains how we can understand why and how people behave in certain ways depending on their

SE. Because I propose that the OCSS can be used as a tool for developing, evaluating, and

revising interventions offered to offenders, I believe it is important to identify SE in coping

among offenders to determine current functioning in order to tailor interventions appropriately.

Bandura (2006) further proposed that SE measures should be situation-specific.

As suggested by Bandura (2006), I propose that focusing on a specific area of SE will

allow for a more accurate assessment of offenders' and ex-offenders' confidence in their ability

to utilize three coping strategies, (i.e., task and problem, emotion, and social support). Given

that offenders are immersed in a very unique environment, a general SE measure normed on the

general population may not accurately represent their experiences. My dissertation addresses the

lack of available CSE scales made specifically for offenders. CSE is a specific domain under the

general construct of SE (Bandura, 1997) and will be discussed in the next section. CSE has been

found to be an effective predictor of behaviors and performance on task and goals (Bandura,

1995; 1997), which suggests coping is an important factor to consider when analyzing

psychological well-being and the individual's ability to manage and cope in various situations.

Coping self-efficacy. The theoretical framework of Bandura's (1986) SCT emphasizes

and acknowledges the importance of SE beliefs in influencing various behaviors, while Folkman

and Lazarus' (1984) theory of stress and coping suggests that coping is a determinant associated

with behaviors. Together, these two theories highlight the importance of drawing attention to

specific environmental factors along with internal resources, such as CSE beliefs.

CSE is defined as individuals' self-appraisal of their ability to manage and cope with

situational demands, and CSE may influence their reactions to stress and behavioral outcomes

(Bandura et al., 1985). CSE focuses on the variability in a person's confidence regarding his or

her ability to cope effectively, which Bandura's (1982) self-efficacy theory identifies as an

important prerequisite to changing coping behavior. People with higher levels of CSE are more

likely to approach challenging or stressful situations in an active and persistent way. In contrast,

individuals with lower CSE tend to invest greater energy into managing their emotional distress

versus proactively addressing the situation (Bandura, 1997). Thus, the level of CSE affects

varying outcomes.

CSE as a predictor of behavior and psychological outcomes. Higher CSE has been found to be correlated with better psychological adjustment to highly stressful events such as physical assault (Ozer & Bandura, 1990), military warfare (Solomon, Benbenishty, & Mikulincer, 1991), traumatic events or natural disasters (Benight et al., 1997; Benight et al., 1999a), and death of a spouse (Benight, Flores, & Tashiro, 2001). Interventions that focus on individuals with low CSE have been found to help reduce rates of recidivism among drunk drivers and other offenders (Schlauch, O'Malley, Rounsville, & Ball 2012; Wells-Parker, Kenne, Spratke, & Williams, 2000). CSE has varying effects on behavior and other psychological outcomes.

Schlauch and colleagues (2012) found CSE to play a key role in relapse behavior. Their findings support the hypothesis that driving while intoxicated (DWI) offenders who reported higher depression or anxiety had more problematic alcohol use due to difficulty abstaining from drinking in situations that elicit negative affect. Furthermore, they found that these individuals might be trying to regulate their negative emotions by drinking. Welles-Parke, Kenne, Spratke, and Williams (2000) suggested that DWI offenders who scored higher on SE had lower recidivism rates. CSE is thought to play a key role in relapse behavior and may be an important factor to consider in preventing recidivism.

Benight and Bandura (2004) found CSE to predict other variables such as social support, optimism, lack of resources, and psychological outcomes. In their 2004 study, Benight and Bandura found consistent support for perceived CSE as a mediator for posttraumatic recovery. Individuals who believed in their ability to surmount their trauma took an active role in mending their lives and displayed resiliency after experiencing trauma instead of allowing their lives to be dictated by the adverse circumstances (Benight & Bandura, 2004). In addition to other studies of

trauma and CSE, these findings speak to the generality of the enabling and protective function of

CSE in managing the impact of traumatic events (Benight et al., 1997; Benight et al., 1999a;

Ozer & Bandura, 1990).

Cieslak, Benight, and Lehman (2008) hypothesized that CSE would mediate the

relationship between negative cognitions (e.g., negative thoughts about self, the world, and self-

blame beliefs) and posttraumatic distress. Adult female victims of child sexual abuse were

pulled from populations including university students, offenders, and women enrolled in

community private practices and support groups. Researchers found that CSE was inversely

related to posttraumatic distress ($r = -.28$, $p < .05$), and negative cognitions about self ($r = -.35$, p

$< .01$) and the world ($r = -.40$, $p < .001$). When the effect of CSE on posttraumatic distress was

controlled for, they found that general negative cognitions were no longer a significant predictor

of posttraumatic distress, supporting the idea that CSE mediates the relationship between

negative cognitions and posttraumatic distress. Cieslak and colleagues (2008) also examined

posttraumatic distress among survivors of motor vehicle accidents; CSE was negatively related

to posttraumatic distress ($r = -.74$, $p < .001$). These studies suggest that by helping clients to

develop and enhance their sense of mastery, treatment may increase their skills to cope in

stressful situations. Extensive studies of CSE among the general population exist, and only a

select few address offender populations. In the next section, I discuss the impact of CSE among

the target prison population that the OCSS addresses.

CSE as a predictor of behavior and psychological outcomes among offenders. In this

section, I discuss the effects of incarceration on CSE and other psychological outcomes.

Incarceration entails being detained in jail or prison as a punishment for conviction of a crime.

Offenders are incarcerated to prevent future crime and harm to self or others; as a form of

punishment; to deter future crimes committed by that individual or others; and to provide

rehabilitative services (Scott, 2005). Little is known about the level of CSE among offenders

who are currently incarcerated. However, there have been studies regarding the effects of

imprisonment on offenders' psychological well-being (Bukstel & Kilmann, 1980; Cohen &

Taylor, 1972).

Cohen and Taylor's (1972) study represents a historical influence of the *pains of*

imprisonment model, which addresses the inhumane conditions of high security prisons in the

United Kingdom and the United States. They characterized these prisons as providing sub-

standard living conditions, including overcrowded cells; arbitrary, meaningless, and harsh

punishment; and a lack of meaningful work and rehabilitation programs (Cohen & Taylor, 1972).

Their findings showed that imprisonment negatively affects psychological well-being.

Conversely, Bukstel, and Kilmann (1980) reviewed 90 empirical studies on the psychological

effects of imprisonment and found that imprisonment did not compromise the psychological

well-being of all offenders. Inconsistencies in previous studies and the lack in the amount of

recent studies suggest a greater need to examine the differences in stressors that offenders face in

comparison to the general population.

Research often supports the finding that offenders are more likely to use less adaptive

coping strategies. Zamble and Porporino (1990) hypothesized that prison experience influences

the development of maladaptive coping strategies. This influence may be due to a lack of

knowledge related to adaptive coping strategies, as well as previous experience with strategies

that offenders believe have *worked* before, despite the actual level of effectiveness promoting

psychological adjustment. Additionally, lack of social support may be detrimental to one's

psychological well-being (Saltzman & Holahan, 2002). Offenders often state the loss of

relationships with family and friends outside of prison as their most serious negative experience (Flanagan, 1980). The most commonly reported coping strategy is to isolate and problem-solve on one's own (Flanagan, 1980). This strategy may be reinforced as offenders spend more time incarcerated.

Zamble and Porporino (1990) studied the relationship between time served in prison and coping style. After completing extensive interviews with the offenders about lifestyle, problems associated with life outside of prison, and how people cope with these difficulties, researchers compared these data with data regarding problems experienced in prison and how offenders handled those situations. Coping was disaggregated into three categories: low-level (i.e., avoidance, escape, and social support), high-level (i.e., considering alternatives and planning), and reactive problem-oriented (i.e., behaviors that were confronting, impulsive, emotional, and without planning). Reactive problem-oriented style and low-level coping were used by about 30% of the offenders (Zamble & Porporino, 1990). About 70% of the offenders reported using strategies that escalate the problem (Zamble & Porporino, 1990). Only a small percentage of offenders demonstrated adaptive and effective coping skills while in prison (Zamble & Porporino, 1990).

Across studies, there appears to be consistency in findings that suggest offenders use less adaptive coping strategies. However, the differences in coping strategies are not inherently good or bad (Lazarus & Folkman, 1984). It is important to take the situation into consideration when determining the appropriateness and effectiveness of the coping strategy.

Gullone et al. (2000) studied the differences in levels of psychological well-being among male offenders. In their study, offenders scored lower on measures of self-esteem and subjective quality of life, and higher on anxiety and depression when compared to the norms for the general

public for each of the psychological measures. The results showed coping styles to account from 7% (subjective quality of life) to 62% (trait anxiety) of the variance in psychological well-being. Emotion-focused coping was the most predictive of anxiety (β = .85, p < .001), depression (β = .54, p < .001), and self-esteem (β = -.50, p < .001). Avoidance focused-coping was a significant predictor for less anxiety (β = -.20, p < .05) and greater subjective quality of life (β = .29 p < .05). Task-focused coping only significantly predicted self-esteem (β = .22, p < .05). Contrary to previous findings in the general public, their finding that avoidance-focused coping was positively related to psychological well-being suggests that this coping style may actually be beneficial to offenders' well-being. This result suggests that offenders face stressors that call for different coping strategies in comparison to the general public.

As a predictor of psychological well-being, CSE is a potential gateway for understanding the stressors associated with incarceration and re-entry, as well as the coping strategies that are most likely to result in psychological health. As noted by the studies mentioned above, researchers have tried to address the question about the relationship among imprisonment, coping strategies, and psychological well-being. Various stressors are present during incarceration that differ from concerns related to the process of re-entry (Gullone et al., 2000; Zamble & Porporino, 1990). For this reason, I believe that the creation of the OCSS may be a useful tool in assessing SE in coping with the unique stressors faced during incarceration to better inform treatment, re-entry planning, and to reduce rates of recidivism.

Based on these theoretical underpinnings of coping, SE, and more specifically, CSE, the OCSS was developed to measure offenders' confidence in their ability to cope with the stressors faced during incarceration and upon re-entry into the community. The OCSS measures CSE by incorporating functions of coping suggested by Lazarus and Folkman (1984) and the offender's

level of SE in specific situations. Beyond the theoretical basis of the OCSS, using the OCSS

within a larger framework that considers predictors of CSE and outcomes of CSE may provide a

broader understanding of the contribution of the OCSS.

Potential contribution of SCCT's Model of Performance. Strongly based on the SCT

framework, Lent, Brown, and Hackett (1994) developed social cognitive career theory (SCCT)

and highlighted other mechanisms of behavior to examine career development. SCCT provides a

framework that is helpful in understanding factors that contribute to SE and outcomes such as

levels of performance. This theory was developed as a result of researchers' efforts in

consolidating explanations of career choice and development by testing competing theoretical

constructs (Lent et al., 1994). Betz and Hackett (1986) studied the role of career SE in predicting

career behaviors such as areas of interest and performance achievement. Lent and colleagues

(1994) expanded Betz and Hackett's (1986) work on the role of career-self-efficacy by adding

variables borrowed from SCT, including outcome expectations and goals. Using SCCT may

help provide a framework to better understand the connection between ability or past

performance, SE, and performance level attainment, as seen in the SCCT Model of Task

Performance.

Defining SCCT: Foundations in SCT. SCCT suggests that SE, outcome expectations,

and goals are core mechanisms of performance outcomes. Lent and colleagues (1994) proposed

separate models to explain the role of SE beliefs in career and academic interest development,

career-relevant choices, and performance outcomes. They hypothesized (Proposition 10; Lent et

al., 1994) that SE beliefs derive from the four sources of information from SCT. More

specifically, that SE would mediate personal variables such as abilities and past experiences and

outcome expectations, which would then influence career interests, choices, and performance.

Three previous studies have found support for this proposition (Lent, Lopez, & Bieschke, 1991; Lopez & Lent, 1992; T. Matsui, K. Matsui, & Ohnishi, 1990), and support the hypothesis that SE correlates with personal performance accomplishments ($r = .51$, $p < .001$), vicarious learning ($r = .20$, $p < .05$), social persuasion ($r = .28$, $p < .05$), and emotional arousal ($r = -.40$, $p < .01$; Lent, Lopez, &Bieschke, 1991). Since SCT and SCCT both emphasize SE beliefs, looking deeper into Bandura's (1982) self-efficacy theory is necessary to better understand the relationship between knowledge and action. However, I believe that SCCT articulates the powerful role of SE in goals and performance, which is a component lacking in other models of SE.

Model of performance. In this section, I will describe the variables included by Lent and colleagues' (1994) in their model of task performance (Figure 1). This model is comprised of variables associated with career development and achievement. Lent et al. (1994) used the term career to reference interests and choice processes, and intended the use of this theory to also subsume academic development phenomena. I first provide an explanation of the foundation of Lent and colleague's (1994) model of task performance. I will then explain how this model applies specifically to CSE among offenders.
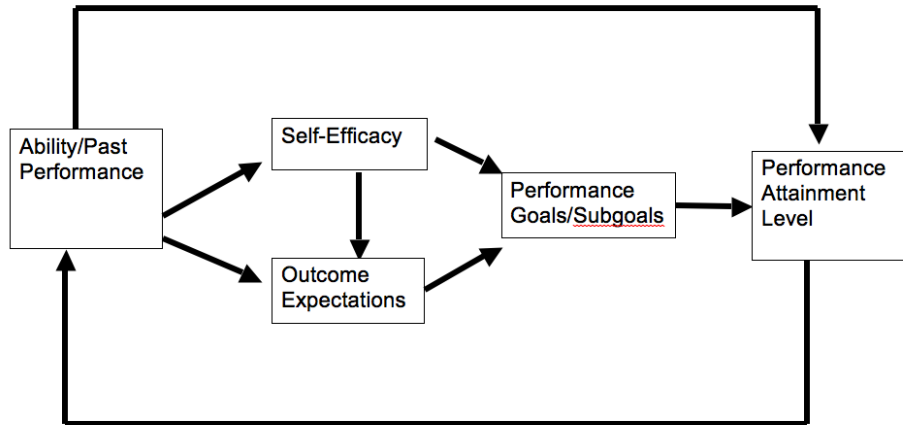
Figure 1. SCCT's model of task performance. Reprinted with permission from "Toward a Unifying Social Cognitive Theory of Career and Academic Interest, Choice, and Performance," by R. W. Lent, S. D. Brown, and G. Hackett, 1994, *Journal of Vocational Behavior, 45*. Copyright 1994 by R. W. Lent, S. D. Brown, and G. Hackett.

   Ability/past performance. Ability/past performance predicts and is also predicted by Performance Attainment Level (Figure 1). Ability/past performance directly predicts SE, outcome expectations, and performance attainment level. It also indirectly predicts performance goals/subgoals through both SE and outcome expectations. This model suggests that an individual's capacity to choose to engage in various behaviors is influenced by previous experiences and one's perceived ability to do certain actions. Traditionally, SCT suggested that past performance is one of four factors that influences SE (Bandura, 1986). Lent et al.'s expansion attempted to broaden the SCT model by developing SCCT to show how ability/past performance also has effects on future levels of achievement regarding career development.

   Smith's (2002) work supports this theoretical expansion. Smith researched the SCCT framework to determine the effects of social cognitive variables on academic performance in coursework. Smith hypothesized that past performance would account for a significant amount of academic performance variance. Results indicated past performance to be significantly

related to academic performance ($r = .14, p < .05$). Past performance, SE, and academic goals combined to explain 13% of the variance in academic performance.

Self-efficacy. SE has been included in many career-related studies. In Lent and colleagues' (1994) model of performance, ability/past performance predicts SE, and SE directly predicts outcome expectations and performance goals/subgoals, and indirectly predicts performance attainment level. This model has a feedback loop in which ability/past performance and performance attainment level both predict each other, and for which SE, outcome expectations, and performance goals/subgoals are mediating mechanisms.

As an example of the relationship between SE and performance goals/subgoals, Lent and colleagues (2003) measured SE for engineering-related tasks to determine its relationship with academic interests, goals, and persistence within engineering majors. SE for completing educational and occupational engineering tasks was significantly correlated with engineering related goals ($\beta = .44, p < .05$). Also, SE indirectly influenced the relationship between engineering goals ($\beta = .20, p < .05$) and persistence ($\beta = .53, p < .05$) through interests. Consistent with previous research, SE predicted outcome expectations and interests (Lent et al., 1994).

Outcome expectations. Bandura (1977) defined outcome expectations as personal beliefs about the possible consequences of specific performed behaviors. Outcome expectations are directly predicted by SE and ability/past performance, have a direct effect on performance goals, and indirectly influence performance attainment level, as predicted in Figure 1. Several classes of outcome expectations exist, including anticipation of physical, social, and self-evaluative outcomes (Bandura, 1986). Bandura (1986) suggested that people are more likely to act on their judgments of what they can do and their beliefs about the possible positive outcomes of the

actions versus what they believe they cannot do and possible negative outcomes. Outcome

expectations may be one possible driving force in action, but when SE about the behavior is low,

individuals tend to avoid such action if they doubt their ability to complete the action.

Conversely, an individual with high SE in a particular area may choose to avoid actions due to

negative expectation outcomes. In the SCCT model of performance, an individual's ability and

past performance influences both SE and outcome expectations, with outcome expectations

ancillary to SE.

Lent and colleagues (2003) conducted a study of 328 student engineer majors in regards

to how contextual supports and barriers influence choice of goals and actions. SE was found to

directly predict academic goals ($\beta = .44$, $p < .05$) indirectly through interest. Outcome

expectations were not found to predict any additional proportion of variance beyond SE (Lent et

al., 2003), which was consistent with the findings of other studies (Navarro, Flores, &

Worthington, 2007; Smith, 2002). This finding was attributed to the large relationship between

SE and outcome expectations in Lent and colleagues' sample.

Performance goals. In Figure 1, performance goals are directly predicted by SE and

outcome expectations, and indirectly by ability/past performance. Additionally, performance

goals directly influence performance attainment level. Bandura (1986) defined goals as the

determination to engage in certain activities or behaviors. Within the SCT framework, goals are

reciprocally related to SE and outcome expectations (Bandura, 1986). Bandura (1986) viewed

goals as helping to regulate energy expenditure, promote persistence throughout tasks, and guide

attention to important outcomes and aspects of one's actions or behaviors. Lent et al (1994)

described goal mechanisms as concepts such as career plans, decisions, and aspirations, and

assumed they played a role in motivating behavior.

Navarro and colleagues (2007) researched goal intentions in math and science within the framework of SCCT among middle school students. Goals were determined by the student's intent to pursue mathematics and science-related courses in high school and future careers. Results indicated that math and science goal intentions were significantly predicted by math/science SE ($\beta = .17$, $p < .05$) and math/science outcome expectations ($\beta = .21$, $p < .05$), and indirectly by math/science past performance accomplishments. These findings support the SCCT model and the influence of SCT variables in prediction of performance goals.

Performance attainment. Performance attainment is directly predicted by performance goals/subgoals and indirectly predicted by SE and outcome expectations (Figure 1). Ability/past performance and performance attainment level both predict each other, making a feedback loop between the two variables. The ultimate goal of the SCCT model of performance is performance attainment level (Lent et al., 1994). Performance attainment is defined as goal fulfillment or skill development (Lent et al., 1994). SCCT posits that SE and outcome expectations influence performance. For example, students with higher SE and positive outcome expectations are likely to take on more challenging goals, which are then assumed to act as motivation for students to work towards achieving their goals and attain a higher level of performance.

Cupani, de Minzi, Pérez, and Pautassi (2010) tested the hypotheses derived from SCCT in a sample consisting of 277 Argentinean middle school students. The model with all sociocognitive variables (i.e., mathematics ability, logic-math SE, math outcome expectations, math performance goals, and math goals) explained 44% of the variance in academic achievement in mathematics. Their findings also supported the notion that SE beliefs account for more variance in performance than do outcome expectations. SE beliefs significantly predicted performance ($\beta = .40$, $p < .001$), whereas the indirect effect of outcome expectation to

performance mediated by performance goals was $\beta = .09$ ($p < .001$). The literature for SCCT

has consistently found SE to contribute a greater influence upon performance outcomes.

Therefore, I focused on the development of a CSE measure to assist in determining the most

beneficial avenues for offender improvement through the use of interventions.

     Modeling offender CSE in an SCCT framework. Offenders face various stressors while

incarcerated and upon re-entry, including obstacles and barriers such as maintaining prosocial

behavior while incarcerated and facing difficulties with finding employment and housing after

re-entry. SCCT takes into account environmental realities that offenders are likely to encounter,

such as limited job opportunities. Using the SCCT framework may inform how offenders

incorporate their progress in terms of development in career-interests, choice, and performance

as one of many factors to consider upon re-entry. The focus on career-related interests and

exploration may be secondary in importance among offenders in terms of goals and behaviors. I

proposed that Lent and colleagues' (1994) SCCT model of performance serves as an appropriate

template for providing an explanation of CSE as a mechanism for performance attainment in

terms of coping success (Figure 2).

     Ability and past experience of offenders are important precursors to CSE. An offender's

past experience or inexperience with incarceration is likely to have a direct effect on CSE while

incarcerated. Outcome expectations are also influenced by offenders' past experience with

incarceration. Both CSE and outcome expectancies were expected to influence the goals

offenders have while incarcerated. CSE, which is influenced by coping strategies that are

believed to contribute to the level of CSE, was hypothesized to predict both outcome

expectancies and goals. The ultimate outcome of CSE is coping success in terms of

psychological well-being, in addition to accrued infractions while incarcerated. Moreover, CSE

predicts coping goals directly, which in turn predict coping success. Overall coping success is influenced by one's perceived ability to cope with the stressors faced while incarcerated and expected outcomes, while also incorporating the effects of past experiences, goals, and coping strategies.
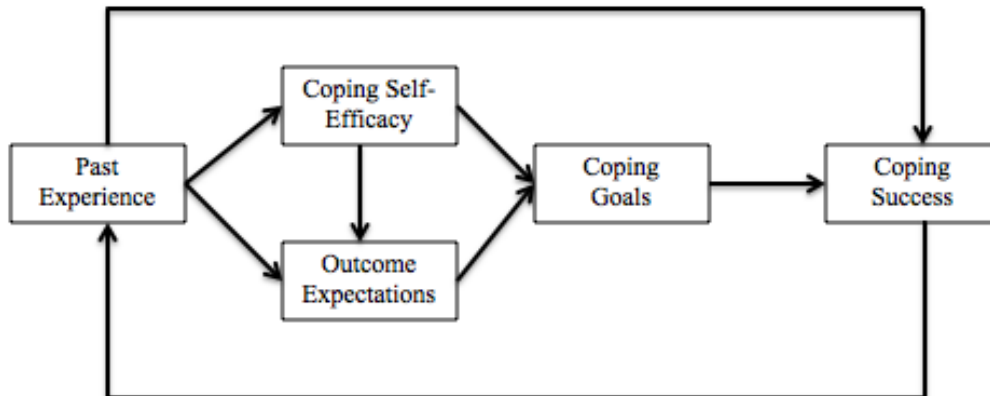
Figure 2. SCCT's Task Model for CSE. Adapted and reprinted with permission from "Toward a Unifying Social Cognitive Theory of Career and Academic Interest, Choice, and Performance," by R. W. Lent, S. D. Brown, and G. Hackett, 1994, *Journal of Vocational Behavior, 45*. Copyright 1994 by R. W. Lent, S. D. Brown, and G. Hackett.

CSE and Related Constructs

A primary step to psychometric evaluation is to create a nomological network, which is an illustration of the relationship between constructs of interest to provide a visualization of both conceptual and theoretical frameworks to test construct validity (Cronbach & Meehl, 1955). A nomological net relates (a) observable constructs to each other, (b) theoretical constructs to observables, or (c) different theoretical constructs to one another (Cronbach & Meehl, 1955). Campbell and Fiske (1959) introduce two subtypes of construct validity, convergent (i.e., the degree to which concepts that should be related are in fact related)

and discriminant validity (i.e., the degree to which concepts that should not be related are, in

fact, not related). In order to claim that a measure has construct validity, both convergent and

discriminant validity must be demonstrated. By identifying the constructs in a nomological net,

the pattern of interrelationships based on theory can then be tested to show convergent and

discriminant validity. In this section, I will identify the various constructs of interest used in my

nomological net.

       Offender Coping Self-Efficacy Scale. The OCSS is designed as a measure of an

offender's perceived level of SE in coping with stressful situations while incarcerated and upon

re-entry. The stressful events may include managing affective, behavioral, and cognitive tasks.

The OCSS examines CSE in three areas of coping: (a) task and problem, (b) emotion, and (c)

social support.   This scale has potential to identify which coping strategies offenders are likely

to engage in and determine the level of SE the offender has in each of the three areas. To achieve

predictive and explanatory power, Forsyth and Carey (1998) stated that measures of SE must be

designed and tailored to specific activities. For my dissertation, I believed that the use of a

specific CSE scale for offenders would allow for a greater understanding of the offenders in their

own unique environment. The OCSS was constructed to address the psychometric issues and

reliability of other CSE measures. Since there are no existing CSE scales specifically for

offenders, this instrument has the potential to emerge as a helpful tool in research and practice

within the corrections community.

       The objective of my dissertation was to create and evaluate the psychometric properties

of the OCSS. Subsequent to the creation of the measure, I placed the OCSS in the nomological

net of related constructs.

       Related scales. Previous scales that measure CSE have limitations with regard to sample

populations and generalizability. Chesney, Neilands, Chambers, Taylor, and Folkman (2006)

conducted the first study of the Coping Self-Efficacy Scale (CSES) in a population of men who

were primarily Caucasian, college-educated, and employed men diagnosed with HIV and

depressed mood. Similarly, the Coping Inventory for Stressful Situations (CISS; Endler &

Parker, 1990a) was normed among a college population but has since been tested across different

populations, including a prison population. The CISS only assesses the correlation between the

experience of stressful events and types of coping strategies and does not assess the offender's

level of CSE. Assessing CSE among offenders may provide more information regarding

targeting specific areas that need improvement and could be addressed with treatment and

interventions. The CSES and CISS both assess SE related to coping. I proposed that the CSES

and CISS would be significantly related to the OCSS because of the specific focus on coping

ability. However, I proposed that the OCSS would be slightly less correlated with SE scales that

measure other areas that are not specifically related to coping.

For instance, the Career Decision-Making Self-Efficacy- Short Form (CDMSE-SF; Betz,

Klein, & Taylor, 1996) measures one's belief in his/her ability to successfully make career

decisions, such as selecting goals or problem-solving. The psychometric evaluation of the

CDMSE-SF used an undergraduate population to examine related scales (Betz et al., 1996). The

CDMSE-SF examines career commitment, which is important in a person's career development

due to its effects on future decisions, actions, and performance (Lent & Brown, 1996). With the

specificity of SE focused on career decision-making, I proposed that the CDMSE-SF would not

be significantly correlated with the OCSS.

One of the most popular measures of SE is the New General Self-Efficacy Scale (NGSE;

Chen, Gully, & Eden, 2001), which evolved from Sherer and colleagues' (1982) General Self-

Efficacy scale (SGSE). The problem with both the NGSE and SGSE is that they lack specificity

in measuring SE regarding certain situations. A high level of efficacy in one domain does not

necessarily translate into high levels of SE in other domains (Hofstetter, Sallis, & Howell, 1990).

Bandura (1997) stated that general self-efficacy (GSE) measures are actually not relevant to

efficacy beliefs related to specific activities or behaviors. GSE measures have been previously

found to lack specificity matching, which lowers their predictability of performance (Eden,

1996). This calls for the development of specific SE measures for specific tasks and activities.

The OCSS was developed to address this concern. I proposed that the OCSS would contribute

unique variance to CSE because it would add specificity with the focus on offenders.

Dissertation Purpose

Previous literature indicates the general SE scales have been utilized to measure perceived

SE. According to Bandura (2006), SE beliefs are domain-specific, suggesting that SE is likely to

vary depending on the activity and environment or context. This suggests that SE varies among

different domains and in order to accurately measure SE, it should be tailored to the specific

activity or situation. Since there are no previous studies that have utilized a CSE scale

specifically for offenders, the OCSS was developed to address the lack of CSE scales

specifically for the incarcerated population and the issues they face while incarcerated and upon

re-entry into society.

Through the lens of SCT, the OCSS is a useful tool in screening and preparing offenders

for adaptive coping during incarceration and lead to successful re-entry. In the larger vein of

research, creating a measure such as this allowed me to operate within the local clinical scientist

model and utilize my research to inform how prisons, jails, and offender transition programs are

managed. Determining the level of SE an offender has during incarceration and upon re-entry

enables the releasing site to intervene prior to release to mitigate any problems that unduly low

or high SE might have on his or her success in the community. Consequently, my dissertation

was a psychometric evaluation of the OCSS, in which I explored the scale's underlying structure,

alternative scales, and subscale scoring approaches.

For my dissertation, I first used the item characteristics of the proposed OCSS items to

determine a scale that contains a balanced number of items for each of the six subscale

combinations of task and context. Second, I explored the structural elements of the OCSS and

evaluated alternative factor structures with varying dimensions from a multi-trait-multi-method

framework (Campbell & Fiske, 1959). These include (a) a single-order, unidimensional total

OCSS factor structure (Figure 3), (b) a single-order six-factor model of coping strategy and

setting factors with coping strategy and settings correlating to their respective domains (i.e.,

coping strategies correlated with coping strategies; Figure 4), (c) a multi-dimensional model with

correlated coping strategies and one global setting factor (Figure 5), (d) a multi-dimensional

model with correlated setting factors and one global coping strategy factor (Figure 6), (e) a bi-

factor model with three coping strategies and two settings (Figure 7), (f) a single-order model in

which coping and setting factors with coping and settings correlating to their respective domains

(i.e., coping strategies correlated with coping strategies; settings correlated with settings) loaded

onto a total OCSS factor (Figure 8), and (g) a single-order structure of three correlated coping

strategies (Figure 9). After creating each model, I conducted seven nested comparisons,

comparing each the fifth model (Figure 7) to all other models (Figure 3, 4, 5, 6, 8, & 9) to

evaluate for statistically significant differences in model fit.

After evaluating the factor structure, I evaluated the convergent and discriminant validity

of the OCSS with scales assessing related constructs. For convergent validity, I hypothesized

significant correlations with a set of measures assessing general self-efficacy (NGSE; Chen et al.,

2001), coping self-efficacy (CSES; Chesney et al., 2006), and coping inventory for stressful

situations (CISS; Endler & Parker, 1990a). I hypothesized that the OCSS would contribute

unique variance to CSE when the OCSS is tested in a model with other SE scales. To evaluate

discriminant validity, I hypothesized career decision-making self-efficacy (CDMSE-SF; Betz,

Klein, & Taylor, 1996) and the mental health inventory: psychological well-being (MHI:PWB;

Stewart, Ware, Sherbourne, & Wells, 1992) to be less strongly correlated with the OCSS.

Finally, I calculated reliability results presented with alpha coefficients, item-total coefficients,

and test-retest correlation. While my dissertation was the first step in the psychometric

evaluation of the OCSS, I believe it will provide guidance regarding future research on offender

CSE.
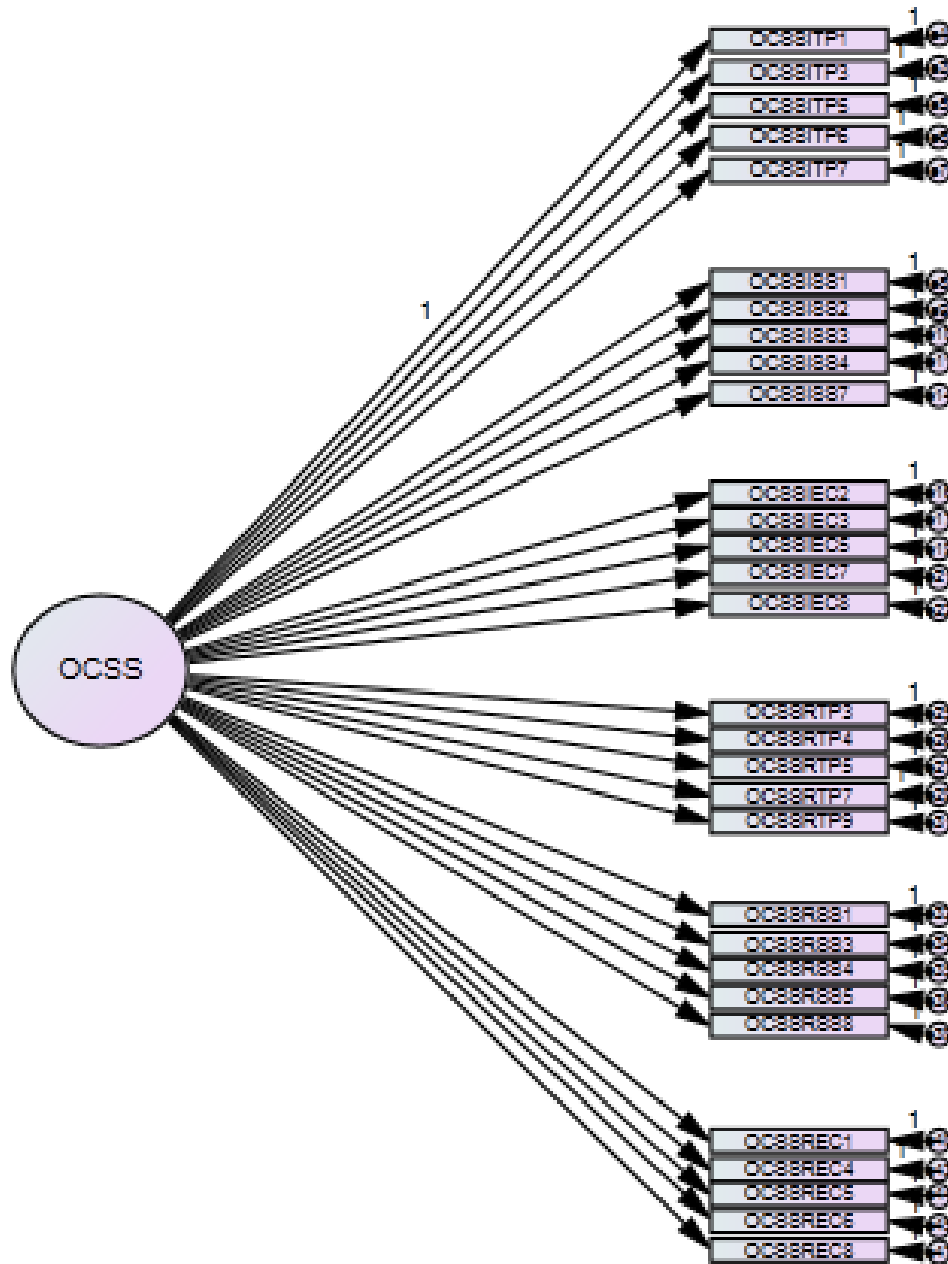
Figure 3a. Unidimensional total OCSS factor structure
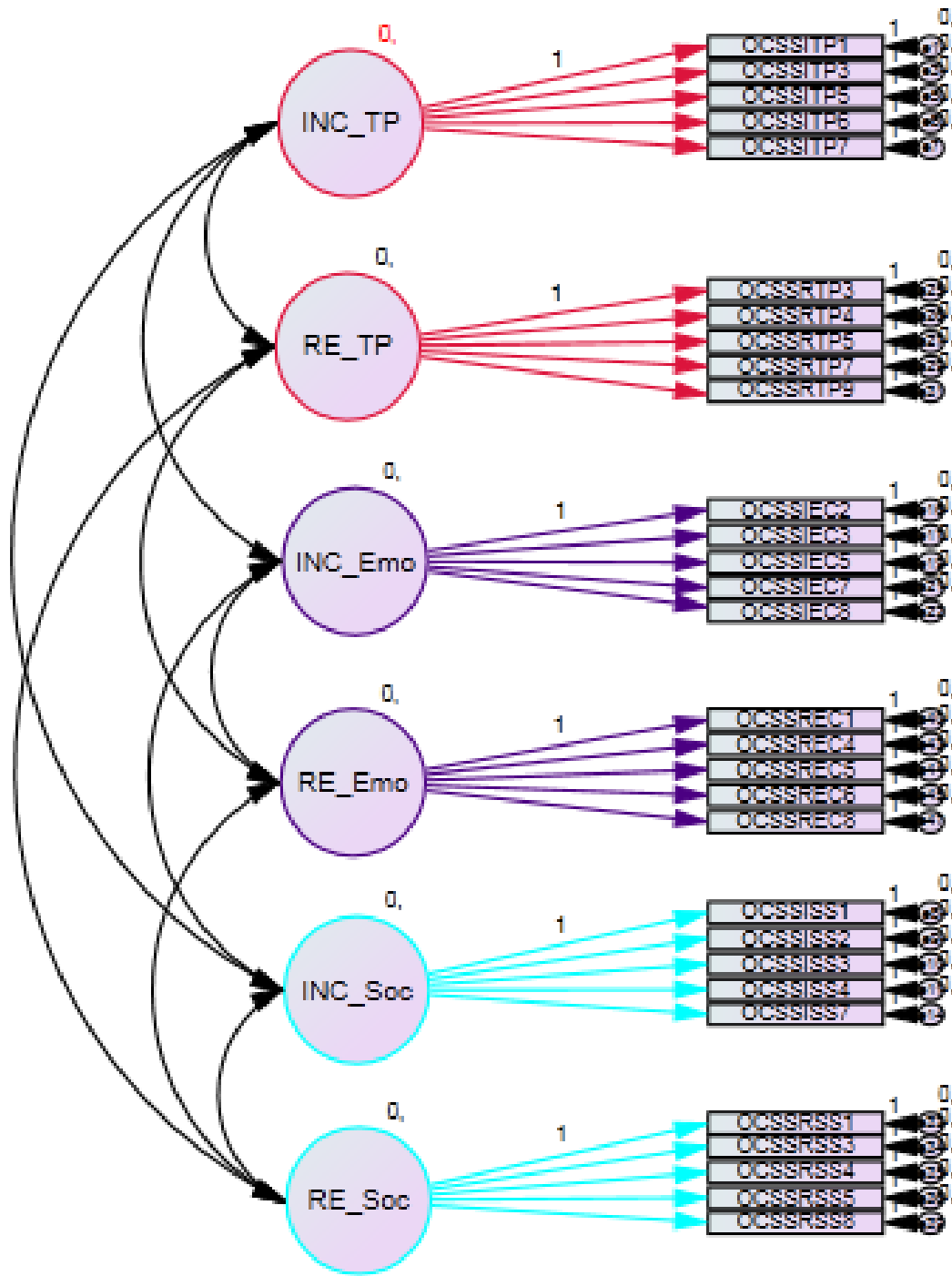
Figure 4a. Six-factor model of coping strategy and setting factors.
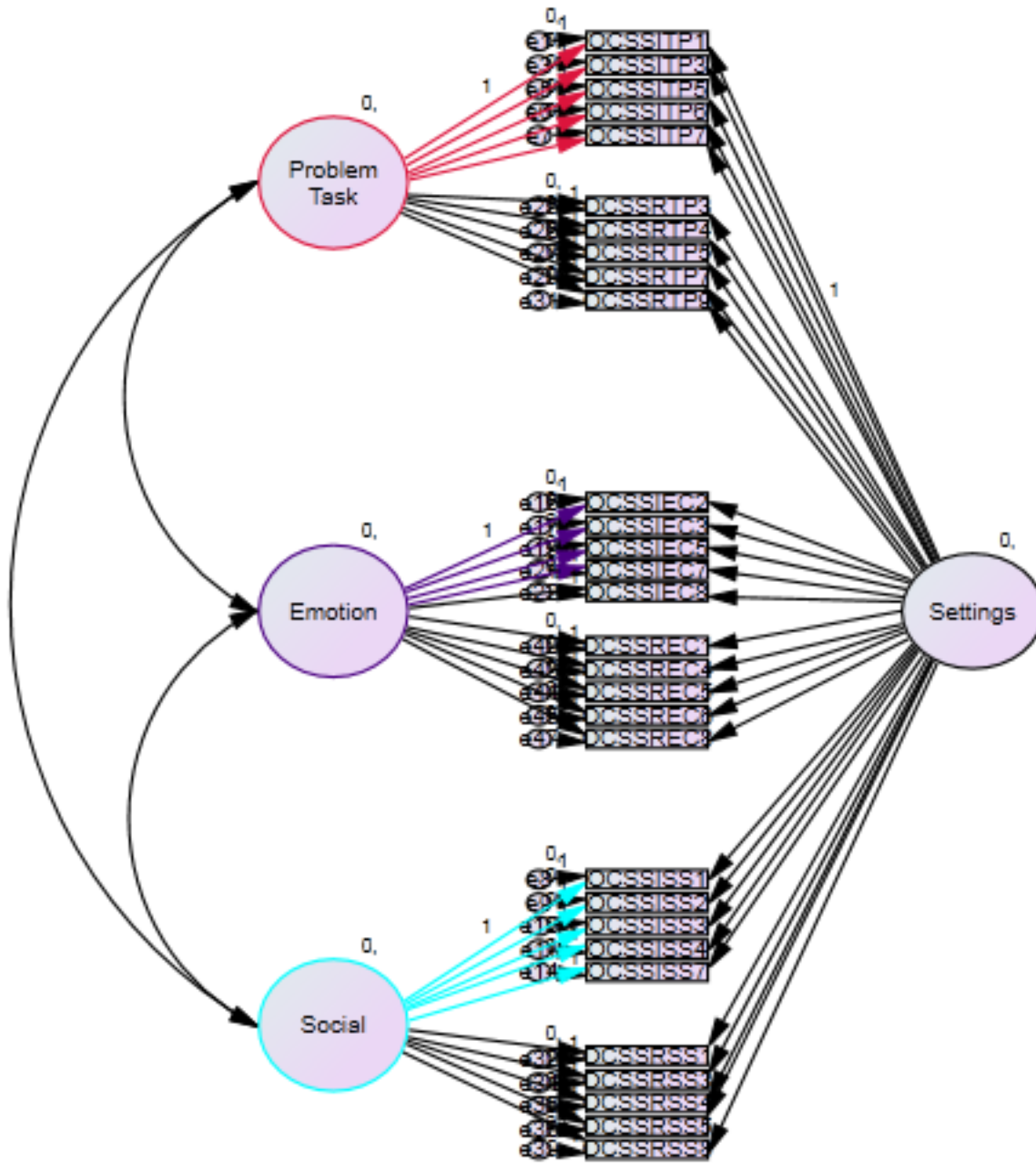
Figure 5a. Four-factor model of correlated coping strategies and one global setting factor.
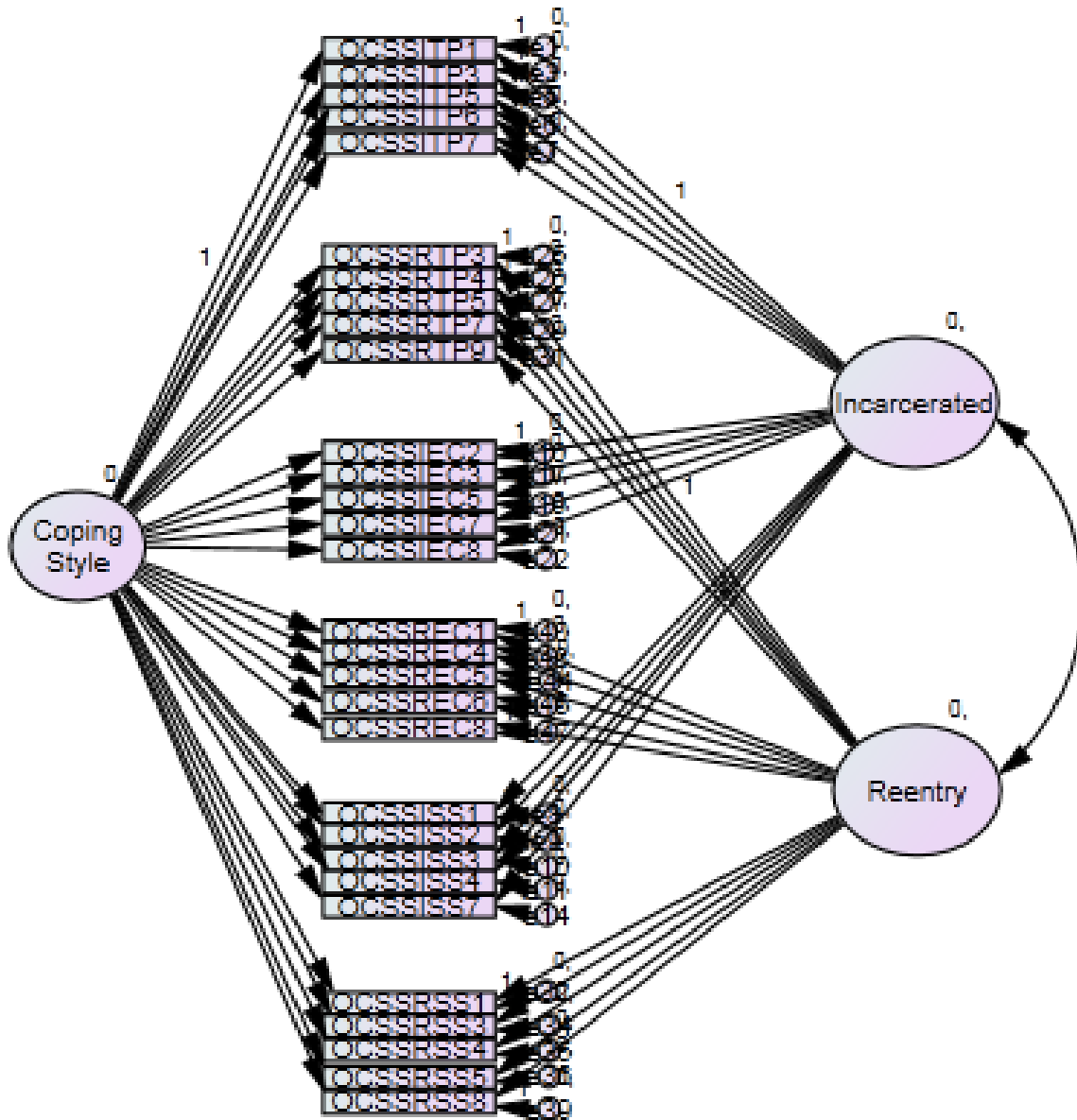
Figure 6a. Three-factor model of correlated setting factors and one global coping strategy factor
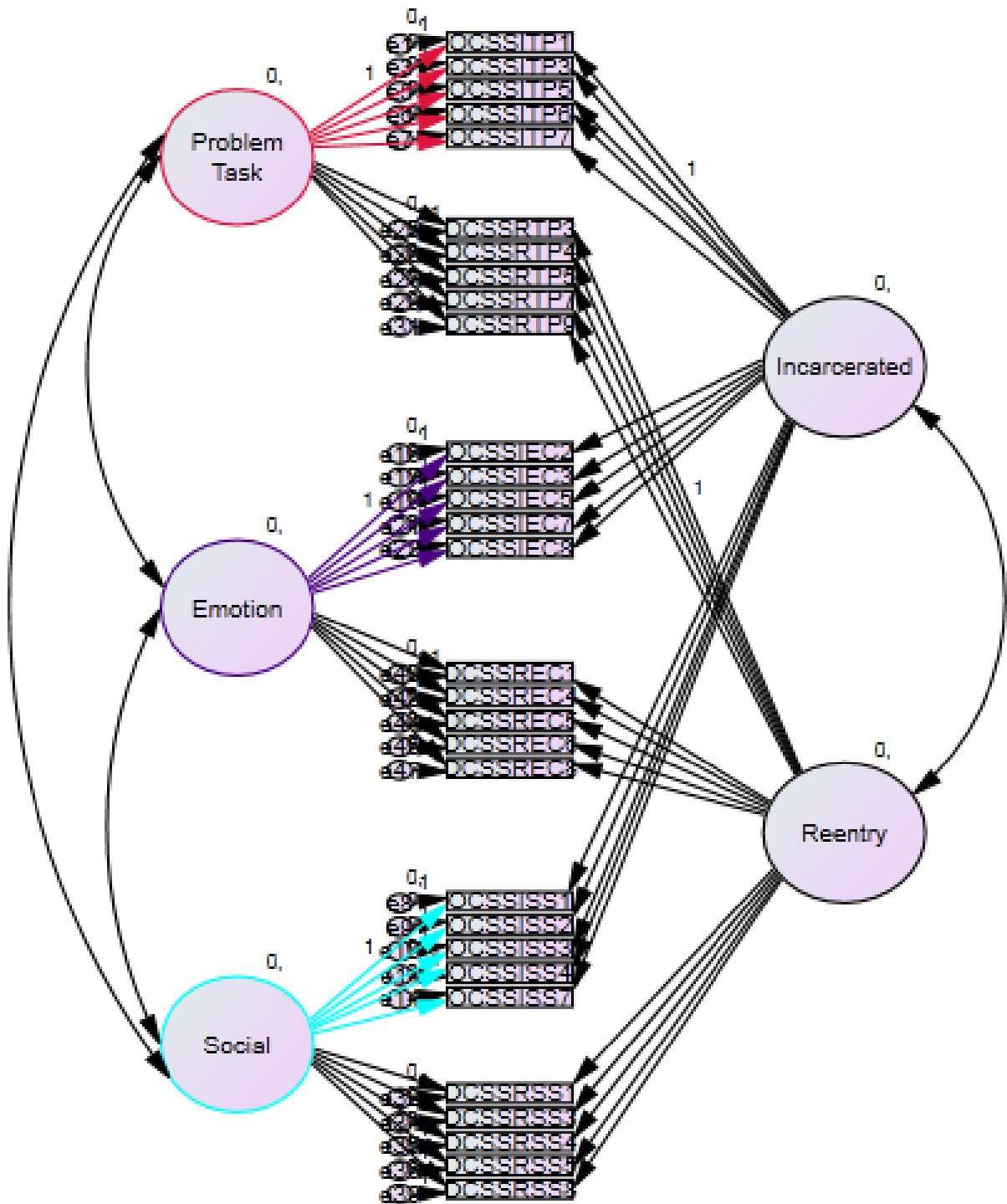
Figure 7a. Bi-factor model with three coping strategies and two settings.
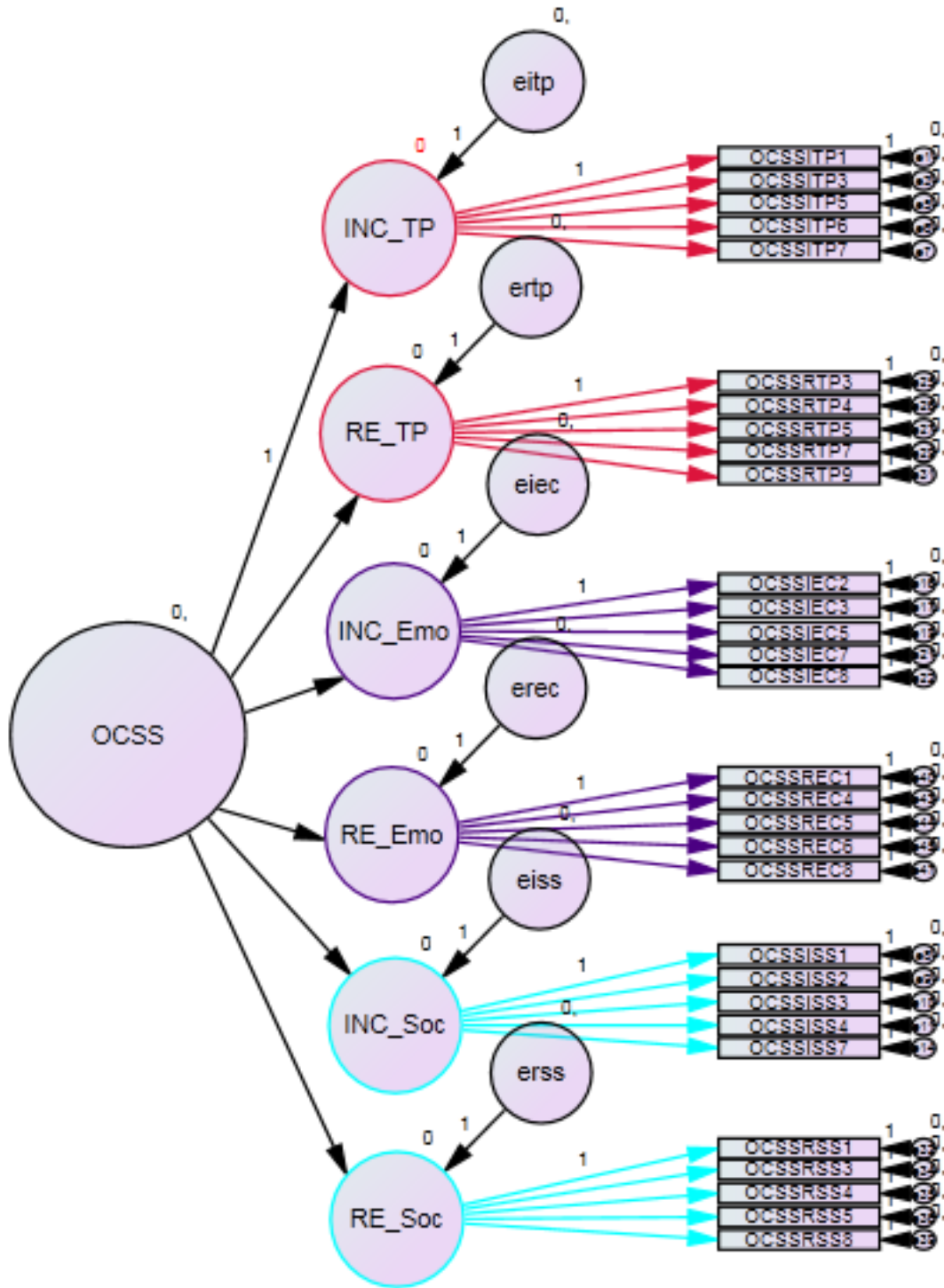
Figure 8a. Model of coping and setting factors loading onto a total OCSS factor.
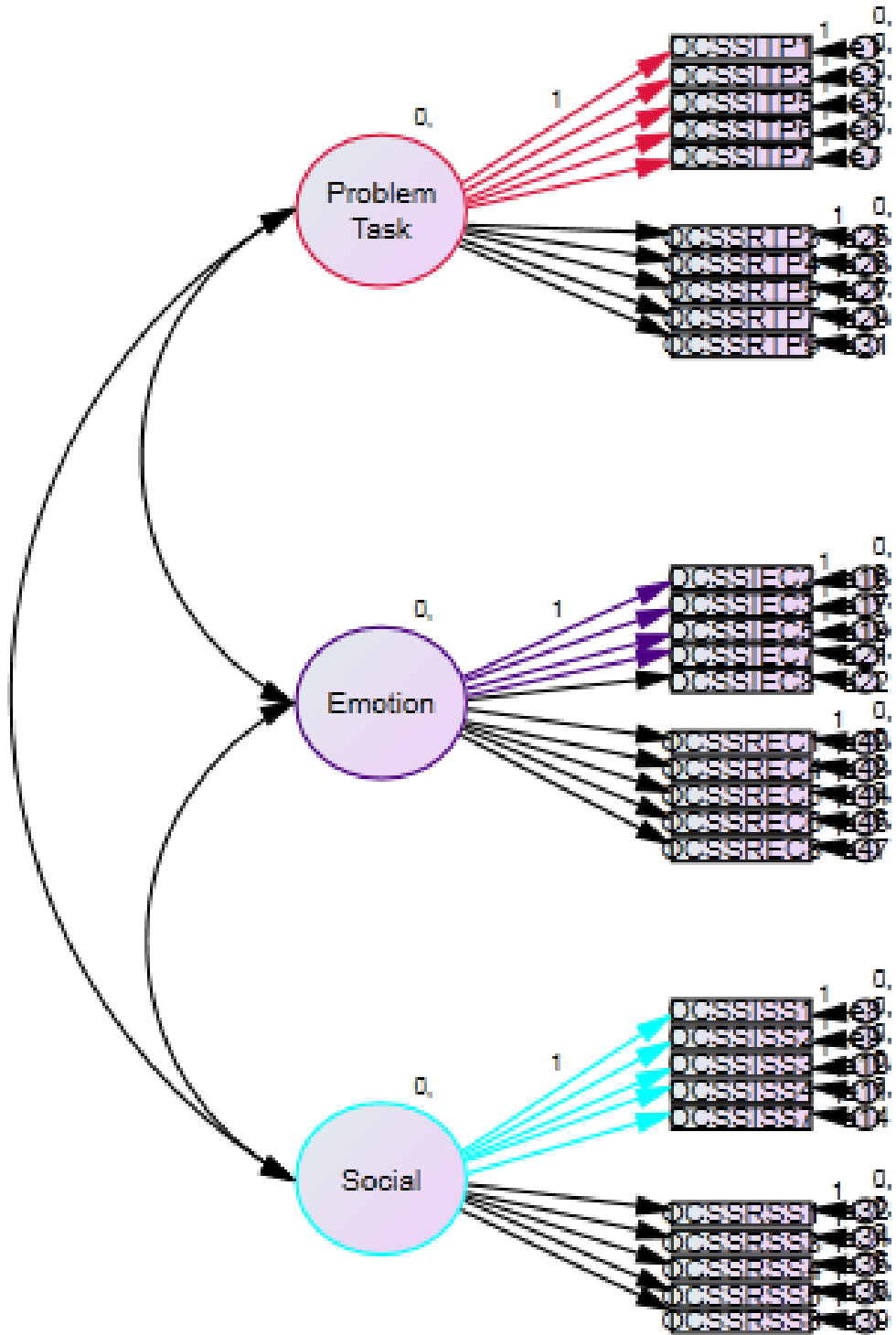
Figure 9a. Three-factor model of correlated coping strategies.
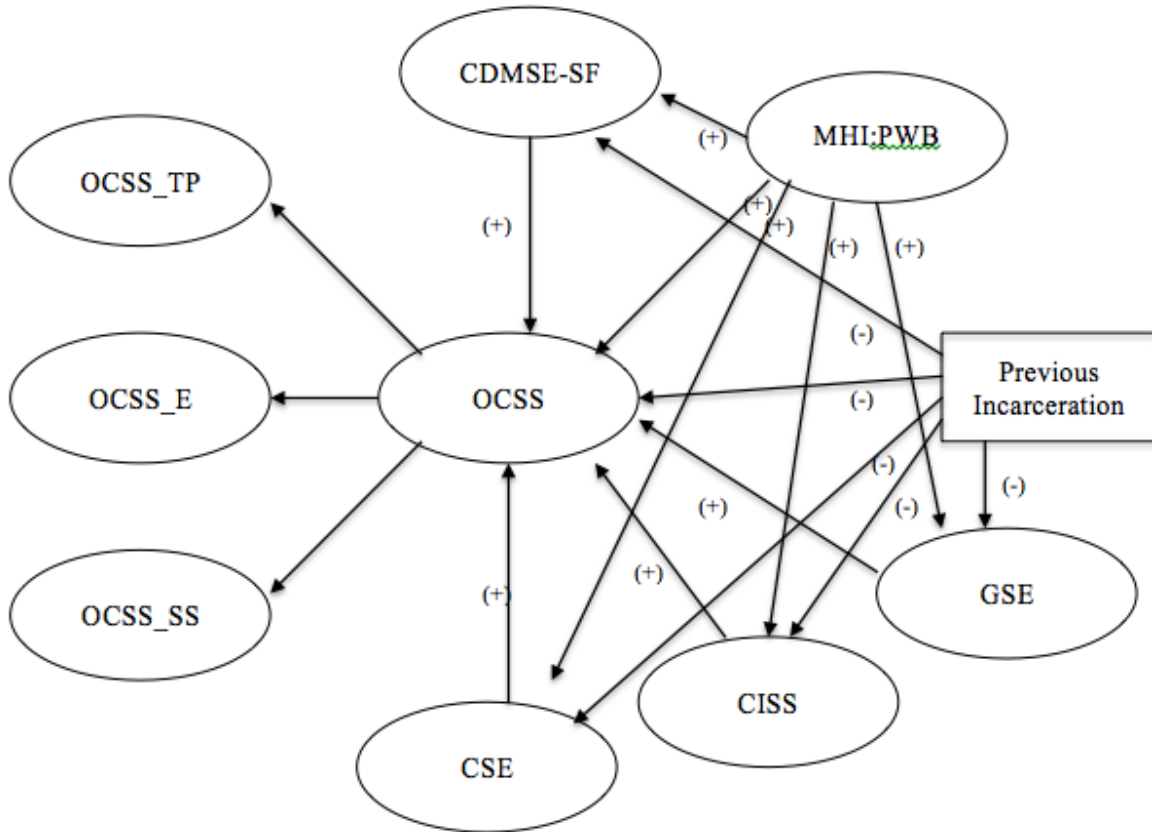
Figure 10. A priori proposed interrelationships between OCSS and relevant constructs.

CHAPTER II

Method

The purpose of this study was to evaluate the psychometric properties of the OCSS scale

that assesses CSE among offenders during incarceration and upon re-entry into the community.

As part of the psychometric evaluation, I tested proposed hypotheses to establish the

relationships between predictors of OCSS and the outcome variable. This was the first step in

analyzing the OCSS and determining whether it is psychometrically adequate.

Development of the OCSS

The development of the OCSS was based on Bandura's (2006) guidelines for creating a

SE scale. The first step in creating a SE scale is to ensure items accurately reflect the construct.

Item development. Literature on coping and CSE (Bandura, 1986; Benight et al., 1997;

Benight & Bandura, 2004; Benight et al., 2001; Benight et al, 1999ab; Lazarus & Folkman,

1984) created the theoretical framework for the development of the OCSS. To begin item

development, we created a list of potential stressors offenders may face while incarcerated and

upon re-entry (e.g., avoiding infractions while incarcerated or finding employment once

released) by referencing literature on incarceration. Following Clark and Watson's (1995)

recommendation to develop a pool of items that is more comprehensive than the researchers'

own specific definition of the construct, the list of potential stressors was then converted into a

large pool of preliminary CSE items. Additionally, items were evaluated regarding their

conformity with Bandura's (2006) guidelines for the development of SE scales.

Bandura's (2006) guidelines suggest items should be phrased using terms such as *can do*

instead of *will do*. The term *can* suggests a judgment of capability versus a statement of

intention. Second, the scale should be domain-specific, be based on a good conceptual analysis

of the specific activity, and assess the multifaceted ways in which efficacy beliefs operate within

that domain. Specifically, the items should be related to factors that actually determine quality

of functioning in the domain of interest. Third, there should be sufficient gradations of

difficulties in the scale. The challenges and impediments of the specific area of functioning need

to be first identified and then built into the items. SE scales ask people to judge their confidence

in their ability to complete specific tasks by rating the strength of efficacy belief, which should

include items that assess challenges and successes (Bandura, 2006).

Following the guidelines presented by Bandura (2006), the items were phrased using *can

do* rather than *will do*, so that the scale measures the level of confidence offenders have in

executing actions specific to incarceration and re-entry (e.g., Upon re-entry into my community,

I am confident in my ability to…). Second, based on existing CSE scales, including the Coping

Self-Efficacy Scale (CSES; Chesney et al., 2006) and the Coping Inventory for Stressful

Situations (CISS; Endler & Parker, 1990a), the OCSS taps into three domains of CSE, (a)

problem- and task-oriented, (b) emotion-oriented, and (c) social support. A sample item

representing one of the domains is, "While incarcerated, I am confident in my ability to reach out

to fellow offenders for emotional support." The scale was given to subject matter experts

(SMEs) such as clinicians and researchers who work in correctional facilities and ex-offenders to

review and provide feedback to be incorporated in the scale to improve accuracy and relevancy

of the items with actual stressors that offenders experience. Third, the items represent varying

levels of challenges faced during incarceration and re-entry. Items range from relatively simple

tasks (e.g., Avoid activities that could get me in trouble) to more complex (e.g., Identify

strategies to deal with problems). The response scale is a 7-point Likert scale that ranges from 1

(*strongly disagree*) to 7 (*strongly agree*).

Item selection. The goal of item selection was to have a balanced number of items across six subscales. To determine which items fit best within the factor subscales, I examined (a) standardized estimates of an initial confirmatory factor analysis (CFA) between the six latent variables, which represent the six subscales, and observed variables obtained from my six-factor model of coping strategy (problem-task, emotion, and social) and setting factors (incarcerated and re-entry; see Figure 4), (b) corrected item-total correlations for each item with the OCSS total scale scores, (c) corrected item-total correlations for each item within its own scale, and (d) corrected item-correlations for each item with the remaining five subscales. High item-total correlations on unrelated subscales indicate the item does not fit well within its theoretical structure.

Assessing Validity

Validity refers to whether the measure and its items assess the specific domain of interest (Kazdin, 2003). This concept includes the relationship of performance on the measure to performance on other measures at the same time, in the future, and to other domains. There are some types of validity that are referred to more commonly, such a content validity (DeVellis, 1991), which was originally assessed during the development of the scale. In my dissertation, I also evaluated the structural and construct validity of the OCSS.

Content validity. Content validity refers to the extent to which the items of the measure match the domain the measure is trying to assess. Throughout the development of the OCSS, content validity was assessed by referring to relevant literature regarding theories of coping and CSE, using related scales as examples to guide development, and having SMEs evaluate test items and their relevancy or accuracy. The feedback provided by SMEs was incorporated into the scale to improve content validity. Although content validity was not formally assessed in my

dissertation, it would be good practice to ask SMEs to review the OCSS again after this psychometric evaluation.

Structural validity. Structural validity refers to examining the internal structure of the measure and how its parts relate to each other (Furr & Bacharach, 2008). The intent of examining structural validity is to determine whether the actual internal structure of the test and the theoretically based structure of the construct match with each other (Furr & Bacharach, 2008). The structure of the test includes items, subscale scores, and overall scores. These factors taken together should reflect the structure of the construct. Factor analysis can be used to assess the scale's structure (DeVellis, 1991). This method helps determine how many factors exist within the measure. In addition, it is used to determine the associations between the factors and which items make up each factor. If a measure is thought to evaluate a single construct, all items should be highly correlated and unidimensional (Furr & Bacharach, 2008).

To evaluate structural models, Byrne (2010) suggests examining three types of fit criteria, including the chi square (χ^2) statistic, the comparative fit index (CFI), and the root mean square error of approximation (RMSEA). The goal is to obtain a non-significant χ^2, which would indicate the model fits the population considered (Byrne, 2010). In this case, the null hypothesis should not be rejected. The CFI compares the hypothesized model with the null model (a model in which all correlations between variables are equal to zero). The ideal cutoff score for the CFI is > .95 (Byrne, 2010). The CFI takes sample size into account, making it a better estimate with smaller samples. The RMSEA value provides an estimate of the error of approximation (Byrne, 2010). An ideal value for RMSEA is < .05, with mediocre values ranging from .08 to .10, with a 90% confidence interval that is also < .05.

In my study, I started with CFA with maximum likelihood estimators using AMOS 23 to

test the a priori models of the scale. Often, fit indices are inadequate after the first analysis

(Byrne, 2010). Therefore, if fit was found to be inadequate, I used the exploratory factor

analysis (EFA) approach of principal components analysis as an option to gather more

information about the number of latent variables and their relationship to items. Byrne (2010)

recommended using CFA and EFA in conjunction with each other to explore various modeling

options while adhering to the theoretical basis of the construct. I evaluated a series of a priori

structures and compared seven nested measurement models to assess the dimensionality of the

scale and subscales.

I utilized Campbell and Fiske's (1959) multi-train multi-method framework to develop

my models by conceptualizing coping strategies (task and problem, emotion, and social support)

as *traits* and setting (incarcerated, re-entry) as *methods*. My first model (Figure 3) is a single-

order, unidimensional model of CSE as a single factor with the 47 OCSS items as indicator

variables. My second model (Figure 4) is a single-order structure that includes a six-factor

model of coping strategy and setting factors with coping strategy and settings correlating to their

respective factors. In other words, the latent variable *task and problem coping during*

incarceration was allowed to correlate with the *task and problem coping during re-entry* as well

as the *emotion coping during incarceration* and *social support coping during incarceration*

latent variables.

My third model (Figure 5) is a multi-dimensional structure derived from the multi-

trait/multi-method family of models. It has three correlated coping (traits) factors and one

general setting (method) factor. My fourth model (Figure 6) is a mirror image of model three

and consists of two correlated settings (methods) factors and one general coping (trait) factor.

My fifth model (Figure 7) is a correlated trait - correlated method model in which coping

strategies (i.e., task and problem, emotion, and social support) are modeled as three *trait* factors, and settings (i.e., incarcerated and re-entry) are modeled as two *method* factors. Trait (coping strategy) factor covariances and method (setting) factor covariances were freely estimated; however, no trait-method (e.g., emotion coping with incarceration) covariances were allowed.

My sixth model (Figure 8) reflected Figure 4's model of coping strategy and setting factors with coping strategy and settings correlating to their respective factors, with the addition of a total OCSS factor. My seventh model (Figure 9) was a single-order structure comprised of three coping strategy factors. This model suggested that the variance in the items are best explained by three, correlated coping strategies.

My second, fifth, and sixth models (Figures 4, 7 and 8) were most closely related to my a priori understanding of the OCSS evaluating three types of coping strategies in two types of settings. Each coping strategy (trait) factor had 16 observed item variables, 8 each, corresponding to environment and interpersonal settings. Each setting (method) factor had 24 observed item variables, 8 each, corresponding to the coping strategies. In this model, each OCSS item serves as an indicator of one coping strategy/trait factor and one setting/method factor.

Construct validity. Construct validity is defined as the extent to which the measure assesses the domain of interest (Kazdin, 2003). It refers to the connection between the theoretical concept of the measure and the research that supports the utility of the construct in explaining the outcomes (Kazdin, 2003). Construct validity focuses on the relationship of the measure to other measures. It consists of two subgroups: convergent and discriminant validity. Convergent validity refers to the extent to which the measure that is being evaluated is similar to other measures that assess similar constructs (Furr & Bacharach, 2008; Kazdin, 2003).

Discriminant validity refers to the extent to which the measure being evaluated shows little or no

correlation with unrelated constructs (Furr & Bacharach, 2008; Kazdin, 2003).

To evaluate construct validity, I examined the relationship between the OCSS and related

(convergent) and unrelated (discriminant) measures. I developed a nomological net (Cronbach

& Meehl, 1955) of the proposed theoretical interrelationships between offender CSE and other

constructs measured by the empirically observable relationships between the OCSS and other

scales (Figure 10). Specifically, I examined the correlations between the OCSS and the New

General Self-Efficacy Scale (NGSE; Chen et al., 2001), Coping Self-Efficacy Scale (CSES;

Chesney et al., 2006), and the Coping Inventory for Stressful Situations (CISS; Endler & Parker,

1990a). I expected these measures to be strongly and positively correlated with the OCSS. I

also examined the demographic variable of previous incarcerations and expected it to be

negatively correlated with the OCSS, GSE, CISS, CSE, and CDMSE-SF. To evaluate

discriminant validity, I examined the relationship between the OCSS and the Career Decision-

Making Self-Efficacy-Short Form (CDMSE-SF; Betz et al., 1996), to address differences in

specificity of CSE. I also examined the relationship between the OCSS and the Mental Health

Inventory: Psychological Well-being (MHI:PWB; Stewart et al., 1992). I expected the CDMSE-

SF and MHI:PWB to have a weaker positive correlation with the OCSS. These relationships

were analyzed using structural equation modeling (SEM) in AMOS 23, which allows for

simultaneous analysis, minimizing the amount of error that would accrue if multiple simple

bivariate analyses were performed.

Assessing Reliability

Scale reliability refers to the consistency of the measure (Kazdin, 2003). More

specifically, it is the extent to which scale variability is due to true score variance versus error

(DeVellis, 1991). Reliability can be assessed in various ways. Kazdin (2003) stated that

consistency could be assessed in terms of the relationship between measure items, which is also

termed internal consistency reliability. For my initial evaluation of reliability for the OCSS, I

examined internal consistency.

Internal consistency. Internal consistency reliability refers to the homogeneity of items

in the measure (Kazdin, 2003). Higher intercorrelations between items on the scale suggest

better internal consistency. With the idea that the items aim to answer questions specific to a

domain, the items should be intercorrelated. Internal consistency is most widely reported in the

form of a Cronbach's alpha coefficient, which is the proportion of true score variance to the total

scale variance. A common misinterpretation of alpha is that it measures unidimensionality and

that alpha reflects the strength of one factor (Field, 2009). Data can have high alphas with

various factor structures, suggesting that alpha should not be used as a measure of

unidimensionality. Cronbach (1951) suggested that the formula should be applied separately to

items relating to different factors. The importance of examining internal consistency when doing

factor analyses is to determine the reliability of each subscale and lend support to that factor, not

just the overall reliability of the measure.

Participant Characteristics

Participants ($N = 144$) were 18 years of age or older and were detained in county jails in

Washington State at the time of the assessment. Data were not collected at state prison facilities

during this evaluation. Participant ages ranged from 18 to 61 years old (*M = 33.6, SD = 10.4*).

The majority of the participants were male (78.4%), with 21.6% identifying as female. More

than half of the participants were White (51.4%), followed by multiethnic (15.5%), Native

American/Alaskan Native (12.2%), Black (10.8%), Hispanic (6.1%), Asian/Pacific Islander

(2.7%), and other (1.4%). The largest percentage of participants reported having attainted a high

school diploma or GED (39.2%), followed by some college (27.7%), some high school (15.6%),

Bachelor's degrees (6.1%), eighth grade or below (5.5%), vocational or technical degrees and

diplomas (4.7%), or master's degrees (0.7%).

The amount of time the participant had currently been detained or incarcerated (i.e.,

Current time served) ranged from one day to 48 months ($M = 3.58$ month$s, SD = 6.14$). The

majority of the participants had already been sentenced and were serving their sentence in the

county jail (58.8%), while other participants were waiting for adjudication (40.5%). The total

amount of time the participant reported being incarcerated in his or her lifetime ranged from 1

day to 230 months ($M = 37.1, SD = 51.6$). Participants were housed in general population units.

Sampling Procedure

Data collection varied slightly depending on the protocols of each facility. Generally, in

the county jail systems, a designated staff identified inmates who met criteria for the study. The

principal investigator and graduate research assistants conducted the survey administration.

Once potential participants were identified, the survey administration took place after

receiving IRB approval. Inclusion criteria for participation in this study included: (a) voluntary

desire to participate in the study, and (b) being 18 years or older in age. This study was

conducted at two county jails in Washington State. The researcher met individually with inmates

in secure non-contact visiting rooms. Participants were given informed consent to participate in

the study. They were notified that their involvement was completely voluntary and that they

could withdraw at any time without penalty.

Sample Size, Power, and Precision

I utilized a sample size of 144 participants for my dissertation. I relied on the approach

and the calculator presented by Westland (i.e., Structural Equation Model Sample Size

Calculator; Westland, 2010) to ensure I had enough power to test the structural validity of the

OCSS. I specified the number of latent variables to be 5, the number of indicator variables to be

47 (the number of items in the OCSS), the minimum effect to detect at 0.30, significant at .05,

and power at .80. The analysis resulted in the minimum sample size of 140 to detect the effect;

thus, 144 was sufficient to detect a small effect size.

Measures

Participants completed a packet of paper and pencil measures. The packet consisted of

an informed consent letter and the measures.

Demographic data. Demographic information about the participants including age,

gender, ethnicity, level of education, and previous detainments (number of past convictions and

time spent incarcerated) were gathered using an author-created survey.

Offender Coping Self-Efficacy Scale. The Offender Coping Self-Efficacy Scale (OCSS;

Huynh, 2012) is a measure developed to assess CSE among offenders while incarcerated and

upon re-entry into the community. At the time of initial scale development, the OCSS consisted

of 47 items and was comprised of two different scales, current incarceration and re-entry into

their local communities. Participants provided responses using a 7-point Likert scale (1 =

strongly disagree to 7 = *strongly agree*). Each scale was comprised of three subscales that

examined different aspects of CSE: (a) task and problem, (b) emotion, and (c) social support.

The task and problem oriented scale assesses individuals' perceived ability to use coping

strategies as a way to help problem-solve situations that they perceive as stressful. The emotion

oriented scale assesses individuals' perceived ability to regulate the affect and cognitions they

experience as a result of a stressful situation. The social support oriented scale assesses

individuals' perceived ability to seek out social supports or resources to help cope with stressful situations they may confront during or after incarceration. Higher total scores indicated higher CSE in each domain.

Coping Self-Efficacy Scale. The Coping Self-Efficacy Scale (CSES; Chesney et al., 2006) is a 26-item measure that assesses perceived CSE with challenges and threats. Participants were asked, "When things aren't going well for you, or when you're having problems, how confident or certain are you that you can do the following." They were then asked to rate the extent to which they believed they could perform behaviors important to adaptive coping on an 11-point Likert scale. Anchor points on the scale are 0 (*cannot do at all*), 5 (*moderately certain can do*), and 10 (*certain can do*). An overall CSE score was created by summing the item ratings.

The CSES is comprised of three subscales that measure different aspects of CSE: problem-focused coping self-efficacy (PFCSE), emotion-focused coping self-efficacy (EFCSE), and social support coping self-efficacy (SSCSE). The PFCSE scale has 12 items and is thought to assess perceived ability to utilize coping strategies to manage stressful situations or environments. Examples include, "Find solutions to your most difficult problem," and "Make a plan of action and follow it when confronted with a problem." The EFCSE scale has 9 items to assess perceived ability to utilize coping strategies to regulate both cognitive and affective responses to stressful situations. Examples include, "Stop yourself from being upset by unpleasant thoughts," and "Keep yourself from feeling lonely." The SSCSE has 5 items and assesses perceived ability to pursue social support or other resources to help cope with stressful situations. Examples include, "Get emotional support from family or friends," and "Get friends to help you with the things you need."

The development of the CSES was theoretically influenced by Bandura's (1997) self-efficacy theory and Lazarus and Folkman's (1984) theory of stress and coping. The original measure was developed in collaboration with Bandura for use in two randomized clinical trials investigating the efficacy of a theory-based intervention aimed at reducing psychological distress and increasing positive mood in individuals coping with chronic illness such as HIV (Chesney et al., 2006). The CSES has been tested in various populations including a general adult population sample (Colodro, Godoy-Izquierdo, & Godoy, 2010) and prison inmates (Scheyett et al., 2010).

The CSES has been tested for validity across different populations and has shown strong psychometric properties. Chesney and colleagues (2006) assessed its structural validity using principal-components analyses with promax rotation. Results indicated that the CSES accounted for 56.36% of the variance in scores in an individual's belief about his/her ability to use coping strategies in stressful situations. Concurrent validity was assessed by correlating the CSES with other measures of psychological distress (Chesney et al., 2006). The CSES was significantly negatively correlated with perceived stress ($r = -.31$), burnout ($r = -.11$), anxiety ($r = -.16$), negative morale ($r = -.10$), distancing ($r = -.12$), and cognitive escape-avoidance ($r = -.20$). Chesney and colleagues (2006) also found the CSES to be significantly positively correlated with positive morale ($r = .12$), optimism ($r = .11$), positive states of mind ($r = .14$), positive reappraisal ($r = .20$), and planful problem solving ($r = .28$).

Reliability of the CSES has been tested among various populations and has also shown strong psychometric properties. Internal consistency for each of the three scales was measured by reported Cronbach's alpha estimates ranging from .80 to .96 (Chesney et al., 2006; Colodro et al., 2010; Scheyett et al., 2010). Chesney et al. (2006) examined test-retest reliability using two methods. First, they examined a waitlist control group from the initial study. At three months,

the reliability correlation coefficients were $r = .68$ (EMCSE), $r = .65$ (PFCSE), and $r = .54$ (SSCSE). Next, Chesney and colleagues conducted a longitudinal study and found correlations at 3 months ($r = .61$), 6 months ($r = .57$), and 12 months ($r = .56$).

Several limitations of the CSES include the sample populations in which the CSES was tested, its generalizability, and 11-point Likert scale. The initial study in which the original scale was normed was conducted with a sample of males diagnosed with depression and HIV. The population was predominantly Caucasian, college-educated, and employed. This sample suggests poor generalizability to other populations; however, the overall generalizability of the CSES is unknown. Additionally, despite the fact that the CSES follows Bandura's (2006) guidelines for constructing a SE scale, the original 11-point Likert scale may be too broad. A narrower range may influence more accurate responses. Also, there are only three anchor descriptions, which may be misinterpreted by participants due to the lack of description for each point on the scale. Moreover, the CSES should be tested in a larger and more diverse population to increase generalizability and improve the psychometric properties of the CSES.

Coping Inventory for Stressful Situations. The Coping Inventory for Stressful Situations (CISS; Endler & Parker, 1990a) is a 48-item self-report questionnaire designed to assess multi-dimensional coping. The CISS has forms for both adult and adolescent populations. A computer-administered format and a shorter 21-item Situation Specific form also exist, but neither has been reviewed by researchers. The CISS measures the preferred coping strategies of individuals and is divided into three categories: task-oriented, emotion-oriented, and avoidance-oriented. It was developed and standardized with adults, college students, and psychiatric patients. The CISS manual (Endler & Parker, 1990a) also reports normative data for male offenders in a correctional facility. Participants are given specific instructions, "The following

are ways people react to various difficult, stressful, or upsetting situations. Indicate how much

you engage in these types of activities when you are in a difficult, stressful, or upsetting

situation. Answer all questions by placing a check in the most accurate box." They are then

asked to rate how they generally respond based on a 5-point Likert scale ranging from 1 (*not at*

all) to 5 (*very much*) with higher scores indicating greater utilization of coping strategies.

The CISS has three major coping scales: Task-Oriented, Emotion-Oriented, and

Avoidance. These scales reflect the individual's coping strategy. Each scale consists of 16

items. However, the Avoidance scale is composed of two subscales: Distraction (8 items) and

Social Diversion (5 items). The CISS is a result of the evaluation and refinement of the

Multidimensional Coping Inventory (MCI; Endler & Parker, 1990b). The Task-Oriented coping

scale examines purposeful behaviors directed at solving problems and attempts to change

environmental or social components of a stressful situation. Examples include, "Schedule my

time better," "Think about how I have solved similar problems," and "Analyze the problem

before reacting." The Emotion-Oriented coping scale examines responses that focus on

managing emotional responses to stressful events. Examples include, "Preoccupied with aches

and pains," "Blame myself for not knowing what to do," and "Worry about what I am going to

do." The Avoidance coping scale examines the type of coping that fails to regulate distress or

managing the underlying problem through avoidance of the stressor. Gullone and colleagues

(2000) introduced modifications to the Avoidance scale to reflect actions or situations that may

occur in prison. The Distraction subscale addresses how individuals attempt to distract

themselves with unrelated situations or tasks. An example from the Distraction subscale is "Go

out for a snack or meal." The Social Diversion subscale examines how individuals are able to

distract themselves from the situation by doing other things. An example from the Social

Diversion subscale is "Try to be with other people."

The CISS has been tested for validity across various populations and has shown strong psychometric properties. The measure was developed based on theoretical framework from Lazarus and Folkman's (1984) theory of stress and coping, emphasizing two major functions of coping such as problem-focus responses and emotion-focused responses. Endler and Parker (1990) developed a preliminary 70-item inventory and administered the measure to undergraduates ($N = 559$). This measure was analyzed using principal-components factor analysis with varimax rotation. Similarly, three factors emerged from the analysis and were identified as the task-oriented, emotion-oriented, and avoidance-oriented coping strategies. The number of items that loaded on the preliminary subscales were imbalanced; therefore, additional items were created to even the spread of items across subscales. The revised scale consisted of 66-items and was administered by Endler and Parker (1990a) to undergraduates ($N = 394$) and adults ($N = 284$). The scale was analyzed using principal-components factor analyses with varimax rotation and loaded onto three factors. Items that did not load .35 or above or items that had poor face validity were eliminated. The resulting measure (CISS) consisted of 48 items with three 16-item scales.

McWilliams, Cox, and Enns (2003) found results regarding convergent validity that suggested mixed strengths in correlation between the Emotion-Oriented coping scale and the NEO Five-Factor Inventory (NEO-FFI; Costa & McCrae, 1992). Emotion-Oriented coping was correlated with neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness ($r = .66, -.22, -.01, -.33,$ and $-.23$, respectively). Task-Oriented coping was also correlated with neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness ($r = -.37, .45, .19, .18,$ and $.48$, respectively). Concurrent validity results

found significant relationships between the CISS and the Beck Depression Inventory (BDI;

Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) for the Task-Oriented coping scale (r = -.31)

and Emotion-Oriented coping scale (r = .50). Construct validity results found a significant

relationship between the CISS and another measure of basic coping strategies, the Coping

Strategy Indicator (CSI; Amirkian, 1990). The CISS Task-Oriented scale was strongly related to

the CSI Problem Solving scale for both men (r = .53) and women (r = .46). The CISS Emotion

and Distraction scales moderately correlated with the CSI Avoidance scale in men and women

ranging from .46 to .57. The CISS Social Diversion scale correlated moderately with the CSI

Seeking Social Support scale in men (r = .46) and women (r = .41). In the prison population,

Gullone et al. (2000) found the CISS Emotion-Oriented scale to be correlated with self-esteem (r

= -.50), depression (r = .47), state anxiety (r = .55), and trait anxiety (r = .77). They found the

Task-Oriented scale to be correlated with self-esteem (r = .30), depression (r = -.26), and trait

anxiety (r = -.23).

Reliability of the CISS has been tested among various populations and has also shown

strong psychometric properties. Cronbach's alpha for the CISS ranged from .76 to .92. Test-

retest reliability correlations that were assessed over a 6-week interval ranged from .51 to .73

(Endler & Parker, 1994). The Emotion-Oriented coping resulted in Cronbach's alphas ranging

from .85 to .92 (Delahij, VanDam, Gaillard, & Soeters, 2011). The Task-Oriented coping

resulted in alphas ranging from .79 to .92 (Delahij et al., 2011).

Several limitations of the CISS include availability and sample populations. The initial

studies were conducted with undergraduate students; however, more recent studies have used the

CISS in various populations, including adult populations and prison populations, with similar

findings. This application may suggest strong internal reliability and generalizability. In regards

to availability, the CISS is privately owned and must be purchased, which may limit its usage by researchers who have limited funds.

General Self-Efficacy. The New General Self-Efficacy Scale (NGSE; Chen et al., 2001) is an 8-item measure that assesses an individual's GSE. Participants are asked the given stem, "Please indicate your self-confidence in each of these areas," and respond to items such as, "I will be able to achieve most of the goals that I have set for myself," and, "I believe I can succeed at most any endeavor to which I set my mind," (Chen et al., 2001). Participants are asked to rate their GSE on such questions on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The items are summed to give a total score, with higher scores indicating greater perceived GSE.

The NGSE items were written to assess GSE and to address the low content validity and multidimensionality of previous GSE measures such as the General SE Scale (SGSE; Sherer et al., 1982). The NGSE was initially an 11-item instrument developed in 1997 by Chen and Gully; however, their exploratory work found that seven of the new GSE items were distinct from the Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965) and the SGSE (Sherer et al., 1982). Since four items were then dropped from the original Chen and Gully measure, Chen and colleagues decided to conduct three studies to analyze validity and reliability of the NGSE.

For Study 1, Chen and colleagues created seven additional NGSE items to add to the seven items from the Chen and Gully (1997) measure to ensure NGSE scale captured the content domain, intending for redundant items to be eliminated. The 14-item NGSE scale was first tested among a college student population ($N = 316$; mean age = 24; 78% female). Participants in this sample were students in a variety of upper-level psychology courses who received extra course credit for participation (Chen et al., 2001). Participants were asked to complete the

questionnaire three times during the semester. A multivariate analysis of variance (MANOVA) did not detect any significant differences between participants who completed the questionnaire at all three times points and those who did not.

Chen and colleagues found six items to be linearly redundant, suggesting that the items can be eliminated without affecting the content domain. Based on item face validity, inter-item correlations, and factor loadings, they found eight items that best capture GSE. A factor analysis suggested a single-factor measure for the 8 NGSE items. The test-retest reliability coefficients ranged from $r = .62$ to .66 across three time periods. Cronbach's alpha reliability coefficients ranged from .85 to .88 across three time periods. Ultimately, the final eight items yielded a scale that is based on theory, unidimensionality, internal consistency, and stability over time.

Content validity was tested by asking graduate and undergraduate psychology students to examine the content of the NGSE, SGSE, and the RSE. They were given definitions of GSE and self-esteem and asked to indicate which of the NGSE items, SGSE items, and RSE items capture GSE, self-esteem, or some other construct like GSE or self-esteem. The graduate students identified 98% of the NGSE items as GSE, while undergraduates identified 87% as GSE. In contrast, the graduate students identified 54% of the SGSE scale as GSE, while undergraduates identified 64% of the SGSE scale as GSE. These results provide evidence for discriminant and content validity of the GSE and suggest that the content of the NGSE items is substantially more consistent with the GSE construct than the content of the SGSE items.

In their second study, Chen and colleagues aimed to further examine reliability and dimensionality of the NGSE and SGSE scales. They then tested whether the NGSE and SGSE scales are different from self-esteem. Chen and colleagues also attempted to assess the predictive validity of the NGSE compared to the SGSE. Researchers have shown that measures

of GSE are more highly related to self-esteem than to other related constructs, which is why they focused their discriminant validity analyses on self-esteem (Eden & Aviram, 1993; Judge, Bono, & Locke, 2000). In their study of 323 undergraduates (mean age = 23; 77% women), they found internal consistency reliability to be high for both NGSE (α = .86 and .90) and the SGSE (α = .88 and .91) at two time points. Test-retest coefficients ranged for the NGSE and SGSE were r = .67 and .74, respectively.

They found the NGSE scale to be unidmensional with eigenvalues equal to 4.17 and 4.76, accounting for 52% to 59% of the total item variance at both time points. In contrast, the SGSE scale yielded three dimensions with eigenvalues greater than 1, accounting for 45 to 58% of the total item variance. They found that both the NGSE and SGSE scales are distinct from, although highly related to, self-esteem. The SGSE scale was found to have high reliability, but is multidimensional, while the NGSE scale is both highly reliable and unidimensional. A hierarchical regression analysis indicated that GSE moderated the influence of previous exam performance on subsequent exam specific SE, when GSE was measured using the NGSE scale but not with the SGSE. This finding suggests that the predictive validity of the NGSE scale was higher than the SGSE.

To show that the validity, reliability, and dimensionality of the NGSE applies across different cultures and languages, Chen and colleagues completed a third study with participants using Hebrew versions of the NGSE and SGSE scales among 54 Israeli managers (83% male; mean age = 38) who were attending an Israeli MBA program. They were administered the NGSE scale, SGSE scale, and a leadership specific SE scale at two time points with a two-week interval. The found content validity of the Hebrew NGSE scale to be higher than the Hebrew SGSE scale but these differences were not as prominent as the difference seen in the English

versions.

Alpha coefficients ranged from .85 to .86 for the NGSE scale and .88 to .91 for the SGSE

scale, suggesting high internal consistency for both scales. Test-retest analyses suggested high

stability coefficients for both the NGSE and SGSE scales ranging from $r = .86$ to .90,

respectively. Again, the findings suggested the SGSE is multidimensional while the NGSE is

unidimensional. A hierarchical multiple regression analysis demonstrated that NGSE predicted

additional variance in leadership SSE beyond the variance accounted for by SGSE, supporting

that the predictive validity of the Hebrew NGSE scale is somewhat higher than the Hebrew

SGSE scale.

Several limitations of the GSES include the sample populations in which the scale was

normed and the generalizability of the scale. The first two studies were conducted with a sample

of college students, while the third study by Chen and colleagues was conducted with a sample

of Israeli managers and MBA students. Therefore, the generalizability of these results to other

populations is unknown. Furthermore, the 5-point Likert scale may be too narrow to accurately

measure this construct. With only two anchor descriptions, it may not be sufficient to provide

accuracy in ratings by the participants. More research with this scale among a larger, more

generalizable populations may improve the psychometric characteristics of this scale. One

important factor to consider is that Bandura (1997) claimed that GSE measures are not adequate

to measure efficacy beliefs related to particular domains of behavior. This measure may be a

valuable source to confirm Bandura's (1996) statement suggesting measures that are domain-

specific (i.e., difficulties faced during incarceration) may better identify individuals' CSE beliefs

Career Decision-Making Self-Efficacy Scale-Short Form. The Career Decision-

Making Self-Efficacy Scale- Short Form (CDMSE-SF; Betz et al., 1996) is a short form of the

CDMSE developed by Taylor and Betz in 1983. The short form was created in 1996 by Betz,

Klein, and Taylor, and it contains 25-items (or five 5-item scales) that assess confidence in

career decision-making. Participants are asked to rate their career decision-making SE on a 10-

point Likert scale ranging from 1 (*no confidence at all*) to 10 (*complete confidence*). Average

total scares are calculated with higher scores indicating higher level of confidence. Internal

consistency scores ranged from .94 to .97 (Betz et al., 1996; Gloria & Hird, 1999). Test-retest

reliability of the full scale CDMSE was .83 (Luzzo, 1993).

The CDMSE-SF is comprised of five subscales that measure individuals' degrees of

belief in their ability to complete tasks necessary to making career decisions. The original

CDMSE was theoretically based on the five Career Choice Competencies from Crites's model of

career maturity, which are assessed by the Career Maturity Inventory (Crites, 1978). The

CDMSE-SF items assess five areas: (a) accurate self-appraisal, (b) gathering occupational

information, (c) goal selection, (d) making plans for the future, and (e) problem-solving. The

CDMSE was reduced from 10 items to 5 items per subscale. Betz and colleagues (1996) decided

to retain the structure of the original instrument. Through the process of item selection and

measure evaluation, a similar five-factor structure emerged with the CDMSE-SF (Betz et al.,

1996).

The CDMSE-SF was first tested among a college student population ($N = 184$).

Participants (81 male and 103 female) were enrolled in an introductory psychology course and

received extra credit for participation (Betz et al., 1996). A factor analysis using a principal

components analysis with orthogonal rotation suggested a five-factor structure. They found no

gender differences among the CDMSE-SF subscales and total scale, which is consistent with

previous studies (Taylor & Betz, 1983). The five-factor solution accounted for 62% of the total

variance. Each individual subscale accounted for 16%, 14%, 12%, 11%, and 9% of the total variance.

The CDMSE-SF has been tested for validity across various populations and has shown mixed results. It had moderate correlations with career indecision and vocational identity measures ranging from .31 to .68 (Betz & Luzzo, 1996). The CDMSE-SF was negatively correlated with measures of career indecision (Betz et al., 1996; Betz & Voytan, 1997). It was positively correlated with measures of vocational identity (Betz et al., 1996). Luzzo and Day (1999) found that career beliefs related to control, responsibility, and working hard were positively correlated with the CDSME-SF.

Reliability of the CDMSE and CDMSE-SF has also been tested in various undergraduate populations and have shown strong psychometric properties. The original scale and subscales were highly reliable with values for internal consistency ranging from .86 to .89 for the five subscales and .97 overall (Betz et al., 1996). Luzzo (1993) conducted a six-week test-rest and found the reliability of the CDMSE to be .83. In Betz and colleagues' (1996) evaluation of the CDMSE-SF, the coefficient alpha for the subscales ranged from .73 to .83 and .94 for the total score. These alpha coefficients were comparable to the values for the original scale.

Similar to the other measures discussed, there are several limitations to the CDMSE-SF, which include the sample populations in which the CDMSE-SF was tested and its generalizability. The CDMSE-SF was conducted with a sample of undergraduate students in an introductory psychology course. Demographic information regarding this population was not available. The overall generalizability of the CDMSE-SF is unknown. It is most often used for purposes related to industrial/organizational psychology; therefore, its generalizability to populations outside of occupational or academic environments is unknown. The CDMSE-SF

should be tested in a larger and more diverse population to support generalizability and improve

its psychometric properties.

Psychological Well-Being. The Mental Health Inventory's Psychological Well-being

subscale (MHI: PWB; Stewart et al., 1992) is a 10-item measure that focuses on an individual's

perception of his/her affect and satisfaction in relationships over the past month. The MHI:

PWB evolved from Veit and Ware's (1983) research regarding psychological distress and

psychological well-being. Participants are asked to rate their affect and satisfaction on a 6-point

Likert scale ranging from 1 (*never*) to 6 (*always*), with higher scores indicating higher levels of

psychological well-being (Stewart et al., 1983).

Examples include, "During the past month, how often did you feel there were people you

were close to?" and "During the past month, how much of the time have you been a happy

person?" Seven of the ten items in this subscale reflect the positive affect factor of the overall

MHI and three of the ten items reflect the belonging/loneliness factor of the full MHI scale

(Stewart et al., 1983). Stewart and colleagues reported high internal consistency reliability for

the PWB subscale ($\alpha = .94$). Previous studies reported alphas ranging from .84 to .95 (Forman,

2013; Griffin, Sheier, Botvin, & Diaz, 2001; Kocheleva, Forman, Yamamoto, McKinney, &

Bikos, 2011).

CHAPTER III

Results

Data Screening

Initially, I screened the data for outliers and missing data prior to conducting analyses of

reliability and validity. I used Mahalanobis distance (D^2) to compute the distance in standard

deviations between each set of scores for individual cases and the sample means for all variables

(Byrne, 2010). Upon further investigation of potential outliers, it was determined that these

participants that were likely to provide answers on either extreme of the Likert scale. A "1" or

"7" response on the OCSS indicated their perceived confidence in their ability to cope with

various stressors. Although these scores may reflect extremely low or high confidence, they are

still valid responses, thus did not warrant removal from the data set.

Missing data were managed using person-mean imputation (Downey & King, 1998), an

approach that uses the mean of the nonmissing items for a specific scale or subscale to produce

an estimate for missing items for that individual. The list-wise deletion procedures of AMOS 23

exclude entire cases from the dataset if any item-level data is missing (Arbuckle, 2011). I

decided to utilize person-mean imputation at the item-level in order to include cases that would

have otherwise been deleted from the analyses.

Finally, I assessed univariate and multivariate normality, which are critical assumptions

of SEM (Byrne, 2010). Specifically, I examined kurtosis, which tends to affect variances and

covariances, since SEM is based on analyzing covariance structures. Therefore, evidence of

kurtotic data is of concern (Byrne, 2010). For univariate kurtosis, standardized kurtosis values

that were equal to or greater than seven suggest non-normality (Byrne, 2010). My examination

of univariate kurtosis values revealed a large skew in two variables: Accept the consequences of

my actions (while incarcerated OCSSIEC5; and upon re-entry OCSSREC7). Given that answers

to these items are a reflection of the participants' confidence in their own abilities, the items

were left as is and the skew was taken into consideration during analysis interpretation. For

multivariate kurtosis, critical ratio statistic for z-statistics greater than five are indicative of non-

normally distributed data (Bentler, 2005). The critical ratio in my dataset was 33.50, which is

considerably greater than the cut-off but not surprising given the skew found at the univariate

level. With evidence of a non-normal distribution, the results of the maximum likelihood

estimations should be interpreted with caution.

OCSS Item Selection

The initial task was to select 30 items for the total scale with six subscales comprised of

five items each. The first CFA was conducted on the single-order model with six correlated

factors (Figure 4). The model fit was unsatisfactory (χ^2 [1025; $N = 144$] = 2279.110, $p < .01$,

CFI = 0.63, and RMSEA = 0.092). To select items for the scale, I examined (a) standardized

estimates between the six latent variables, which represent the six subscales, and observed

variables obtained from my six-factor model of coping strategy (problem-task, emotion, and

social) and setting factors (incarcerated and re-entry; see Figure 4), (b) corrected item-total

correlations for each item with the OCSS total scale scores, (c) corrected item-total correlations

for each item within its own scale, and (d) corrected item-correlations for each item with the

remaining five subscales (Table 1). The presence of high item-total correlations on unrelated

subscales suggests that the item does not fit well based on the theoretical structure.

The following criteria were used in the process of item selection for each subscale. First,

a minimum corrected item-total correction of .3 for the subscale and total OCSS was required

(see also Tokar, Buchanan, Subich, Hall, & Williams, 2012). Second, the corrected item-total

correlation should be higher for the item's own subscale than the other five subscales.

Moreover, strong standardized estimates between the item and its theorized latent variable are

expected. Each set of items were analyzed according to their fit with my a priori theory and then parsimony of the item itself. Through these criteria, I selected five items from each subscale to evaluate in my structural model (see Table 1).

Table 1

Item Statistics for the Original 47-item Scale, with Subscale Alphas, Standard Estimates, Item Total Correlations for Total OCSS, Parent Subscale, and Unrelated Subscales

Subscale/Item	Final Subscale Alpha	Standardized Estimate	Corrected OCSS Item-Total Correlation	Subscale Item-Total Correlations					
				ITP	ISS	IEC	RTP	RSS	REC
Task Problem Coping in Incarcerated Setting	*.702*			Corrected Sub-scale					
1 **Participate in job skills training programs**		.426	.359	.431	.287	.272	.243	.270	.200
2 Understand the rules and privileges related to being an inmate		.477	.354	.351	.279	.375	.233	.163	.268
3 **Prepare myself for re-entry**		.607	.558	.528	.223	.477	.484	.376	.504
4 Sign up for education courses		.358	.161	.367	.200	.191	.004	.119	.039
5 **Take classes to learn new skills**		.489	.294	.533	.351	.284	.097	.152	.069
6 **Avoid activities that could get me into trouble**		.645	.441	.384	.291	.435	.291	.283	.367
7 **Identify strategies to deal with problems**		.754	.515	.512	.304	.558	.345	.307	.405
Social Support Coping in Incarcerated Setting	*.782*			Corrected Sub-scale					
8 **Seek out positive peer groups**		.694	.483	.387	.559	.363	.257	.282	.259
9 **Seek out support of others to help me with my release plan**		.727	.501	.393	.641	.300	.274	.361	.206
10 **Seek mental health services/support when I am upset**		.643	.426	.282	.558	.276	.247	.263	.171
11 **Reach out to family and/or**		.529	.561	.328	.461	.432	.415	.429	.330

#	Item								
	friends for support when I am upset								
12	Ask others for financial help	.478	.393	.252	.455	.247	.176	.348	.107
13	Reach out to fellow inmates for support when I am upset	.403	.282	.111	.394	.139	.097	.269	.050
14	**Manage conflicts that may come up with authority figures so that I don't get into trouble**	.660	.490	.364	.510	.337	.291	.366	.239
	Emotion Coping in Incarcerated Setting	.813				Corrected Sub-scale			
15	Walk away from conflicts or fights	.511	.570	.411	.450	.422	.370	.383	.421
16	**Pick myself up when I am down in the dumps**	.699	.483	.391	.265	.598	.315	.176	.437
17	**Look at the positive things I have going for myself**	.638	.603	.345	.342	.593	.530	.297	.561
18	Focus on myself and not let other inmates' problems	.390	.461	.248	.162	.317	.403	.270	.556
19	**Accept the consequences of my actions**	.515	.416	.519	.281	.423	.264	.057	.341
20	Forgive those who I believed harmed me in one way or another	.376	.443	.278	.236	.338	.328	.395	.285
21	**Bounce back from receiving difficult news**	.674	.475	.406	.193	.630	.348	.212	.357
22	**Control and cope with upset feelings**	.820	.624	.447	.288	.767	.480	.316	.546
	Task and Problem Coping in Re-entry Setting	.797				Corrected Sub-scale			
23	Get a stable job	.528	.507	.254	.154	.393	.529	.348	.464
24	Find stable housing	.492	.466	.170	.127	.425	.522	.275	.432
25	**Identify situations that are**	.679	.587	.267	.239	.370	.573	.511	.550

	triggering								
26	**Avoid behaviors/situations that got me into prison/jail**	.656	.623	.339	.257	.486	.571	.554	.492
27	**Deal with conflicts that may arise with others in a way that maintains the relationship**	.751	.660	.314	.348	.384	.660	.555	.598
28	Ask others for information and resources with issues I need help with	.624	.581	.187	.453	.275	.432	.632	.441
29	**Educate myself with current culture**	.642	.604	.331	.265	.433	.614	.475	.513
30	Earn enough money to support myself	.555	.518	.247	.179	.426	.544	.287	.534
31	**Seek out medical/mental health care when I am ill**	.641	.532	.222	.201	.336	.543	.435	.517
	Social Support Coping in Re-entry Setting	*.770*						Corrected Sub-scale	
32	**Contact my Community supervising officer (probation officer) during times of distress**	.495	.425	.165	.282	.222	.369	.434	.208
33	Reintegrate into my family	.429	.446	.270	.087	.322	.484	.358	.321
34	**Reach out to others for support when I am upset**	.716	.602	.226	.456	.305	.544	.654	.374
35	**Ask others (e.g., friends, family, co-workers, pastor, sponsor, etc.) to model appropriate behavior in the community**	.688	.565	.306	.417	.279	.435	.622	.359
36	**Seek out positive peer groups**	.776	.631	.285	.335	.317	.631	.668	.478
37	Explain my criminal history	.452	.427	.263	.229	.189	.331	.386	.336

#	Item								
	to new people								
38	Ask for financial help from family/friends during times of financial strain	.344	.346	.100	.406	.158	.197	.323	.132
39	**Managing conflicts/disagreements that occur with authority figures**	.589	.618	.384	.301	.413	.524	.467	.579
	Emotion Coping in Re-entry Setting	.863							Corrected Sub-scale
40	**Positively manage my emotions when faced with triggers**	.717	.646	.228	.212	.484	.642	.542	.690
41	Manage how I feel if I am rejected based on my criminal history	.639	.565	.295	.185	.510	.524	.304	.650
42	Walk away from conflicts	.565	.551	.234	.213	.416	.487	.455	.561
43	**Pick myself up when I am down in the dumps**	.737	.647	.369	.234	.621	.537	.429	.701
44	**Look at the positive things I have going for myself.**	.799	.703	.336	.276	.583	.700	.470	.749
45	**Focus on myself and not let other people's problems affect me**	.673	.584	.275	.263	.459	.571	.345	.629
46	Accept the consequences of my actions	.548	.472	.279	.124	.391	.502	.233	.529
47	**Bounce back from receiving difficult news**	.698	.579	.368	.131	.549	.525	.330	.678

Note: Bolded items were retained in scale; Figure 4 was used to generate regression weights.

Evaluating Structural Validity: Confirmatory Factor Analysis

Using SPSS AMOS 23, I conducted the first CFA with the final set of OCSS items on the single-order, unidimensional model with a total OCSS factor loading onto all 30 items (see Figure 3b). The model fit fell below standards (χ^2 [405; $N = 144$] = 1234.733, $p < .01$, CFI = 0.59, and RMSEA = 0.120). Given the poor fit, I referred to the modification indices to guide any necessary revisions. (χ^2 [404; $N = 144$] = 1181.574, $p < .01$, CFI = 0.62, and RMSEA = 0.116). I covaried four sets of items (items 6 &7, 8 & 14, 21 & 22, and 34 & 36), which slightly improved the model fit (χ^2 [401; $N = 144$] = 1091.436, $p < .01$, CFI = 0.66, and RMSEA = 0.110).

The second structural model I tested with the final set of OCSS items was the single-order six-factor model with coping strategies (task and problem, emotion, and social support) and setting factors (incarcerated and re-entry) correlated to their respective factors (see Figure 4b). For example, *emotional coping in incarcerated settings* was allowed to correlate with the *emotional coping in re-entry settings*, in addition to *task and problem coping in incarcerated settings* and *social support coping in incarcerated settings*. The model fit fell below standards (χ^2 [396; $N = 144$] = 883.378, $p < .01$, CFI = 0.76, and RMSEA = 0.093). Revision by covarying items according to modification indices did not improve model fit. The third model I assessed was a four-factor multi-dimensional structure with three correlated coping strategies (task and problem, emotion, and social support) and one global setting factor (see Figure 5b). Modification indices did not suggest revisions to the items to improve model fit (χ^2 [372; $N = 244$] = 781.111, $p < .01$, CFI = 0.80, and RMSEA = 0.088).

The fourth model I tested was a multidimensional three-factor structure of correlated setting factors (incarcerated and re-entry) and one global coping strategy factor (see Figure 6b).

The model fit fell below standards (χ^2 [374; $N = 144$] = 816.263, $p < .01$, CFI = 0.78, and

RMSEA = 0.091). The model fit improved after covarying items 6 and 7 (χ^2 [373; $N = 144$] =

771.059, $p < .01$, CFI = 0.80, and RMSEA = 0.086).

The fifth model I evaluated with the final set of items was the bi-factor correlated coping

strategy and correlated setting model (see Figure 7b). The fit of this model was better than other

models (χ^2 [371; $N = 144$] = 733.293, $p < .01$, CFI = 0.82, and RMSEA = 0.083). With respect

to the modification indices, there was no evidence of substantially reasonable misspecification of

the model.

The sixth structural model I evaluated with the final set of items was the model of coping

strategy and setting factors loading onto a total OCSS factor (Figure 8b). The model fit was

again below standards (χ^2 [399; $N = 144$] = 887.564, $p < .001$, CFI = 0.76, and RMSEA =

0.093). I modified the model according to modification indices by covarying items 1 & 5, 17 &

44, and 16 &43. The model fit improved (χ^2 [399; $N = 144$] = 798.067, $p < .001$, CFI = 0.80,

and RMSEA = 0.084). Refer to Table to for the summary fit statistics for each final model.

The seventh structural model I evaluated with the final set of items was the three-factor

model of correlated coping strategies (Figure 9b). The model fit fell below standards (χ^2 [398; N

= 144] = 911.485, $p < .001$, CFI = 0.75, and RMSEA = 0.095). No modifications were suggested

to improve model fit based on the modification indices.

After reviewing the fit indices of the final models, the fifth model (Figure 7b) had the

better fit of all the models (see Table 2). In addition to having the best fit, the fifth model most

closely reflected my conceptualization of the OCSS, which included items from both a trait

(coping strategy) and method (setting) factors. Therefore, I completed nested model

comparisons with the fifth model as the baseline model against all other models. Refer to Table

3 for these comparisons. I found significant changes in χ^2 and CFI values, which suggest that fifth model was significantly different from all other models.

The significant difference between my baseline model (Figure 7b) and my first model (Figure 3b), suggested that the more complex model with multiple factor scores had better fit than one total OCSS score. The significant differences between my baseline model (Figure 7b) and my second model (Figure 4b) and sixth model (8b), suggested that the OCSS is better explained with independent coping strategies and setting factors than coping strategy-setting factors with coping strategy and settings correlating to their respective domains. When compared to my third model (Figure 5b), the significant differences from my baseline model indicate that the model fit better with two independent setting factors (incarcerated and re-entry) versus one global setting factor. Similarly, when I compared my baseline model to my fourth model (Figure 6b), the significant differences also supported the use of three independent coping strategy factors versus one global coping strategy factor. Although my fifth model displayed the better fit, all of my models revealed unsatisfactory fit overall. Consequently, I continued my analysis with exploratory factor analysis.
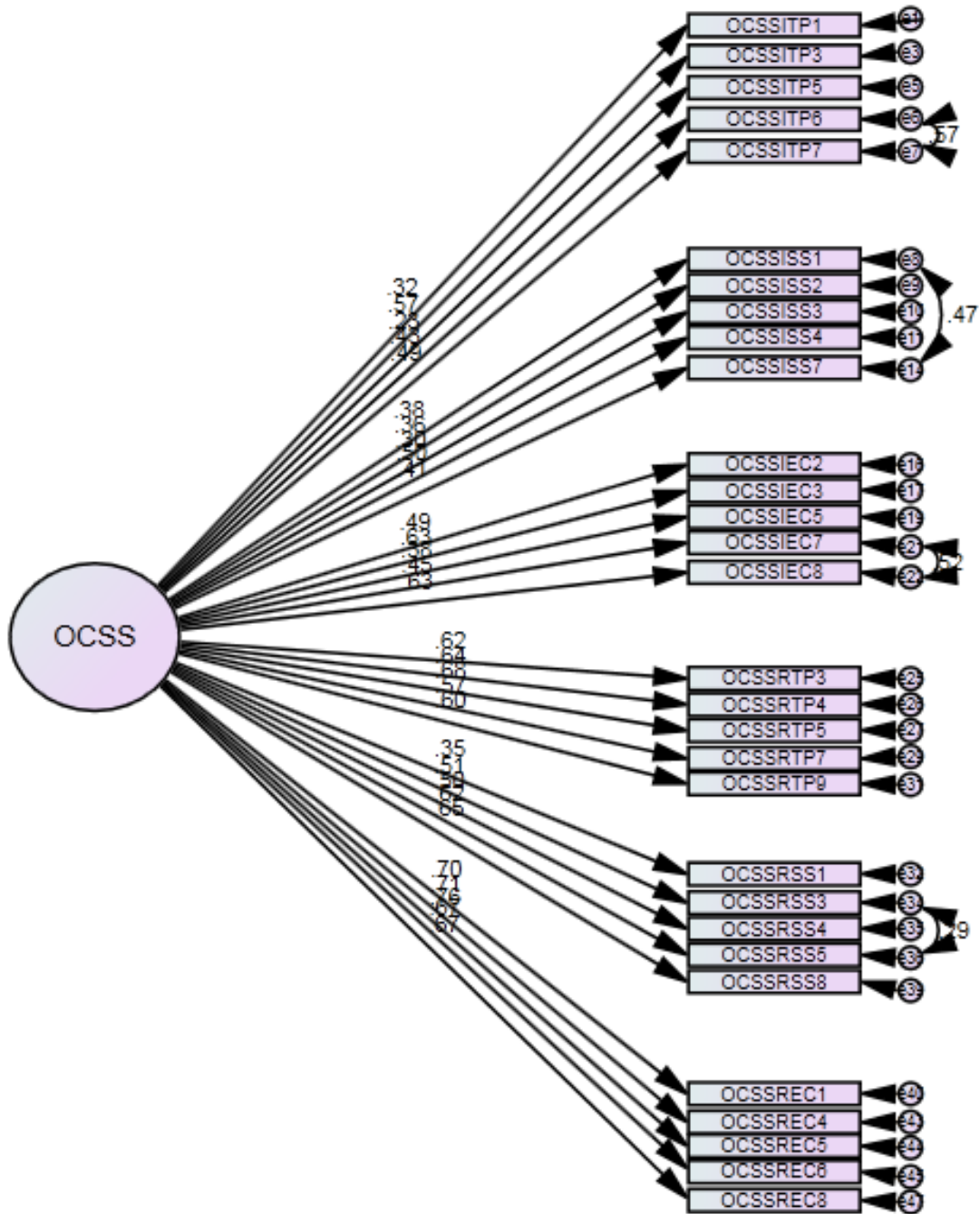
Figure 3b. First model: Unidimensional total OCSS factor structure with items covaried based

on modification indices (χ^2 [401; $N = 144$] = 1091.436, $p < .01$, CFI = 0.66, and RMSEA =

0.110).
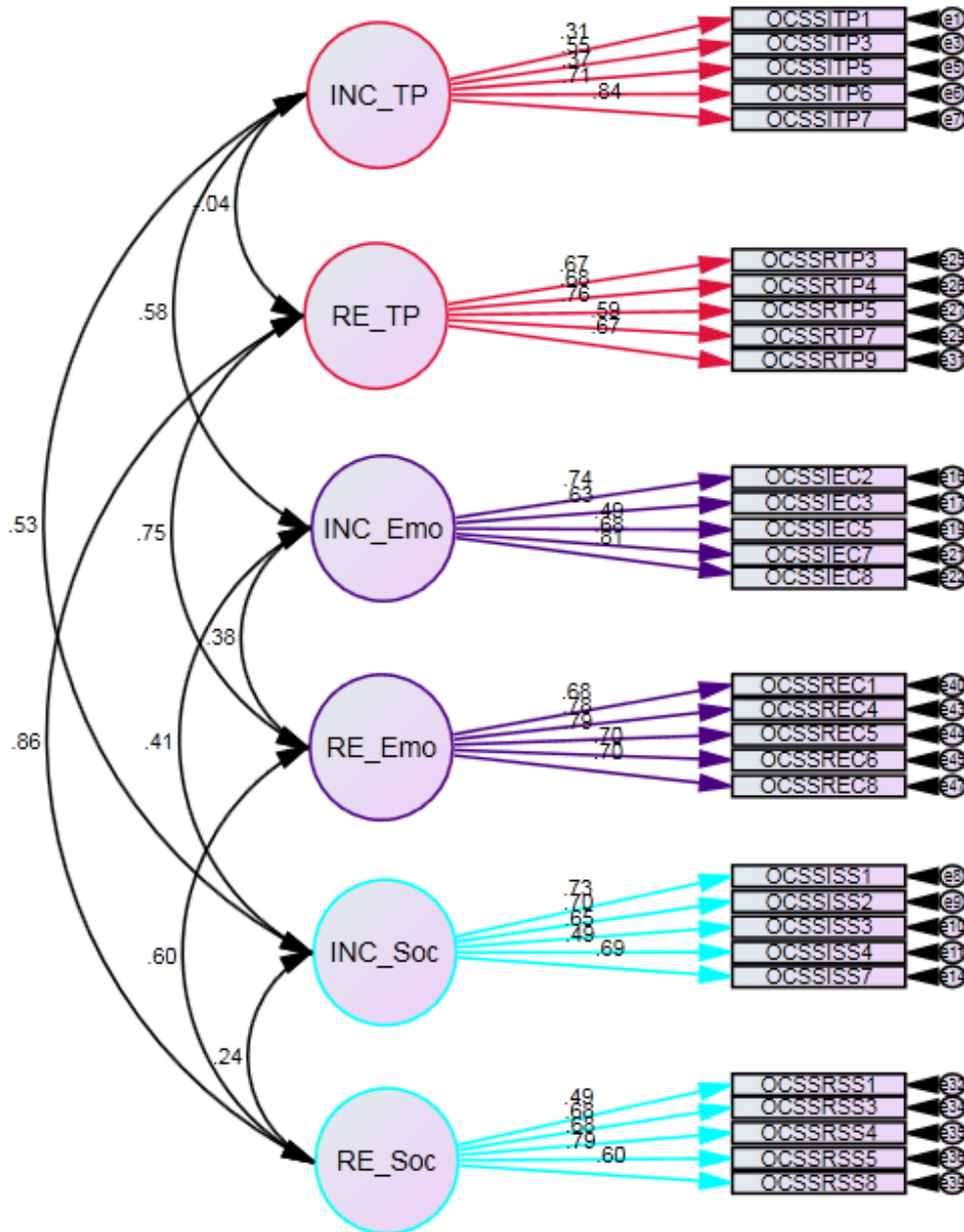
Figure 4b. Second model: Six-factor model of coping strategy and setting factors (χ^2 [396; $N = 144$] = 883.378, $p < .01$, CFI = 0.76, and RMSEA = 0.093).
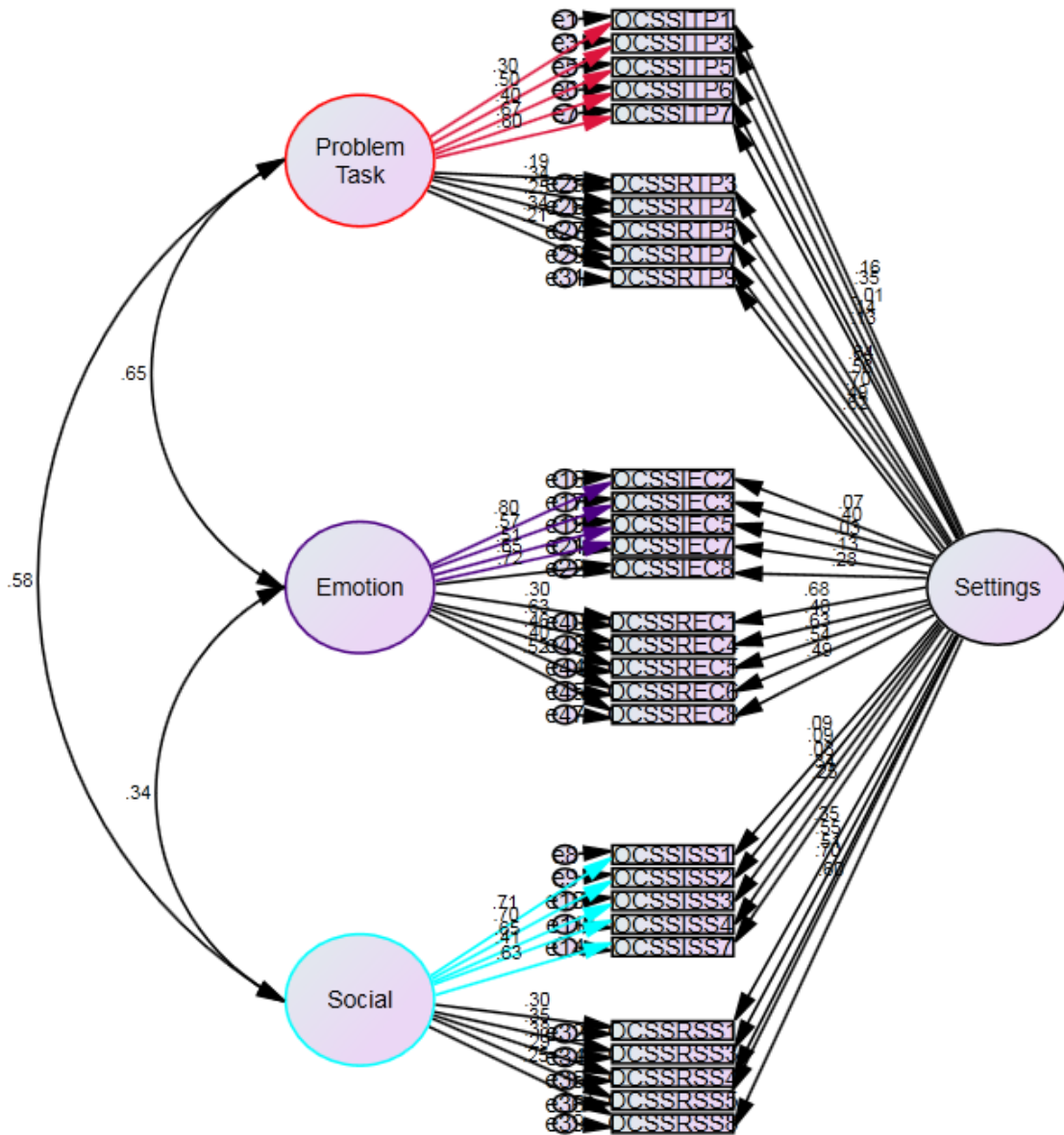
Figure 5b. Third model: Four-factor model of correlated coping strategies and one global setting

factor (χ^2 [372; $N = 244$] = 781.111, $p < .01$, CFI = 0.80, and RMSEA = 0.088).
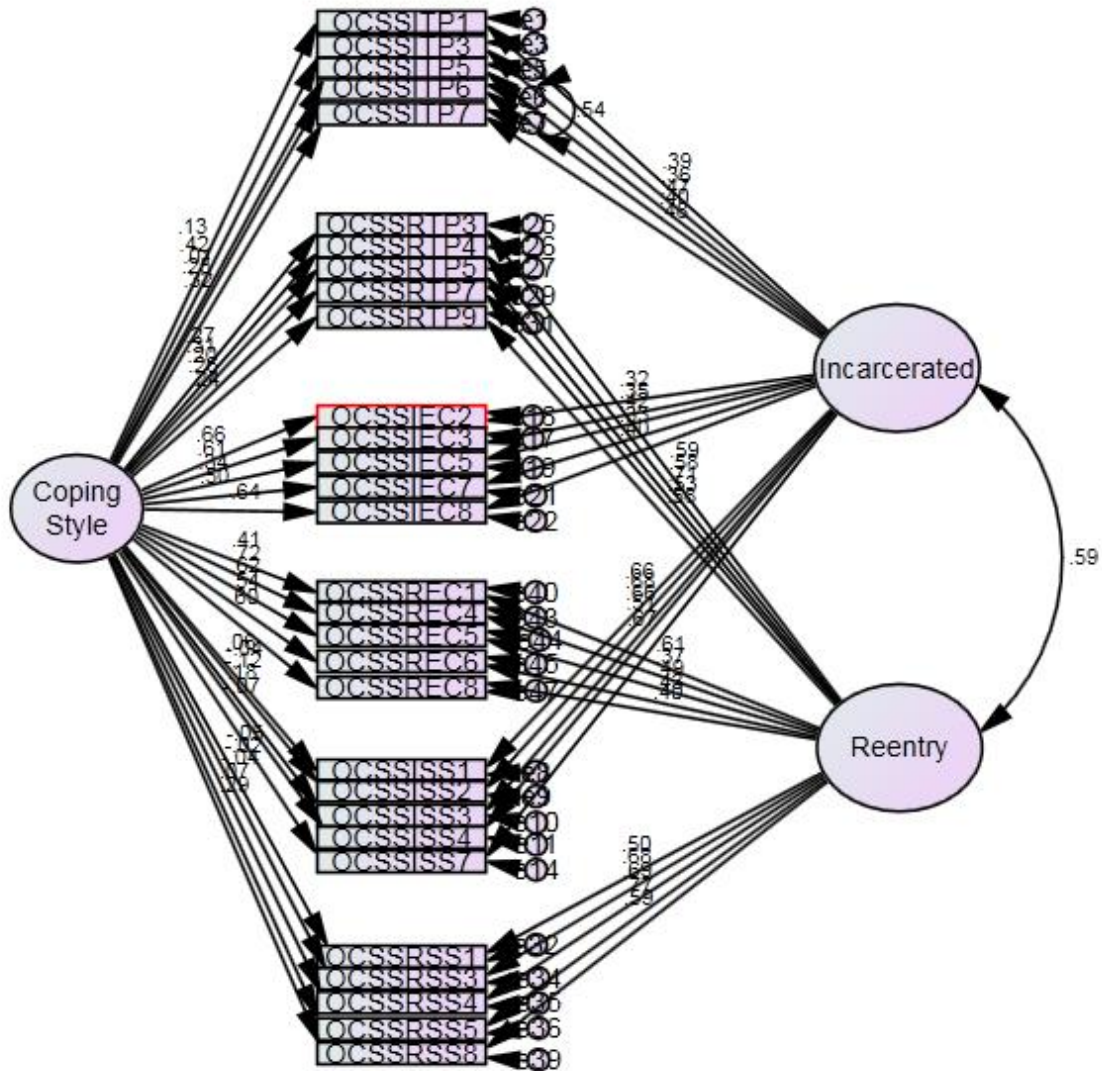
Figure 6b. Fourth model: Three-factor model of correlated setting factors and one global coping

strategy factor with items covaried based on modification indices (χ^2 [373; $N = 144$] = 771.059,

$p < .01$, CFI = 0.80, and RMSEA = 0.086).
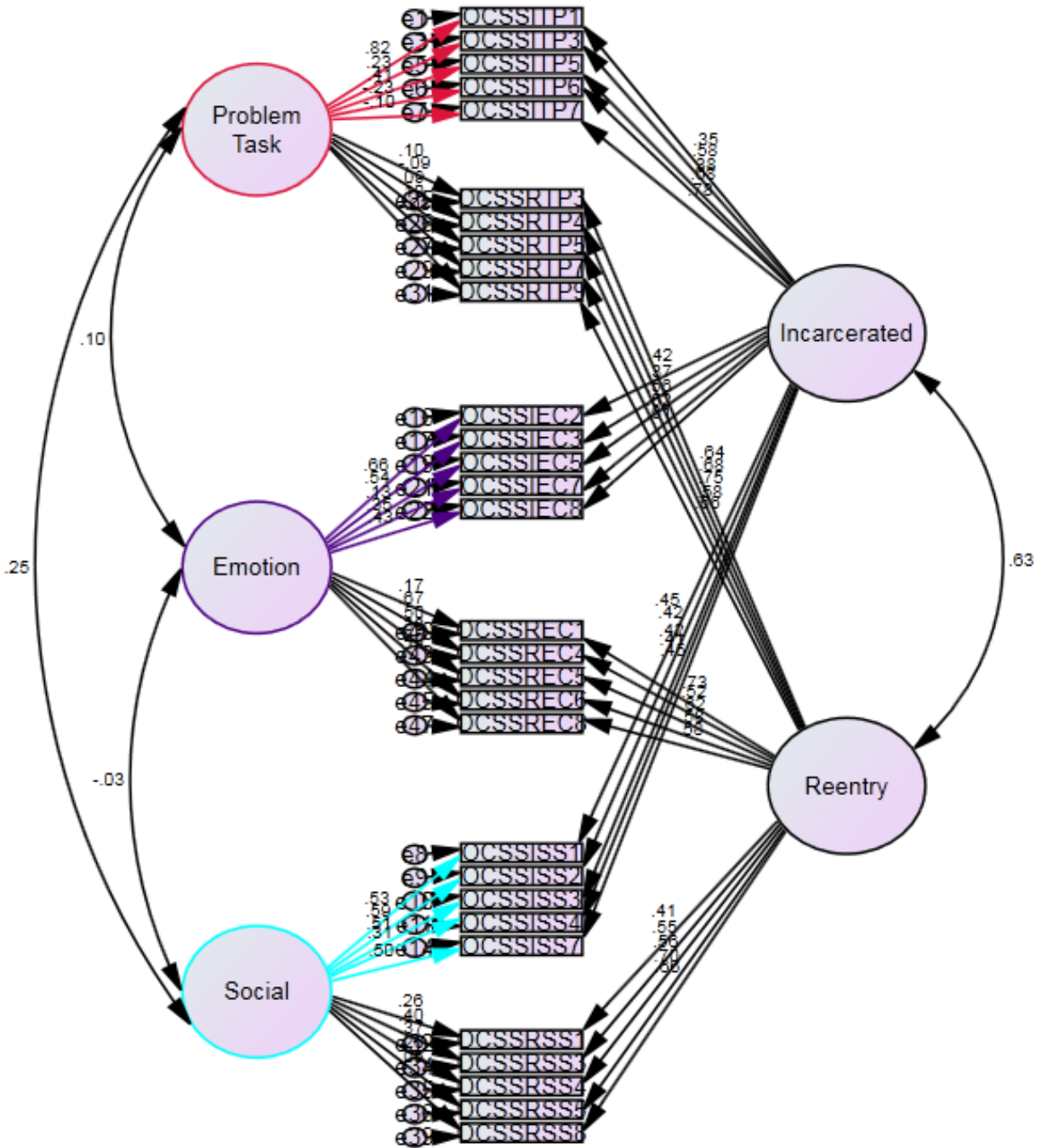
Figure 7b. Fifth model: Bi-factor model with three coping strategies and two settings (χ^2 [371;

$N = 144$] $= 733.293$, $p < .01$, CFI $= 0.82$, and RMSEA $= 0.083$).
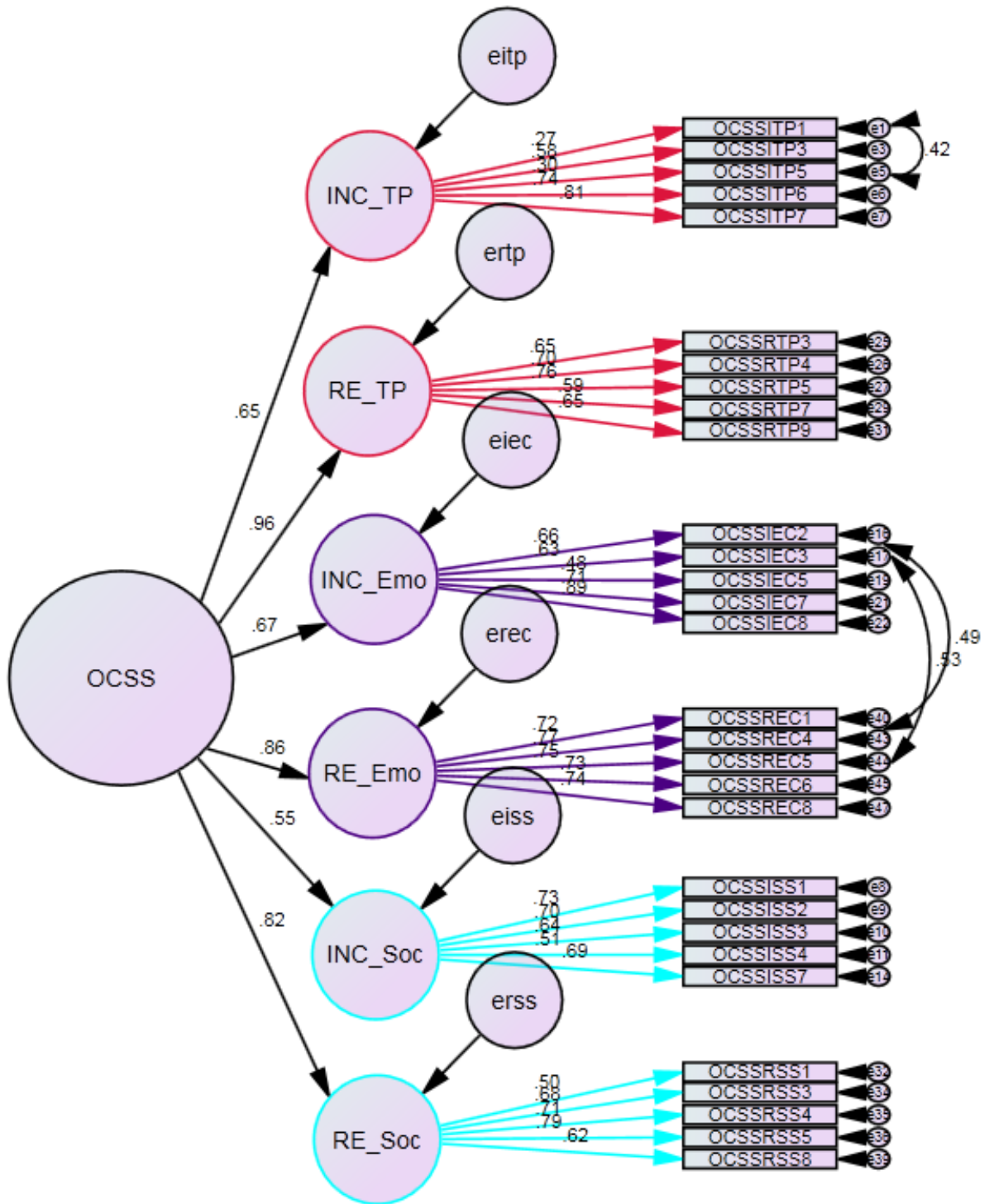
Figure 8b. Sixth model: Coping strategy and setting factors loading onto a total OCSS factor model, revised according to modification indices (χ^2 [399; $N = 144$] = 798.067, $p < .001$, CFI = 0.80, and RMSEA = 0.084).
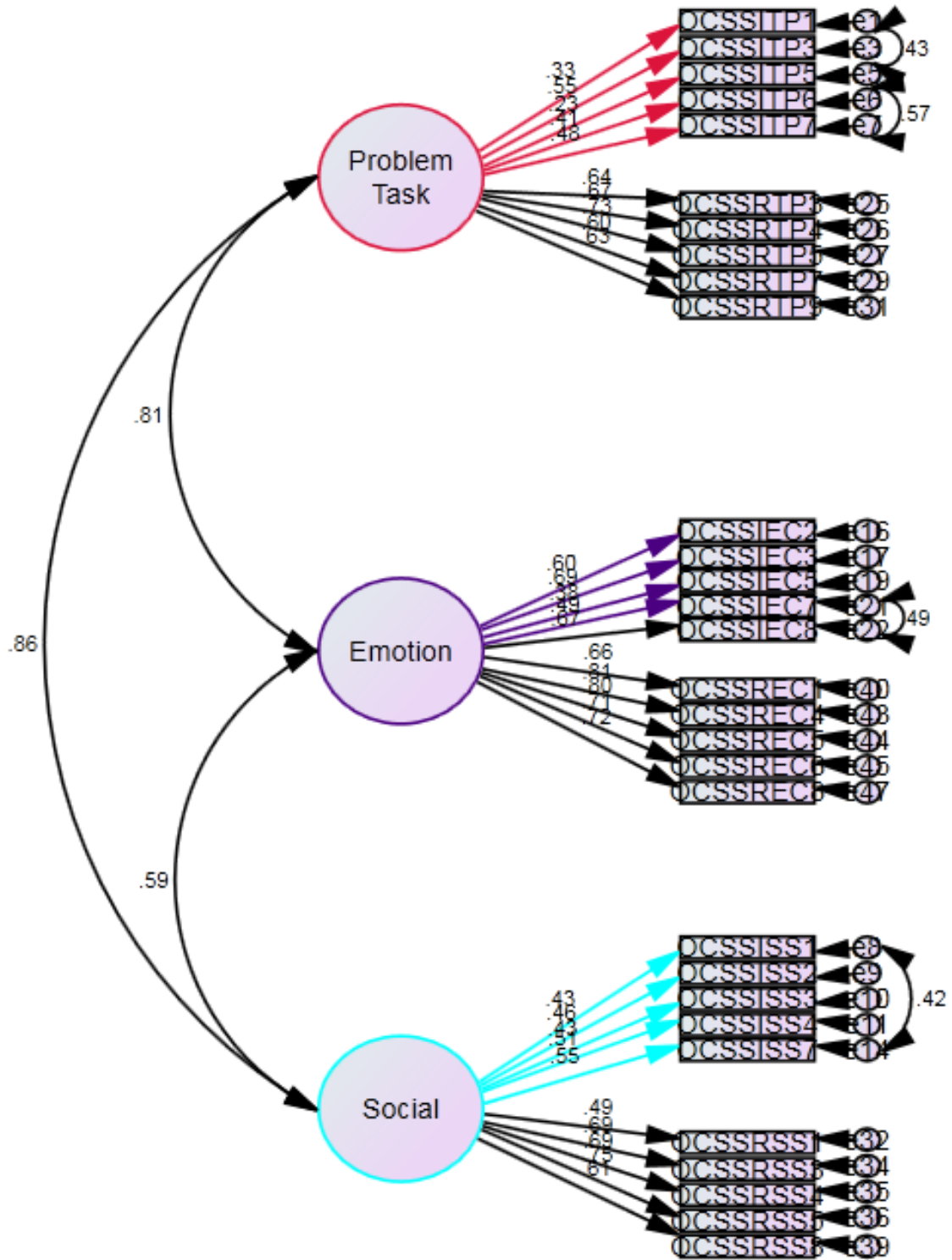
Figure 9b. Seventh model: Three-factor model of correlated coping strategies (χ^2 [398; $N = 144$] $= 911.485$, $p < .001$, CFI $= 0.75$, and RMSEA $= 0.095$).

Table 2
Summary of Fit Statistics for All Finalized Models.

Model Description	χ^2	*df*	CFI	NFI	RMSEA
Fig 3b – Unidimensional total OCSS factor structure	1091.436	401	.66	.56	.110
Fig 4b– Six-factor model of coping strategy and setting factors	883.378	396	.76	.64	.093
Fig 5b – Four-factor model of correlated coping strategies and one global setting factor	781.111	372	.80	.68	.088
Fig 6b – Three-factor model of correlated setting factors and one global coping strategy factor	771.059	373	.80	.69	.086
Fig 7b – Bi-factor correlated coping strategy factors and correlated settings factor	733.293	371	.82	.70	.083
Fig 8b – Coping strategy and setting factors loading onto a total OCSS factor	798.067	399	.80	.68	.084
Fig 9b – Three-factor model of correlated coping strategies	911.485	398	.75	.63	.095

Table 3

Nested Model Comparisons between Figure 7b and Alternative Models.

Model Description	χ^2	*df*	Model Comparison	$\Delta\chi^2$	Δ *df*	Δp	CFI	Δ CFI
Fig 3 – Unidimensional total OCSS factor structure	1091.436	401	Fig 3 vs Fig 7	358.143	30	$p < .001$	.66	.16
Fig 4 – Six-factor model of coping strategy and setting factors	883.378	396	Fig 4 vs Fig 7	150.085	25	$p < .001$	.76	.06
Fig 5 – Four-factor model of correlated coping strategies and one global setting factor	781.111	372	Fig 5 vs Fig 7	47.818	1	$p < .001$	.80	.02
Fig 6 – Three-factor model of correlated setting factors and one global coping strategy factor	771.059	373	Fig 6 vs Fig 7	37.766	2	$p < .001$	.80	.02
Fig 7 – Bi-factor model with three coping strategies and two settings	733.293	371	--------------	---------	---	-----------	.82	---
Fig 8 – Coping strategy and setting factors loading onto a total OCSS factor	798.067	399	Fig 8 vs Fig 7	64.774	28	$p < .001$	.80	.02
Fig 9 – Three-factor model of correlated coping strategies	911.485	398	Fig 9 vs Fig 7	178.192	1	$p < .001$	.75	.07

Evaluation Structural Validity: Exploratory Factor Analysis

Given that fit indices are often inadequate after the first analysis, I planned to use EFA to evaluate the OCSS. Prior to interpreting the EFA results, I screened the data by looking at standard indices that indicate the suitability of the dataset for EFA. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy represents the ratio of the squared correlation between variables to the squared partial correlation between variables (Field, 2009). KMO values range between 0 and 1, with higher values suggesting greater suitability for EFA. My KMO value was .86, which is well over the minimum required value of .50 for acceptable sampling adequacy. Barlett's test of sphericity tests the null hypothesis that the original correlation matrix is an identify matrix. My Barlett's test was statistically significant [$\chi^2 (435) = 2269.71, p < .001$], indicating that the matrix is not an identity matrix and is suitable for analysis. Upon examining the determinant of the R-matrix, I found the value to be 3.482E-8, which is smaller than the necessary value of at least 0.00001. This presents contradictory evidence about whether multicollinearity is a problem from my data. However, because I performed principal component analysis, multicollinearity is not concerning (Field, 2009). Overall, the OCSS items correlate reasonably well with each other and none of the correlation coefficients are excessively large.

I proceeded with EFA given the support of sample adequacy. Four criteria were used to determine the number of factors to rotate: a priori theory, the scree plot, the Eigenvalue-greater-than-one criteria, and the interpretability of the factor solution. The scree plot had two points of inflection suggesting either three or six factors should be retained. The first solution indicated there are six factors for the OCSS based off of six Eigenvalues being greater than one, accounting for 62.7% of the variance (refer to Table 4 for factor loadings). I followed Stevens's

(2002) suggestion of 0.40 factor loading cut-off point. I retained four of my original a priori subscales including *Emotion Coping in an Incarcerated Setting* (IEC), *Emotion Coping in a Re-entry Setting* (REC), *Social Support Coping in an Incarcerated Setting* (ISS), and *Social Support Coping in a Re-entry Setting* (RSS). Items from *Task and Problem Coping in an Incarcerated Setting* and *Task and Problem Coping in a Re-entry Setting* were either disseminated among the other factors or split into *Skill Focused Coping* or *Problem Focused Coping*.

I analyzed the EFA-based six-factor solution using CFA in AMOS 23 (Figure 10) with the addition of a total OCSS factor. The model fit fell below standards (χ^2 [399; $N = 144$] = 867.366, $p < .001$, CFI = 0.76, and RMSEA = 0.092). Given the poor fit, I covaried items according to modification indices (43 & REC, 17 & 44, 14 & 39, and 1 & 5). The resulting fit was improved (χ^2 [395; $N = 144$] = 789.589, $p < .001$, CFI = 0.81, and RMSEA = 0.084). The model fit of the EFA-based six-factor model (Figure 11) is comparable to the best fitting model from my CFA models (Figure 7) and to my a priori structural model with a total OCSS score (Figure 8). Given that the EFA-based model retained the majority of my theoretical structure, this supports the a priori theoretical construction.

Table 4
Rotated Factor Matrix: EFA Item Loadings for the OCSS

Item	Emotion Coping in Re-entry Setting	Emotion Coping in Incarcerated Setting	Social Support in Re-entry Setting	Social Support in Incarcerated Setting	Problem Focused	Skill Focused
25 Identify situations that are triggering	.519					
27 Deal with conflicts that may arise with others in a way that maintains the relationship	.634					
31 Seek out medical/mental health care when I am ill	.629					
39 Managing conflicts/disagreements that occur with authority figures	.682					
40 Positively manage my emotions when faced with triggers	.609					
44 Look at the positive things I have going for myself.	.722					
45 Focus on myself and not let other people's problems affect me	.739					
47 Bounce back from receiving difficult news	.511					
16 Pick myself up when I am down in the dumps		.814				
17 Look at the positive things I have going for myself		.615				
21 Bounce back from receiving difficult news		.715				
22 Control and cope with upset feelings		.724				
43 Pick myself up when I am down in the dumps		.602				
26 Avoid behaviors/situations that got me into prison/jail			.492			
29 Educate myself with current culture			.412			
32 Contact my Community supervising officer (probation officer) during times of distress			.648			
34 Reach out to others for support when I am			.730			

|					
	upset				
35	Ask others (e.g., friends, family, co-workers, pastor, sponsor, etc.) to model appropriate behavior in the community	.738			
36	Seek out positive peer groups	.625			
8	Seek out positive peer groups		.729		
9	Seek out support of others to help me with my release plan		.760		
10	Seek mental health services/support when I am upset		.706		
11	Reach out to family and/or friends for support when I am upset		.516		
14	Manage conflicts that may come up with authority figures so that I don't get into trouble		.658		
6	Avoid activities that could get me into trouble			.772	
7	Identify strategies to deal with problems			.745	
19	Accept the consequences of my actions			.461	
1	Participate in job skills training programs				.782
3	Prepare myself for re-entry				.522
5	Take classes to learn new skills				.744
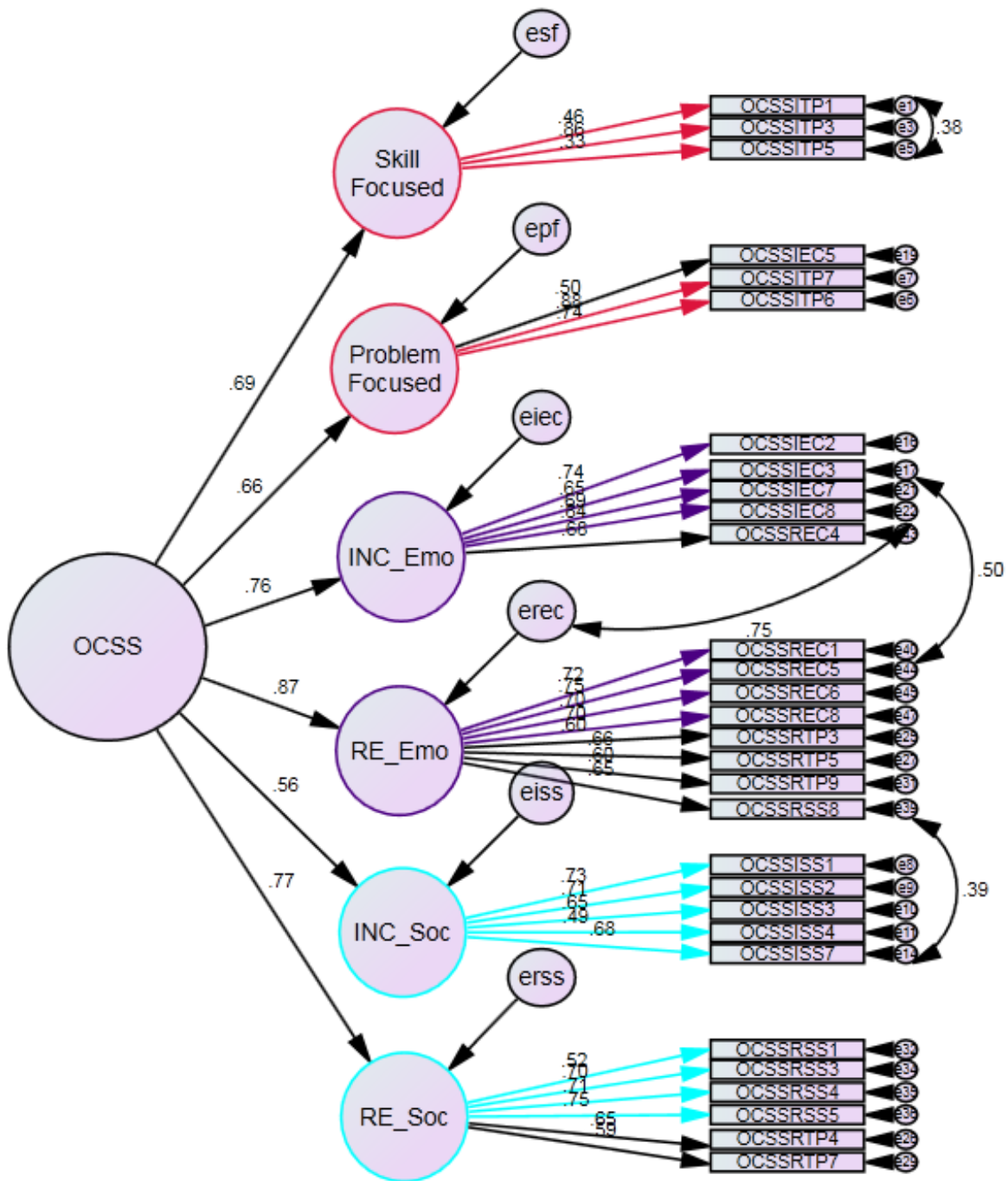
Figure 11. EFA six-factor model and total OCSS, revised according to modification indices: (χ^2 [395; $N = 144$] = 789.589, $p < .001$, CFI = 0.81, and RMSEA = 0.084). Colored lines indicate theorized paths, black lines indicate EFA-derived paths.

Evaluating Construct Validity

To evaluate construct validity, I utilized AMOS 23 to examine the OCSS's relationship with variables selected to assess convergent and discriminant validity based on my nomological net. Based on my CFA findings that suggested a bi-factor model reflecting three coping strategy and two setting factors, I ran two models with OCSS represented by either the three-coping strategy factors (Figure 12) or two-setting factors (Figure 13). I used parceling to evaluate the constructs' hypothesized relationships because the aggregate scores will be more representative of the constructs and statistically more reliable. Using Little, Cunningham, Shahar, and Widaman's (2002) procedure for random assignment, I generated three-item parcels for each variable. I also examined the intercorrelations between each hypothesized variable and the OCSS using SPSS 23 (Table 5).

Consistent with my hypothesis, all five factors of the OCSS were significantly correlated with the coping self-efficacy scale (CSES; Chesney et al., 2006). Refer to Table 5 for estimates and *p*-values. Contrary to my hypothesis, all five factors of the OCSS were not significantly correlated with the general self-efficacy scale (NGSE; Chen et al., 2001). In examining the relationship between the Coping Inventory for Stressful Situations (CISS; Endler & Parker, 1990a) and the OCSS, the CISS Avoidance Coping scale most correlated with three OCSS factors (Re-entry, Emotion Coping, and Social Support Coping). Interestingly, the CISS–Emotional Coping subscale was significantly negatively correlated with the OCSS – Emotion Coping. Furthermore, the OCSS contributed unique variance to CSE measures when tested in a model with other SE measures. Overall, the OCSS most strongly correlated with measures of coping, indicating convergent validity.

Consistent with my hypothesis, career decision-making self-efficacy (CDMSE-SF: Betz, Klein, & Taylor, 1996) was less strongly correlated to the OCSS in comparison to other SE measures; however, it significantly correlated with two OCSS factors (Task & Problem Coping and Re-entry setting). Additionally, psychological well-being (MHI:PWB; Stewart et al., 1992) was not significantly related to the OCSS, indicating discriminant validity of the OCSS.
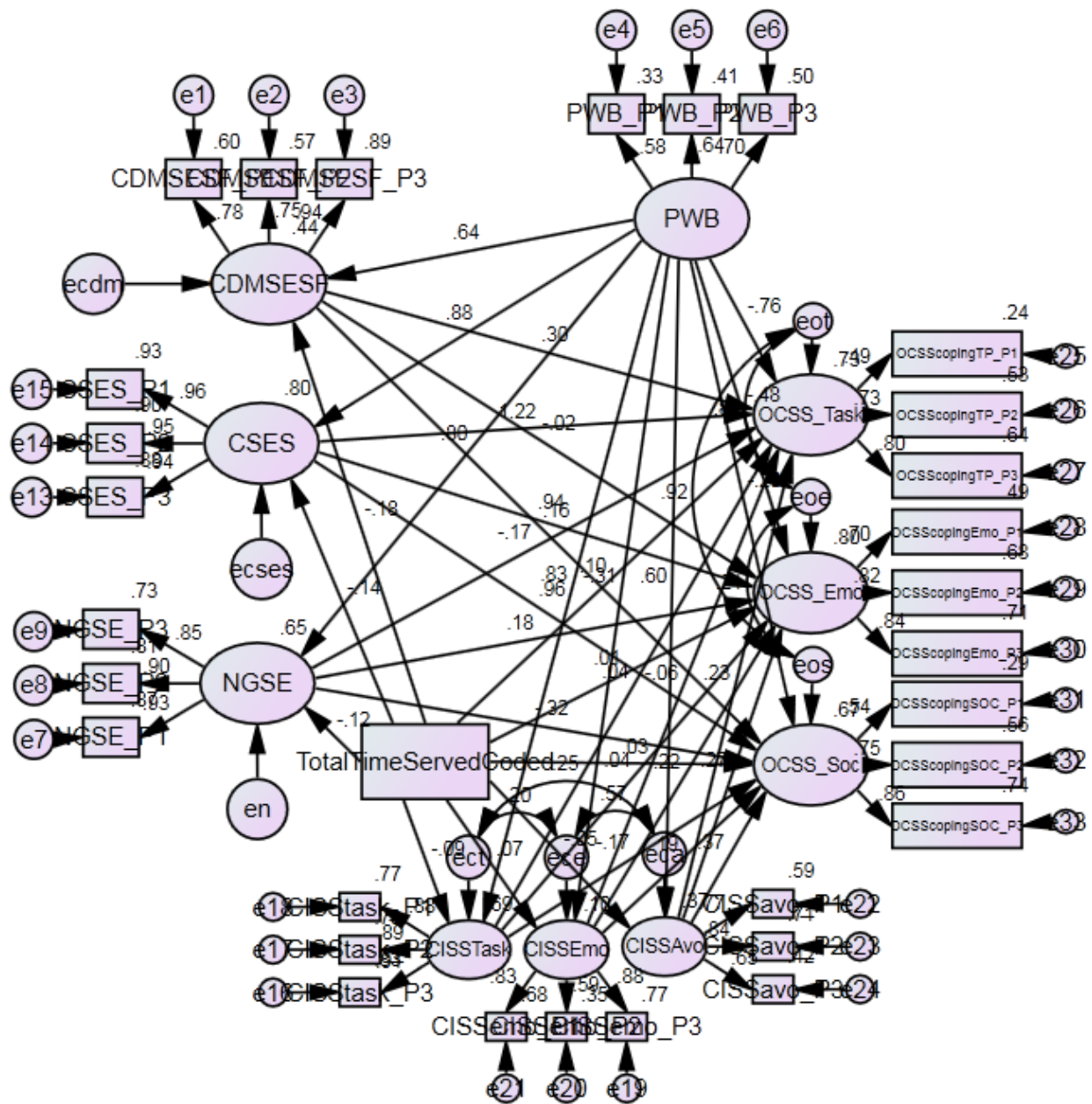
Figure 12. A priori OCSS coping strategies interrelationships
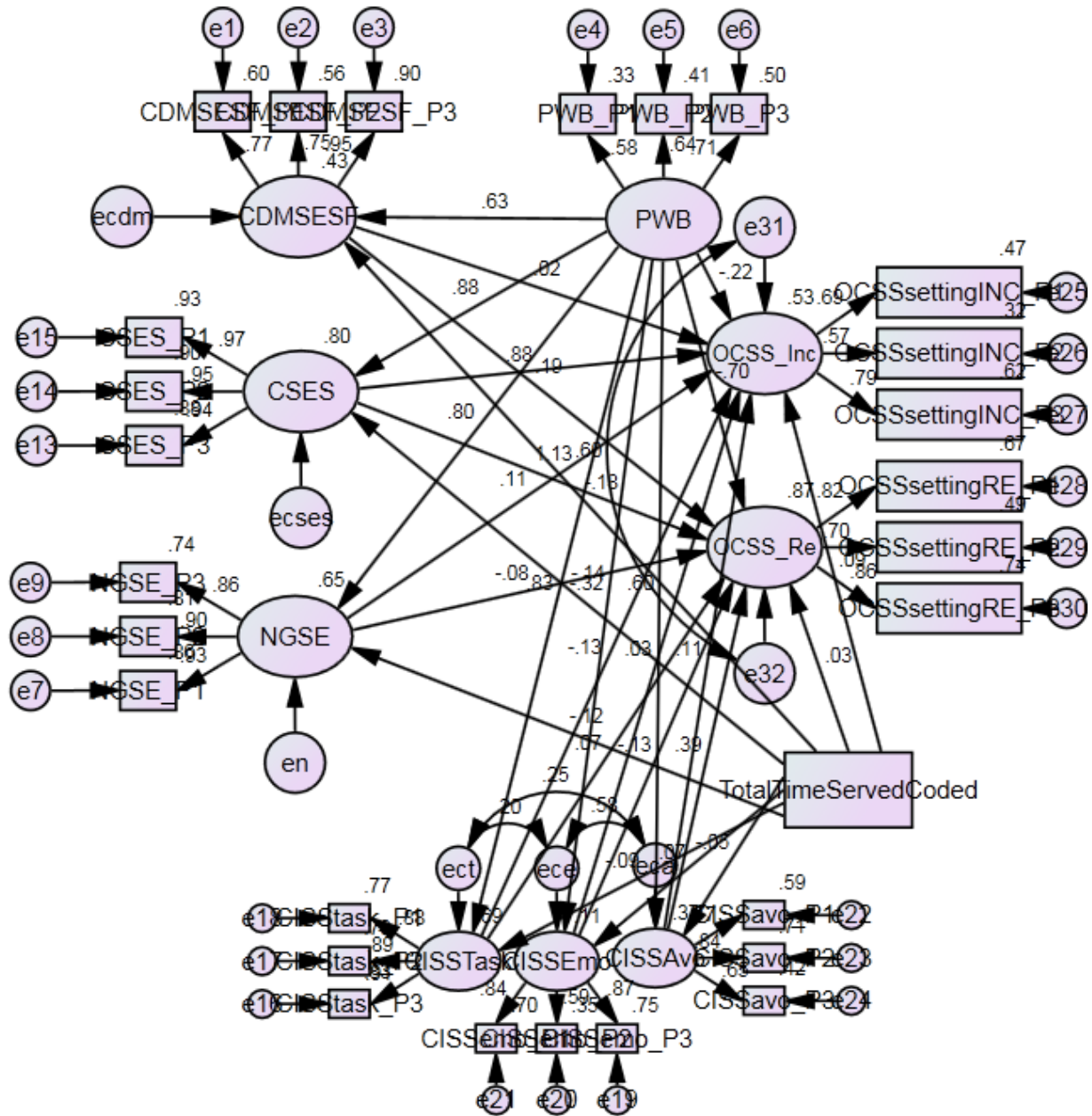
Figure 13. A priori OCSS settings interrelationships.

Table 5

Correlations and Means

Variable (*Mean, SD*)	1	2	3	4	5	6	7	8	9	10	11	12	13
1. CSES (*7.55, 1.79*)	1												
2. NGSE (*4.35, 0.65*)	.732**	1											
3, CISS Task (*3.93, 0.72*)	.764**	.650**	1										
4. CISS Emotional (*3.33, 0.69*)	-.226**	-.171*	-.076	1									
5. CISS Avoidance (*3.71, 0.66*)	.462**	.319**	.515**	.327**	1								
6. CDMSESF (*4.20, 0.74*)	.583**	.620**	.516**	-.018	.380**	1							
7. PWB (*3.66, 1.18*)	.528**	.445**	.466**	-.211*	.402**	.324**	1						
8. OCSS Incarcerated (*5.97, 0.80*)	.551**	.426**	.404**	.016	.336**	.383**	.287**	1					
9. OCSS Re-entry (*5.80, 0.92*)	.759**	.477**	.589**	-.031	.509**	.505**	.343**	.609**	1				
10. OCSS Task and Problem (*6.04, 0.83*)	.628**	.419**	.477**	-.031	.352**	.480**	.229**	.794**	.834**	1			
11. OCSS Social Support (*5.65, 0.98*)	.521**	.301**	.384**	.209*	.469**	.367**	.280**	.758**	.765**	.672**	1		
12. OCSS Emotion (*5.96, 0.87*)	.774**	.604**	.602**	-.232**	.405**	.456**	.405**	.735**	.765**	.706**	.490**	1	
13. Time Served (*4.78, 1.49*)	-.127	-.107	-.078	.058	-.038	-.149	.004	-.018	-.150	-.061	-.055	-.141	1

Note. Pearson's correlation is significant at $p < .05$* or $p < .01$** (2-tailed).

Evaluating Reliability

After evaluating structural validity and finding support for my a priori theorized structure

for the OCSS, I analyzed the scale's internal consistency reliability with the final 30 items.

Cronbach's alpha coefficient for my 30-item scale was .92. Subscale alphas are referenced in

Table 1. Given the rapid turnover rate of inmates at the utilized data collection sites, test-retest

reliability was not evaluated. This should be an area evaluated in future implementation of the

OCSS.

CHAPTER IV

Discussion

Coping self-efficacy reflects resiliency and psychological adjustment in stressful and challenging situations (Benight & Bandura, 2004; Benight, Flores, & Tashiro, 2001; Cieslak, Benight, & Lehman, 2008). Research on CSE has been increasing in the field regarding CSE as a predictor of outcome variables such as psychological well-being, psychological distress, and other behavioral outcomes (Benight & Bandura, 2004; Schlauch, O'Malley, Rounsville, & Ball 2012; Wells-Parker, Kenne, Spratke, & Williams, 2000). There have been studies that examined the effects of incarceration on psychological well-being (Bukstel & Kilmann, 1980; Cohen & Taylor, 1972); however, little is known about the level of CSE among those incarcerated. Research suggests that offenders are more likely to engage in less adaptive coping strategies compared to the general population (Zamble & Porporino, 1990).

I recognized the importance of evaluating coping self-efficacy as a factor contributing to successful adaptation to different environments. Therefore, I developed the Offender Coping Self-efficacy Scale (OCSS) as a measure of three different coping strategies (task and problem, emotion, and social support) in two settings (incarceration and re-entry). To create this measure, I referred to existing CSE measures in the field (CSES; Chesney et al., 2006, CISS; Endler & Parker, 1990a), and revised items to create an initial set of questions. Next, I evaluated the reliability and validity of the OCSS by administering it to participants at two county jails in Washington State and examined its internal factor structure. Results from my preliminary reliability and validity testing suggest that the scale has potential. I continued with evaluating structural validity to determine which structure best reflects the OCSS's statistical and theoretical structure.

Scale Structural Validity

To establish structural validity of the OCSS, I modified the items for the scale by examining standard regression weights and item-total correlations for each of the subscales of my six-factor model of coping strategies and setting factors (see Figure 4). The modifications resulted in a final 30-item OCSS with six subscales.

Using CFA, I analyzed six theorized factor structures to determine which had the best fit with the final 30 items of the OCSS. I proposed that my bi-factor model with three coping strategies and two settings best supported my theoretical structure while showing potential for further statistical evaluation (Figure 7). I also used EFA to evaluate the 30-item OCSS, which provided support for a six-factor model (Figure 11). Given that my structural analyses were completed at the item level, my results offer initial psychometric support for the OCSS. Future research should be conducted to improve the psychometric properties of the OCSS.

In examining modification indices across all of my structural models, I found strong relationships between multiple sets of items that needed to be covaried to improve model fit [e.g., *Avoid activities that could get me into trouble* and *Identify strategies to deal with problems*, *Participate in job skills training programs* and *Take classes to learn new skills*, and *Look at the positive things I have going for myself (while incarcerated)* and *Look at the positive things I have going for myself (upon re-entry)*]. Since these items were considered relevant to the scale and reflected important aspects of coping, I retained these items in the measure.

Scale Construct Validity

Factors related to offender coping self-efficacy. As predicted, coping self-efficacy, was significantly and positively related to the OCSS, which supported the relationship proposed in my nomological net. When looking at the relationship between the OCSS and the CISS, CISS

Avoidance resulted in the most significantly correlated factors. Interestingly, general self-efficacy was not significantly correlated with the OCSS. These findings offer support for convergent validity with measures of coping.

I included the CSES (Chesney et al., 2006) in my nomological net to evaluate the OCSS against a highly similar construct, coping self-efficacy. I hypothesized that the two scales would be strongly and positively correlated, as the CSES has a similar three factor structure to the OCSS consisting of subscales that measure problem-focused coping self-efficacy, emotion-focused coping self-efficacy, and social support coping self-efficacy. The CSES has also been previously used with prison inmates (Scheyett et al., 2010). I created my scale to measure offender coping self-efficacy as a similar construct to Chesney and colleagues' scale but attempted to establish a more theoretically-driven factor structure and introduced setting factors. My analyses offered support for my theory-based conceptualization of the OCSS's items containing both coping strategy and setting factors in a more parsimonious format. Following my a priori theoretical structure, I was able to maintain Bandura's (1989) SCT "triadic reciprocal causation." This suggests that an individual's ability to function in various settings is influenced by their interactions within that setting, his or her personal attributes (i.e., coping strategy), and the behaviors he or she engages in within these settings (Bandura, 1986).

Consistent with my hypothesis, the relationship between CSES and the OCSS was the strongest in my nomological net. When comparing the three coping strategy subscales to the CSES, their correlation for each subscale does not suggest there are significant differences between the two measures. The correlation between the CSES and OCSS Re-entry implies that the measures are similar. While the scales do measure similar constructs, the correlation of .88 between CSES and OCSS Incarcerated suggests that there are many differences when setting

factors are considered and that incarceration contributed unique variance.

Given that the CISS has been used and adapted to address situations faced in prison, I proposed that this relationship between the CISS and the OCSS would be strongly correlated. When examining the relationship between the three CISS subscales and the five factors of the OCSS, the CISS Avoidance subscale most highly correlated with three OCSS factors (Re-entry, Emotion Coping, and Social Support Coping). The strong, positive correlations with the OCSS subscales suggests that there may be items embedded across OCSS subscales that address avoidance coping. The CISS Avoidance subscale addresses avoidance through distraction (e.g., Take time off and get away from the situation) or social diversion (e.g., Talk to someone whose advice I value). After comparing the subscales at the item-level, I found that the CISS Avoidance subscale has items that are similar to items on the OCSS Emotion Coping (e.g., Focus on myself and not let other people's problems affect me) and OCSS Social Support Coping (e.g., Reach out to others for support when I am upset) subscales, particularly in the Re-entry setting. Although avoidance coping is often viewed as unproductive and fails to regulate distress, there may be more to explore when looking at avoidance in an incarcerated population. This adds support to the importance of taking settings into consideration when looking at coping self-efficacy.

Interestingly, the CISS Emotion subscale was significant and negatively correlated with the OCSS Emotion Coping subscale. Upon further investigation at the item-level, I noticed that the OCSS Emotion Coping subscale items are phrased in a positive direction (e.g., *Pick myself up when I am down in the dumps* or *Look at the positive things I have going for myself*) versus the CISS Emotion subscale items phrased in the negative direction (e.g., *Blame myself for having gotten into this situation* or *Become very upset*). Therefore, the significantly negative correlation

suggests that the CISS and OCSS Emotion Coping subscales address emotional coping but is best explained by the direction of the item phrasing.

Contrary to my hypothesis, general self-efficacy was not significantly correlated with the OCSS. I propose that the relationship between the two constructs is not strong because of the impact of specific of coping strategy and settings on self-efficacy. This finding supports Bandura's (1977) statement that self-efficacy is best measured in a specific context. Therefore, I found that the OCSS contributed unique variance to CSE measures when tested in a model with other SE measures as predicted.

I found that previous incarceration, measured by total amount of time served, was not significantly correlated with the OCSS, which is congruent with my hypothesis. When looking at the bivariate correlations, total time served was negatively correlated with all subscales of the OCSS. Although Lent and colleagues' (1994) SCCT's Task Model for CSE implies that past experience influences CSE and thereby is a mediator for coping success, this is not the case for having a history of previous incarcerations and having served more time. In this context, having served more time reflects poorer CSE. This was not unexpected given that individuals who have multiple incarcerations with longer sentences are by definition not coping successfully and engaging in behaviors that result in incarceration. However, total time served was significantly related to the CSES and CDMSE-SF within the nomological net. Yet, after running bivariate correlations, I found that total time served was not significantly correlated with any variables including CSES and CDMSE-SF. Therefore, the significant correlation found within the nomological net may be best explained by CSES and CDMSE-SF contributing unique variance when compared with other SE variables.

Discriminant validity: CDMSE-SF and MHI: PWB. In addition to my hypotheses on

convergent validity, I evaluated the OCSS on its discriminant validity by examining its

relationship to the career decision-making self-efficacy and psychological well-being. I

hypothesized that CDMSE-SF and PWB would be less strongly correlated with the OCSS

compared to the other SE and coping measures. The bivariate correlations (Table 5) show that

the CDMSE-SF was consistently less strongly correlated with the all factors of the OCSS when

compared to the CSES, which supports discriminant validity. The CDMSE-SF's correlations

varied when compared to the CISS or general self-efficacy, which are not measures of coping

self-efficacy. This implies that there was a measurable difference between the type of self-

efficacy that was measured, and lends support for Bandura's (2006) proposal that SE is situation

specific.

Psychological well-being was not significantly related to offender CSE. This is likely

due to the fact of the time-context restriction of the scale. I found that since participants were

asked to rate their psychological well-being within a one month time-frame, which usually

includes their current incarceration, their overall scores were relatively low. The questions

evaluating psychological well-being ask the participant to provide a response for the past month,

whereas the OCSS has a predictive component that asks the participant to think of their CSE at a

future date (e.g., upon re-entry). Therefore, my study provides some evidence for discriminant

validity.

Internal Consistency Reliability

After evaluating the structural validity of my scale, I examined the OCSS's reliability.

Specifically, I evaluated its internal consistency. Total scale alpha coefficient was at .92. All of

the five subscales showed adequate internal consistency, with alphas ranging from .70 (for *Task

and Problem Coping in Incarcerated Setting*) to .86 (for *Emotion Coping in Re-entry Setting*).

Test-retest reliability was not completed during this study and should be considered in future

psychometric evaluations of the OCSS.

Limitations

      While the results supported the majority of my hypotheses and revealed that the OCSS

has adequate validity and reliability, there are several limitations to address regarding this study.

The first limitation is the sample. While the sample exceeded the minimum sample size (N =

140), the demographics of my sample may limit the applicability of the results. With the study

being based on voluntary participation, there is possibility of self-selection bias. A large portion

of my sample identified as White, male, and high school graduates or have received a GED.

While the gender and ethnicity in my sample reflect national demographic statistics in jails

(Harlow, 2003), correctional populations tend to report lower education attainment (i.e., 47% of

inmates in local jails had not completed high school or its equivalent). Therefore, the usability of

the scale in populations without these characteristics is limited. Although my sample size was

supported by my power analysis (Westland, 2010), my sample is lower than suggested sample

sizes for structural equation modeling (Byrne, 2009; Clark & Watson, 1995). This may have

been a contributing factor to less optimal fit of my structural models. Therefore, further testing

with larger populations will improve the psychometric characteristics.

      Additionally, the range for length of incarceration varied widely in my sample. For

example, some inmates had been processed the same day as the administration of the

questionnaires while others had been detained for up to 48 months. Individuals in which this

was their first detention with minimal prior history of incarceration, their CSE may not

accurately reflect influences based on settings. The OCSS was originally created for offenders

who were serving sentences, generally over one year, in state prisons. The term offender implies

that the individual has been convicted of a crime. However, about 40% of my sample were still

waiting for adjudication. Given that my sample was limited to individuals detained at county

jails, the name of the measure does not accurately reflect the population of inmates. Therefore, it

may be necessary to change the name of the OCSS to include inmates who have not yet been

sentenced. The uncertainty and rapid fluctuations within jail populations may influence the

setting factors of the OCSS because there may have been inmates who have not yet been

detained for long enough to have to adjust to incarceration prior to their release. Given that the

length of current incarceration averaged to be around six weeks, it may be important to continue

research within a prison population where the average length of incarcerated is longer. This may

provide valuable information regarding the effect of length of incarceration on CSE.

The second limitation is the procedure I used to collect information related to history of

incarceration. The question was asked broadly to reflect either the number of times the

individual had been incarcerated in the past and total or average sentence served. Inmates who

have been incarcerated multiple times often found it difficult to estimate how many times they

had been incarcerated; therefore, I offered the option to provide the total or average length of

sentence served. I found that this question was vague and the responses were not uniform.

Furthermore, it is unclear how reliable responses are regarding their history of incarceration,

especially if the inmates have been in and out of the system for most of their lives.

The third limitation is the wording used in the OCSS. It is suggested to change the term

"offender" to a broader term that encompasses all inmates in correctional facilities may be most

appropriate, given that the preliminary data was collected at county jails. Item 35 was strangely

worded and inmates found it confusing (i.e., Ask others to show me appropriate behavior to re-

enter effectively). Therefore, it was reframed as *Ask others to model appropriate behavior in the*

community. However, this reframe was often interpreted as meaning to ask others to behave in an appropriate manner. The administrators of the measures provided clarification about this item as needed. Upon further analysis examining the cohesiveness of the scale with and without the item, it was suggested that the item fit well within the scale and should be retained. Although this item remained in the final 30-item OCSS due to its statistical strength, the item could have functioned better. It may be beneficial to re-word this item to properly elicit the intended theme.

Additionally, the labels for four of the scale anchors were inaccurate. The 7-item Likert scale had anchors labeled as 1. *Strong Disagree, 2. Slightly Disagree, 3. Disagree, 4. Neither Agree or Disagree, 5. Agree, 6. Slightly Agree, and 7. Strongly Agree*. The order of the anchors (e.g., *2. Slightly Disagree* and *3. Disagree)* incorrectly reflect the level of agreement, as does *5. Agree* and *6. Slightly Agree.* Therefore, the anchors need to be adjusted to reflect the correct level of agreement on the Likert scale. The anchors should be labeled as *1. Strongly Disagree, 2. Disagree, 3. Slightly Disagree, 4. Neither Agree nor Disagree, 5. Slightly Agree, 6. Agree,* and *7. Strongly Agree*. It is unclear how much the incorrect label of the anchors affected inmates' responses. Since the numbered anchors were primarily referenced, the labeled terms may have had minimal impact on their answers.

The fourth limitation is that the relevance of some items was questionable, which limits the validity of the measure. For example, items such as *Participate in job skills training programs* or *Take classes to learn new skills* imply that training is available. Additionally, the measure asks about social support, which begs the question of whether or not the individual has social support available. In an attempt to address this lack of opportunity or availability, inmates were asked in the instructions to answer as if these resources were available. Many participants endorsed higher CSE on these items, which may have skewed the subscale. Given that

programming is more likely to be available in prison settings, these items may be more appropriate and accurate within prisons. It may be appropriate in future revisions of the OCSS to add an item addressing whether or not services are available at the given facility where the OCSS is being administered.

The fifth limitation is that the OCSS was not compared to an offender specific measure that provides potential information about factors related to re-entry. Initially, I planned to include Level of Service Inventory-Revised (LSI-R), a re-entry needs assessment used in state prisons, in the nomological net to represent an offender specific topics. The LSI-R is a measure that provides information about criminal history, education/employment, finances, family/marital, housing, substance use, and mental health. Given that data was not collected at state prisons within the timeframe of this study, data from the LSI-R was not included. The LSI-R is an assessment often only administered during admission; however, it may be helpful to re-assess needs closer to re-entry and use the LSI-R along with the OCSS to identify areas of need related to reintegrating into the community.

The sixth limitation is that the OCSS measures expected CSE for stressors related to re-entry. Inmates who are serving longer sentences may inflate their CSE about re-entry because of the lack of immediacy in feeling stressed about re-entry. On the other hand, inmates who are currently experiencing re-entry related stressors may be more accurate in reporting their CSE about release. Because the inmates in this study were asked to projectively rate their CSE about re-entry, this may not be an accurate representation of their CSE upon re-entry. Therefore, it is important to replicate this study with ex-offenders who are currently in the process of re-acculturating back into society.

Finally, it may be likely that inmates over-reported their coping self-efficacy and

revealed higher estimates of their CSE than they exhibit. Given the natural power differential

within correctional settings between inmates and staff, inmates may believe there is an incentive

to appear better adjusted and report better functioning. On the other hand, some inmates may

have had poor insight about their ability to cope with stressors and under reported their perceived

CSE to reflect their need for assistance with mental health. Therefore, future research is needed

to determine the utility of the OCSS in both general non-correctional samples and incarcerated

populations to exhibit further support for the importance of specificity of settings.

Future Research

This study was the initial evaluation to understand the usefulness of the OCSS and

explore what factors influence CSE among inmates. Future research is needed to continue to

refine the scale validity and reliability. The OCSS should be administered to a larger sample size

that reflects the incarcerated population including other ethnicities, gender identities, ages,

education levels, length of incarceration, and type of crime. This could provide treatment teams

further utility to decide what individuals are likely to need treatment to address and increase CSE

prior to release. The use of the OCSS in other correctional settings such as state and federal

prisons may be important to further assess how applicable the OCSS is to samples with longer

lengths of incarceration and to further establish validity for the OCSS to be used with offenders

who have been convicted.

Additionally, the test-retest reliability of the scale needs to be established. This may be

better executed within a prison setting because the turnover rate seen in jails is less prevalent in

prisons because of the longer sentences. Furthermore, the predictive validity of the OCSS needs

to be explored. It may be helpful to examine the relationship between CSE and actual outcomes

to see how it influences successful actions. Future studies could include an examination of what

predicts of inmate CSE and how the predictors differ for each subscale.

Finally, future researchers could examine the OCSS with released inmates or ex-offenders and explore the relationship between CSE, Coping Goals, and Coping Success in relation to the recidivism rate. Woldgabreal, Day, and Ward (2016) found that higher levels of psychological flexibility, self-efficacy, optimism, and hope were correlated with greater compliance with mandated supervision obligations and less likely to engage in violations. It would be interesting to frequently assess CSE using the OCSS at various time points throughout the length of incarceration and evaluate its relationship with infractions accrued, or probation or parole violations. Examining the relationship between the OCSS and re-entry needs assessments like the LSI-R may be beneficial in identifying on specific needs that should be addressed prior to re-entry.

Practical Implications

This study is only the first step in establishing the OCSS as a measurement of coping self-efficacy among incarcerated populations. The OCSS has potential to be used as a screening tool to identify adaptive coping strategies that are more likely to lead to successful re-entry. In earlier studies, higher CSE has been found be correlated with psychological well-being and better adjustment to highly stressful situations (Benight, Flores, & Tashiro, 2001; Ozer & Bandera, 1990). CSE has also been found to impact relapse behavior and was correlated with lower recidivism rates (Schlauch et al., 2012; Wells-Parke et al., 2000). Furthermore, inmates are among the most stigmatized groups in society (Kaposy & Bandrauk, 2012) and tend to have lower educational backgrounds compared to the general population (Bureau of Justice Statistics [BJS], 2003). Therefore, they are likely to face efficacy-suppressing elements of incarceration. In utilizing the OCSS, correctional facilities and community treatment programs can mitigate

problems related to excessively low or high CSE might have on his or her successful adaptation

to the jail or prison and, ultimately, back into the community.

Given the unique effects of imprisonment on psychological well-being, the OCSS has

potential to address this qualm by identifying inmate needs early on. The OCSS may also be

administered at various time points of incarceration in order to track progress. This may foster

motivation to continue with treatment when their progress can be supported by data from the

OCSS. When the OCSS is used to help address an inmate's ability to adjust to their

environment, they can focus on identifying appropriate and effective coping strategies and

improve CSE. Treatment providers should consider relapse prevention interventions that are

focused on increasing coping self-efficacy among individuals that are motivated to make changes

that will keep them out of jail or prison. In turn, this early intervention allows for the inmates to

receive the proper treatment needed and have more time to learn the skills they need to

successfully return to their community.

Conclusion

The purpose of this study was to create a valid and reliable measure of coping self-

efficacy for the incarcerated population (i.e., the OCSS). This psychometric evaluation involved

examining the structural and construct validity, and internal consistency. The scale's final

results retained 30 items measuring task and problem, emotion, and social support coping

strategies in either an incarcerated or re-entry setting. Based on the results from the CFA and

EFA, my a priori theoretical structure was supported. However, results indicated that the OCSS

model fit has room for improvement and further evaluation to support the OCSS's structural

validity is needed.

These findings lend support to Bandura's (2006) understanding that self-efficacy is

specific to situations. Results suggest that settings contribute unique variance when measuring

CSE and support the importance of understanding role of coping self-efficacy within the context

of incarceration and upon re-entry. The application of the OCSS can vary from using it to

establish a baseline of CSE at the beginning of their incarceration, to guiding the development of

goals, treatments, and interventions to increase CSE during incarceration, to ultimately being

able to predict and intervene in a manner that will maximize the likelihood of successful re-entry

into the community.

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