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PREDICTORS OF SUICIDAL IDEATION AMONG FORMERLY INCARCERATED
PEOPLE DURING THE COVID-19 PANDEMIC

A Thesis Presented

by

Rachel Matthes Gehman

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The Faculty of the Graduate College

of

The University of Vermont

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ABSTRACT

Background and purpose: Formerly incarcerated people die by suicide at a rate 6.75 times higher than the general population, but previous research has not identified factors that contribute to this heightened risk. The conditions of the COVID-19 pandemic may exacerbate both suicide risk factors and the stressors of reentry. In the framework of stress proliferation theory, this study uses path analysis to identify paths from incarceration history to environmental factors (i.e., financial stress), interpersonal factors (i.e., social support and conflict), psychological factors (i.e., depression and *existential isolation*, the feeling of being alone in one's subjective experience), and their subsequent relationship with suicidal ideation. **Method:** I examined cross-sectional survey data collected June-July, 2020 from American participants ($n = 946$) over the Amazon Mechanical Turk (MTurk) platform. **Results:** Indices of fit indicated poor fit of the path analysis model to the data. However, the majority of the pathways within the model reached significance. Specifically, incarceration predicted suicidal ideation by way of its relationship to financial concern and subsequent conflict and depression. In addition, incarceration predicted lower emotional support, which in turn predicted depression and suicidal ideation. Existential isolation mediated the relationship between incarceration and suicidal ideation. However, the pathways testing whether incarceration predicted existential isolation indirectly (by way of its relationship with emotional support and conflict), were not significant. In follow-up analyses, formerly incarcerated individuals who spent over six months incarcerated reported more suicidal ideation, existential isolation, and loss of meaning than those who spent less than six months incarcerated. Finally, the magnitude of the following relationships was stronger among those with an incarceration history than in those without: 1) financial concern and conflict, 2) financial concern and depression, 3) conflict and existential isolation, and 4) existential isolation and suicidal ideation. **Implications:** Reentry programs may target existential isolation and emotional support through connecting formerly incarcerated individuals with others with similar lived experiences. Policy changes that ease the financial burdens placed on formerly incarcerated individuals may also have positive downstream effects on their interpersonal relationships and emotional health.

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CHAPTER 1: INTRODUCTION

The United States imprisons more people per capita than any other country in the world; it holds 5% of the world's population but 25% of the world's prisoners (Pfaff, 2017). Rates vary by state, but the total number of incarcerated people expanded five-fold between 1972 and 2008, with 2.2 million people in prison today, and twelve million more spending time in jail (Travis et al., 2014). Over 650,000 people are released from prison each year, and millions more from jail. To slow the spread of the COVID-19 virus, over 30 states and the District of Columbia reduced jail populations by 20% to 50% between March and August of 2020 (Prison Policy Initiative, 2020). In parallel, over ten thousand state and federal prisoners were released, paroled, or furloughed from prison during these months (Prison Policy Initiative, 2020).

With so many incarcerated individuals reentering the community, identifying obstacles to their wellbeing is particularly relevant. Reentry from prison is challenging even in the absence of a pandemic, as reentering individuals face poverty, death, and physical and emotional distress more than the general population (Rosen et al., 2008; Binswanger, 2007). They also die by suicide at higher rates (Pratt et al., 2010). The conditions of the pandemic, including widespread job loss, childcare, sickness, and restricted social interactions and freedom of movement, may intensify the stressors faced by reentering individuals (Pietromonaco & Overall, 2020). For instance, both reentry and the pandemic heighten suicide risk factors, such as depression, isolation, and financial loss.

In this study I use stress proliferation theory as a framework to identify environmental, social, and psychological factors that may predispose formerly

incarcerated individuals to suicidal thoughts during the COVID-19 pandemic. Drawing from research on the predictors of suicidal ideation, I hypothesize that incarceration history will precipitate environmental and social factors (specifically, financial loss, lack of emotional support, and subsequent interpersonal conflict) which will in turn relate to psychological factors (depression and *existential isolation*, a specific variety of isolation), ultimately predicting suicidal ideation. I will identify pathways between these variables using path analysis.

In the sections that follow, I first outline suicide risk factors and the application of stress proliferation theory to the challenges faced by formerly incarcerated people. I next consider the environmental and social ramifications of incarceration history, namely, financial loss, lack of emotional support, and subsequent conflict. Finally, I describe how these social-environmental outcomes relate to depression, existential isolation, and ultimately suicidal ideation. I describe each factor in the context of the COVID-19 pandemic.

Suicidal Ideation, Incarceration, and Stress Proliferation Theory

Suicide is the 10th leading cause of death for adults in the United States, taking on average the lives of 48,000 people each year (Granello & Granello, 2007). Suicidal ideation, or thinking about or planning to end one's own life (McAuliffe, 2002; Yip et al., 2003), is the strongest predictor of suicide, with 30% of those who endorse suicidal ideation going on to attempt suicide (Nock et al., 2008). Suicide risk factors include severe depression and anxiety, hopelessness, alcohol dependency, insomnia, symptoms of post-traumatic stress, relationship problems and loss, loneliness, chronic physical illness, sexual orientation, non-conforming gender identity, firearm availability, and financial or

personal loss (Granello & Granello, 2007). Protective factors include social support, reasons to live (for example, dependent children or believing that life is meaningful), and holding negative beliefs about suicide. Most people with suicide risk factors do not go on to have suicidal thoughts. However, identifying these risk factors, and especially their additive effects, is a necessary first step in developing prevention and treatment programs (Granello & Granello, 2007).

The conditions of the COVID-19 pandemic may deepen suicide risk factors. During June, 2020, 10.7% of United States survey respondents reported having seriously considered taking their own lives in the past month, more than double the rates of before the pandemic (4.3%; Czeisler, 2020). In a framework analysis, participants in self-quarantine cited loneliness and limited access to services and community organizations as contributing to increased emotional distress (Sheridan, 2020). African Americans and Latinx adults generally die by suicide at lower rates than do Whites (Garlow, 2005). During the pandemic, however, these trends appear to be reversed; a survey of 5,412 participants revealed that the percentage of African American (15.1%) and Hispanic (18.6%) participants who endorsed suicidal ideation was greater than other racial and ethnic groups (Czeisler, 2020).

Rates of suicidal ideation and attempts among formerly incarcerated people surpass those of the general population, a trend found in the United States, England, Wales, Denmark, Finland, Sweden and Australia (Pratt et al., 2010; Webb et al., 2011; Joukamaa, 1998; Haglund, 2014; Spittal, 2014; Kariminia, 2007). A systematic review of studies found that the suicide rate of people leaving prison is 6.75 times higher than that of the general population (Jones & Maynard, 2013), a risk that approximates that of

people leaving inpatient psychiatric hospitals (Pratt et al., 2010). Antecedent suicide risk factors (that is, suicide risk factors experienced by formerly incarcerated people *before* their incarceration) partly explain heightened risk. For example, severe mental illness is three times more common in jails and prisons than in the general population (Greenberg & Rosenheck, 2008). Other antecedent suicide risk factors disproportionately experienced by formerly incarcerated individuals include addiction (Nowotny et al, 2017; Hakansson et al, 2013), physical illness, poor access to healthcare (Gunter et al., 2011), homelessness (Lim et al., 2015), and American Indian or Alaska Native identity (Alcántara & Gone, 2007).

Beyond antecedent risk factors, evidence suggests that incarceration itself and its downstream effects increase suicide risk, even for those who have been out of jail or prison for years. Justice-system involvement (even among those who were never found guilty of a crime) predicts subsequent suicide risk among formerly incarcerated individuals even after controlling for psychiatric history, substance dependence, social adversity, socioeconomic status, race, and age (Webb, 2011). Despite this evidence, to our knowledge no previous research has identified factors that explain the mechanism of this heightened risk. Given this gap in the research, this study uses the framework of stress proliferation theory to identify environmental, social, and psychological factors that predict suicidal ideation among formerly incarcerated individuals in the context of the COVID-19 pandemic.

Stress proliferation theory proposes that stressors are connected such that an initial major stressor, called the “primary stressor,” gives rise to a host of downstream stressors, or “secondary stressors” (Pearlin, 1999; Pearlin & Bierman, 2013). Researchers

have used stress proliferation theory to model how primary stressors related to identity (e.g., sexual orientation, race, or ethnicity) and environmental factors (e.g., losing a job or experiencing domestic violence) give rise over time to a far-reaching variety of secondary stressors, such as interpersonal conflict, trauma, recourses loss, physical health conditions, and emotional distress (Li, 2016). In this way, a primary stressor (e.g., job loss) relates indirectly to a negative outcome (e.g., suicidal ideation) by way of the other stressors it brings about.

In the case of formerly incarcerated people, previous research suggests that incarceration (the primary stressor) kickstarts a host of legal restrictions, social stigma, and subsequent emotional, cognitive, and physical health consequences (secondary stressors; Turney, 2012) that compound one another. Research on the wellbeing of formerly incarcerated individuals commonly examines prison conditions themselves as predicting post-release outcomes. This study takes a different approach by using stress proliferation theory to identify pathways between risk factors that arise post-release. As presented in Figure 1, in the current study I hypothesize that incarceration history will predict the social-environmental factors of financial stress, lack of emotional support, and interpersonal conflict, which will in turn predict the psychological factors depression, existential isolation, and ultimately suicidal ideation. I propose that the conditions of the COVID-19 pandemic, including widespread job loss, mental health concerns, and restricted social interactions and freedom of movement, deepen both suicide risk factors and the unique challenges of possessing a criminal record.

Environmental and Social Stressors

Legal restrictions and social stigma follow release from prison (Price, 2015). These environmental and social stressors may consist of financial stress and loss of emotional support, factors that constitute a loss of meaning, social standing, and autonomy (Porter, 2014). The stressors of financial loss and incarceration history put strain on interpersonal communication, creating conflict (Saxbe, 2020). In the following sections I describe the environmental and social downstream effects of incarceration, namely, financial loss, lack of emotional support, and conflict, and their psychological effects.

Incarceration history and financial loss. Involvement in the legal system comes with financial demands at every step (Greenberg, & Rosenheck, 2008). People navigating the justice system accumulate a multitude of bills, including court fees, restitutions fees, fines, costs of staying in jail, and public defender fees. A person convicted of a crime in New York state, for example, acquires a minimum of 19 fees, six civil penalties, and 10 surcharges ranging from \$5 to \$750 (Rosenthal & Weissman, 2007). Bail is another costly burden; bail can cost between \$500 and \$2,000 for misdemeanor crimes and \$10,000 and more for felonies (Nworah, 2017). Finally, costs accumulate for accessing services within prisons, including fees for phone service, medical care, programming, meals, and cleaning (Rainville & Reaves, 2003). Though rates vary by state, the average inmate accumulates \$13,607 of debt during the justice process (deVuono-Powell et al., 2015). Many formerly incarcerated people pay off this debt for decades (Marin, 2017), making it difficult to pay for transportation and childcare or obtain credit and loans (Harris et al., 2010). If debt is not paid, individuals can face steep interest rates, late fees,

driver's license revocation, jail time, wage garnishment, debt collection fees and tax rebate interception (Smith et al., 2017).

Formerly incarcerated people also face legal restrictions on employment and public assistance (Alexander, 2010; Price, 2015; Mowen et al., 2015). In many states, these include restrictions on voting (Manza & Uggen, 2006), federally-funded welfare, and health benefits such as food stamps, Pell Grants, access to women's shelters, and federally-funded housing vouchers (Carey, 2005; Thomson, 2005; Alexander, 2010; Roberts, 2004; Price, 2015). Regardless of the crime, in many states those with a felony cannot work as a plumber or barber and cannot work in hospitals or with children (Bushway, & Sweeten, 2007; Alexander, 2010). In addition, employers report reluctance to hire people with a criminal record (Holzerand & Offner, 2002), and employed felons earn less than those without a record (Geller et al., 2006).

Within the framework of stress proliferation theory, financial stress is one of many environmental and social secondary stressors brought about by incarceration history which has downstream consequences of its own. Broadly, financial stress (including low income, unemployment, debt, and living in economically disadvantaged neighborhoods), correlates with fatigue, digestive problems, substance use, hypertension, sleep problems, pain, unhealthy eating, smoking (Drentea & Lavrakas, 2000; Kidd, 2005; Porter, 2014; Pampel et al. 2010), depression, anxiety, and suicidal ideation (Hraba et al., 2000; Vinokur & Schul, 2002; Zimmerman & Katon, 2005). Importantly, the latter three psychological outcomes are not predicted by income itself, but rather the *loss* of income (Zimmerman & Katon, 2005; Dombrovski et al., 2018), including among those with a criminal record (Chen & Roberts, 2019).

The loss of fulfilling work may constitute the loss of meaning, identity, motivation, self-esteem, and purpose (Deckas & Wrzesniewski, 2010; Deci & Ryan, 1985), losses that mediate the relationship between job loss and depression in incarcerated women (Pinese, 2010). Financial loss is also accompanied by lost social standing, or the feeling that others are better off than oneself, among formerly incarcerated individuals (Schnittker & Bacak, 2013; Porter, 2014). Because loss of social standing signifies a lack of autonomy and control over one's life (Courtwright, 2008; Marmot, 2004), it mediates the relationship between financial loss and suicidal ideation (Dombrovski et al., 2018). In parallel, one longitudinal study found that lost social standing mediates the relationship between incarceration history and negative health behaviors (such as smoking and unhealthy eating; Porter, 2014), and another implicated financial stress in the development of depression among formerly incarcerated men (Turney et al. 2012). Taken together, this research suggests that job loss may be felt as the loss of meaning, social standing, and autonomy, thereby imparting depression and suicidal thoughts.

These processes are at work during the COVID-19 pandemic, as social distancing and travel restrictions have resulted in an economic slowdown with 30 million people filing for unemployment, mostly among the bottom 30% of earners (Nicola et al., 2020). In the year following release, only 20% of individuals reentering from prison earn more than \$15,000, putting them in the bracket of earners hardest hit by the pandemic's financial stress. Consistent with research linking financial loss to distress, people who became unemployed during the pandemic showed more emotional distress than those who were unemployed before the pandemic (Mimoun et. al., 2020). Even more

concerningly, a study of 63 countries from 2000 - 2011 showed that suicide rates rise 20-30% during economic downturns (Nordt et al., 2015). Based on these rates, Kawohl & Nordt project that suicides during the 2020 economic downturn will increase between 2,135 and 9,570 deaths in the United States (Kawohl & Nordt, 2020). The pandemic compounds upon the challenges of possessing a criminal record, putting individuals at risk for financial loss and the psychological distress it imparts.

Building from previous research on the relationship between financial loss and psychological distress during the COVID-19 pandemic, and compounded by the obstacles faced by formerly incarcerated individuals, in the current model financial concern predicts suicidal ideation by way of its influence on depression (Figure 1). Another way that financial loss can lead to depression, and subsequent suicidal ideation, is by way of its relationship with interpersonal conflict.

Conflict and financial loss. Research demonstrates that financial loss predicts interpersonal conflict independently of its influence on emotional distress (Hraba et al., 2000; Spencer, 2016; Diggs & Nepl, 2018; Heikkinen & Lönnqvist, 1992; Booth, 2016; Conger et al., 2010; Conger & Elder, 1994). Building on this research, I hypothesize conflict will mediate the relationship between financial concern and depression, and depression will in turn predict suicidal ideation (Figure 1).

One explanation for the relationship between financial stress and conflict is Social Allostatic Load theory (Saxbe et al., 2020). Allostatic load is the mechanism by which regulatory systems (such as systems of the body that serve to maintain homeostasis) acquire physical damage when overused. In parallel, Social Allostatic Load theory proposes that social groups are a regulatory system that serve to keep individuals in

homeostasis. In other words, if an individual is in trouble, they look to their group to help resolve that trouble (that is, to return to homeostasis; Saxbe et al., 2020). When a group is under constant pressure to maintain the homeostasis of its individuals, its regulatory abilities are impaired, manifesting as strained communication and increased conflict (Saxbe et al., 2020). Consistent with this line of reasoning, financial loss relates to hostility and aggression in communication, which in turn relates to conflict (Hraba et al., 2000). In addition to financial loss, other examples of stress that social groups must use their regulatory function to mitigate include natural disasters, race discrimination, post-traumatic stress disorder, social inequality, and incarceration (Saxbe et al., 2020).

In the case of incarceration, people reentering their community face steep obstacles to success, as is apparent the following passage of a woman on parole describing her average day:

I start my day running off to drop my urine [drug testing]. Then I go to see my children, show up for my training program, look for a job, go to a meeting [Alcoholics Anonymous] and show up at my part-time job. I have to take the bus everywhere, sometimes eight buses for four hours a day...If I fail any one of these things and my PO [Parole Officer] finds out, I am revoked. I am so tired that sometimes I fall asleep on my way home at 2 a.m. and that's dangerous where I live. And the next day I have to start all over again (Richie, 1996).

Social Allostatic Load theory proposes that family and community members adopt the stress of the reentering individual. Over time, this persistent level of shared stress has implications for their ability to communicate effectively, resulting in conflict (Saxbe et al., 2020).

Relationship partners jointly shoulder pandemic-related stressors that may augment the likelihood of conflict. Stay-at-home orders have necessitated months of close quarters with housemates. This time is cherished by many, but for many others it is marked by interpersonal unrest, as illustrated by recent increases in divorce (Prasso, 2019), conflict (Lebow, 2020), and domestic violence (Campbell, 2020). Pietromonaco & Overall (2020) propose that families are more likely to have interpersonal strain who face pandemic-related external stressors (such as job loss, low income, childcare, sick family members or bereavement, difficulties accessing food or medication) or preexisting vulnerabilities (such as socioeconomic status or marginalized group status). The challenges borne by those with an incarceration history, then, may compound upon the stressors of the pandemic to provoke interpersonal conflict.

Conflict relates to suicidal ideation by way of its relationship with depression (Robles & Kiecolt-Glaser, 2003; Holt-Lunstad et al., 2008). In a study of the partners of people who died by suicide, researchers asked participants about the stressors that may have precipitated their partners' suicide (Heikkinen & Lönnqvist, 1992). Twenty-two percent of men and 18% of women believed that interpersonal conflict was a significant motivator in their partner's decision to take their life. Among formerly incarcerated people in particular, family conflict coincides with higher levels of recidivism, substance use (Mowen, 2015), and depression (Turney et al. 2012). Drawing from this research, in the current study I hypothesize that conflict will predict suicidal ideation by way of its relationship with depression (Figure 1).

In sum, incarceration history precipitates environmental and social consequences that relate to psychological distress, and ultimately the behavioral intention of suicidal

ideation (Figure 1). These risk factors are deepened by the COVID-19 pandemic. Specifically, legal restrictions and stigma generate financial loss, and its subsequent loss of meaning, social standing, and autonomy. The stressors of financial loss and incarceration history put strain on interpersonal communication, creating conflict, and subsequent depression. It is not low income itself that precipitates suicidal thoughts, then, but rather the social and psychological consequences of income loss. In addition to financial stress and conflict, another of the environmental and social downstream effects of incarceration history is the loss of emotional support.

Post-incarceration emotional support. Emotional support, or the ability to communicate emotions to other people and receive love and acceptance in return, protects individuals from shouldering the weight of distress alone (Tardy, 1985). Emotional support correlates negatively with depression (Lincoln & Chae, 2012; Kwako et al., 2011) and suicidal ideation (Park et al., 2010), and interventions that increase emotional support buffer against suicidal ideation (Noguchi, 2014). Among recently released prisoners, emotional support from family members predicts desistance from crime (Taylor, 2016) and diminished depression, anxiety (Muñoz-Laboy, 2014), and drug use (El-Bassel et al., 1996). Building on this research, in my model, I predict that lack of emotional support will predict suicidal ideation by way of its relationship with existential isolation (i.e., feeling alone in one's subjective experience; Pinel, 2004) and depression.

Incarceration disrupts individuals' social roles as parents, romantic partners, friends and employees. Damage to these relationships often persists post-release (Mumola 2000, Turney, 2012). For one, relationships may be lost during incarceration due to distance, time, and the difficulties of visiting prisons (Few-Demo & Arditti, 2014;

Geller, 2006). Parents typically spend less time with their children post-release and parent-child relationship quality subsequently diminishes (Swisher & Waller 2008). Divorce is also common (Massoglia, 2011). The relationships that remain post-release are often strained or distant (Braman, 2007; Nurse, 2002; Comfort, 2008). Because of the relationship loss and tension marking social life post-release, in my model I hypothesize that incarceration will predict lack of emotional support.

One mechanism of this loss of emotional support may be the stigma surrounding incarceration (Van Olphen et al., 2009). Stigma manifests as mistrust, fear, anger, and the perception that formerly incarcerated individuals are dangerous, unpredictable, and impulsive (Price, 2015; Clear, 2001; Hirschfield & Piquero, 2010). In one qualitative study, two-thirds of mothers leaving prisons reported that their family thought they were bad mothers, and nearly all participants reported experiencing stigma from potential romantic partners (Gunn et al., 2018). People who are stigmatized because of their criminal record experience more serious physical health consequences and depression after release than those who do not (Schnittker & John, 2007). Stigma and relationship loss, then, may make it difficult to find someone with whom to share emotions. In addition, not expressing emotions is adaptive in many carceral situations, as inmates who are seen as weak can be targeted. This invulnerability, if continued on the outside, can prevent reentering individuals from seeking emotional support (Haney 2006; Toch & Adams 2002).

Self-quarantine during the COVID-19 pandemic may also prevent sources of emotional support found outside the home, such as friends, loved ones, and community resources. Emotional support is imperative to weathering the stressors of the pandemic,

stressors that for many people include the sickness or death of loved ones, increased childcare, difficulties obtaining food or medication, and job loss (Pietromonaco & Overall, 2020). Indeed, emotional support has been identified as a protective factor for medical workers (Miotto et al., 2020), University staff (Charoensukmongkol & Phungsoonthorn, 2020), and people with disabilities (Umucu & Lee, 2020) during the pandemic. Given the stigma and relationship loss following incarceration, formerly incarcerated people may be less likely to receive this emotional support when they need it most.

Taking this research into account, lack of emotional support is a suicide risk factor deepened both by incarceration and by the confinement of the pandemic. In the current model, I predict that people with a history of incarceration will report less emotional support than those without, and that emotional support will predict suicidal ideation by way of its relationship with depression and existential isolation. Having described the social-environmental downstream effects of incarceration, next I describe its psychological downstream effects.

Psychological Secondary Stressors

For many people released from jail or prison, social-environmental secondary stressors include financial loss, conflict, and loss of emotional support. These stressors may in turn generate psychological consequences, including depression and existential isolation (or the perception of being alone in one's subjective experiences; Figure 1). Finally, psychological factors may precipitate the behavioral intention of suicidal ideation. Next, I describe the psychological downstream effects of incarceration post-release, and their relationship with suicidal thoughts.

Post-incarceration depression. Incarceration increases the likelihood of developing major depression after release by 50% (Turney et al. 2012; Schnittker et al. 2012). This is due in part to the conditions of prisons and jails, which often include humiliation, physical and sexual violence (Price, 2015), loss of control, fear for the loss of close relationships (Massoglia et al., 2011), guilt and loneliness surrounding absence from loved ones, and purposelessness from the loss of work. These factors are associated with depression among inmates (Pinesse, 2010). In addition to the conditions of prison or jail themselves, post-release challenges may also cause depression. For example, in their longitudinal study of formerly incarcerated men, Turney and colleagues found that relationship difficulties and financial stress explained a moderate amount of increased depression (Turney et al. 2012). Consequently, in my model I specify that incarceration history predicts depression directly, and also indirectly by way of its influence on lack of emotional support, financial stress, and interpersonal conflict (Figure 1).

After controlling for demographic and environmental factors, during June, 2020, survey respondents reported symptoms of depression and anxiety more than three times higher than the rates of June, 2019 (Czeisler, 2020). Twenty-six percent of those in quarantine reported depressive symptoms, with higher rates in highly impacted areas, areas that do not provide thorough testing, and among those of low income (Tang et al., 2020). Racial disparities are a significant factor, as African Americans are overrepresented among those who contract COVID-19 (Fletcher, 2020), in carceral settings (Alexander, 2010), and among those who experience suicidal ideation during the pandemic (Czeisler, 2020). As formerly incarcerated individuals have on average lower income and are more likely to live in highly impacted areas than non-incarcerated

individuals, they are at greater risk of depression and suicidal ideation during self-quarantine. People released from prison because of the pandemic may also have endured unsafe confinement conditions, as hygiene supply shortages and overcrowding made jails and prisons hotspots for COVID-19 (Akiyama et al., 2020). The factors that deepen pandemic-related depression in the general population, such as poverty and proximity to highly impacted areas, disproportionately impact formerly incarcerated individuals (Tang et al., 2020; Yep et al., 2010).

Considering previous research establishing the robust relationship between depression and suicidal ideation (McClelland et al., 2020), in my model I specify depression as mediating the relationship between incarceration and suicidal ideation. I predict both a direct path from incarceration history to depression, and an indirect path through incarceration history's relationship with financial stress, conflict, and lack of emotional support (Figure 1). I propose that another of the psychological downstream effects of incarceration is existential isolation.

Existential isolation. Previous research has demonstrated the importance of social support to the wellbeing of people reentering the community after incarceration. However, research on reentering individuals has not yet examined the separate but related concept of existential isolation, or the feeling that no one else shares in or understands one's subjective experiences, including thoughts, reactions, emotions, and outlook (Yalom, 1980). I hypothesize that existential isolation will mediate the relationship between incarceration and suicidal thoughts.

The term existential isolation is a consequence of the distinction between the "me" and the "I" made by William James (1890). The "me" refers to one's objective

characteristics, that is, self-perception of identities such as nationality, gender, and religion. The “I” refers to one's subjective stream of consciousness that perceives, reacts, emotes, and senses. Existential isolation, then, is the perception that one is alone in one’s “I,” that no one else shares in or understands one’s point of view, perceptions, thoughts, reactions, or emotions. For example, an atheist asked to pray during a Christian church service, or the only person in a room not to find a joke funny, may feel existentially isolated if they perceive that no one else is reacting or experiencing in the same way they are reacting and experiencing. Existential isolation is measured with a six-item scale (Pinel, 2017) that asks participants to rate the extent to which they agree with statements such as “I often have the same reactions to things that other people have” (reverse coded), and “people do *not* often share my perspective.”

Existential isolation is related to but independent from interpersonal isolation, or the presence of social relationships and bonds. Someone may be surrounded by others (i.e., they may experience interpersonal connection) and yet feel as though no one understands their experiences (i.e., they may experience existential isolation). Conversely, someone may have few interpersonal interactions (i.e., they may experience interpersonal isolation) and yet feel completely understood (i.e., they may experience *existential connection* or existential isolation’s opposite). In fact, existential isolation is only moderately correlated with interpersonal isolation (Helm et al., 2018). In the current model I will control for interpersonal isolation in order to disentangle its effects from those of existential isolation.

Pinel and colleagues (2015; 2004) propose that existential isolation obstructs two core psychological needs: the need to connect with others (*affiliative needs*) and the need

to be validated in one's reality (*epistemic needs*). For example, an individual new to a city may find no one with whom to enjoy concerts in the style of music they love; without this bonding affiliative needs will not be met. In the case of epistemic needs, an individual alone in their experience of back pain may have no one with whom to validate whether the pain is cause for concern, and be left feeling alone in their experience of reality. Consistent with this theory, after controlling for interpersonal isolation, high levels of dispositional existential isolation correlates negatively with the endorsement of collectivistic values, social and emotional connection (Park & Pinel, 2020), and the perception of having a meaningful life (Pinel et al., 2020). Among mental health factors, existential isolation predicts depression, anxiety, low self-esteem, aggression, suicidal ideation, and low satisfaction with therapy services (Long et al., 2020; Helm et al., 2020; Pinel et al., 2017; Constantino et al., 2019; Pinel et al., 2020).

I predict that formerly incarcerated individuals will report feeling more existential isolation than non-formerly incarcerated individuals. I build this hypothesis in part from research showing that people with a non-normative group status feel more existential isolation than those with a normative group status, a finding that holds true across group divisions based on socioeconomic status, race, ethnicity, sexual orientation, native language, citizenship, religious affiliation, and body weight (Yawger et al., 2020). Existential isolation is felt when one's non-normativity is made salient, such as when those of the normative group make assumptions of normality. For example, a teenage girl asked if she has a boyfriend assumes that she is heterosexual and may thereby instill existential isolation; this assumption makes salient the speaker's misunderstanding of her experience (Yawger et al., 2020). Illustrative of this concept is one man's description of

leaving the New York jail Rikers Island: “I was a stranger in a strange land. I didn’t understand the language, the culture. It’s difficult even to this day, I still have difficulty” (Moyers, 2017). This quote suggests that this man feels that those around him do not share in, understand, or validate his reactions, perspectives, and thoughts.

As members of a non-normative group, formerly incarcerated individuals may face misunderstanding by and disconnection from those with dissimilar backgrounds. This feeling could stem from a deficit of self-verification, or the experience that others do not see one in the same way that one sees oneself (Swann, 1990; Vázquez et al., 2018). People with a criminal record report that others see their record as a permanent mark of shame that they are unable to live past; no matter their life circumstances or actions, their identity is cast in the light of their record (Gunn et al., 2018). As one reentering woman said, “My mom was like, ‘You’re a junkie’. Even now, I have a job, taking care of my kids...She thinks I’m an unfit mother” (Gunn et al., 2018). Similarly, people with a criminal record report trying to cover up their status to avoid discrimination from employers and friends (Copenhagen et al., 2007), suggesting that they believe disclosure will result in misunderstanding and stigma. This non-verifying feedback may instill existential isolation because it makes salient other people’s misunderstanding of and disconnection from oneself.

In addition to feeling existentially isolated in interpersonal relationships characterized by non-verifying feedback, formerly incarcerated individuals may feel existentially isolated from the larger society. The public narrative often portrays inmates as corrupt, disposable, and absent from civic discourse (Rose & Clear, 1998). Many formerly incarcerated people from neighborhoods with a high concentration of

incarceration feel mistrust toward and alienation from the larger public because of the injustices and harm caused to themselves, their families, and their neighborhood (Roberts, 2004). This experience of non-normativity may sow existential isolation, that the larger society does not understand or share in their true experiences and outlook. As one man who was incarcerated at Rikers Island put it, “unless you’ve experienced coming home from jail or prison, you’ll never know what it’s like. You don’t know what it’s like to go looking for a job and everywhere you turn, every door you open, they look at you differently and say ‘no’ to you. You don’t know what it’s like to be hungry and have no food on the table for your family, but you’re out there struggling looking for a job” (Moyers, 2017).

Building from research on the disconnect felt by formerly incarcerated individuals from loved ones and society at large, I predict that incarceration will predict existential isolation directly. I also predict that it will predict existential isolation indirectly by way of its relationship with emotional support and conflict. In the case of emotional support, those who have no one with whom to safely disclose emotions may be left feeling as though no one shares in, understands, or validates their internal experiences (i.e., they may feel existentially isolated). Conflict, too, may generate existential isolation, as conflict is often the result of misunderstandings and disconnect between people, the inability to “see eye to eye” (Hazlett, 2010). Conflict, then, may leave one feeling that one’s conflict partner does not understand or share in one’s experience, reactions, and point of view (Bergman & Surrey, 2000), constituting an experience of existential isolation. During the COVID-19 pandemic especially, individuals who feel existential

isolation from their housemates may feel persistently subjected to that disconnection without recourse to find connection and understanding outside of their home.

When holding interpersonal isolation constant, existential isolation predicts suicidal ideation (Helm et al., 2020). This finding suggests that, for many people, the perception that others relate to one's internal experience is a reason to live. Existential isolation constitutes a lack of validation for one's experience of the world, leaving one alone in one's reactions, outlook, and perceptions (i.e., epistemic needs). In addition, it prohibits the formation of deep bonds with others (i.e., affiliative needs, Pinel et al., 2015). The lack of these psychological needs may contribute to suicidal thoughts.

The relationship between emotional support, existential connection, and mental health is exemplified by the value of support groups (Bradshaw & Muldoon, 2020). An individual in a support group may feel emotional support if they can communicate emotions freely and feel valued and accepted. This emotional support may engender existential connection if they perceive other group members have experienced the same struggles and joys they themselves have. A qualitative study of a support group for the wives of incarcerated men evidences this view. Participants reported that the benefit of the group came in their subjective similarity to other participants. As one woman put it, "Because we were all in the same situation, like, [Name] understood me, I understood her, it was like we were going through the same thing, so we all kind of bonded together" (Bradshaw & Muldoon, 2020). This research highlights the importance of existential connection to mental health, particularly among those of marginalized groups.

Building on research on existential isolation among members of nonnormative groups and existential isolation's relationship to suicidal ideation, in the current study I

predict that existential isolation will mediate the relationship between incarceration and suicidal ideation. In addition, the social consequences of incarceration, namely, conflict and lack of emotional support, will predict existential isolation. In sum, I hypothesize that the conditions of the pandemic will compound the environmental and social stressors of reentry (i.e., financial stress, interpersonal conflict, and lack of emotional support), predisposing formerly incarcerated people to psychological distress (i.e., depression and existential isolation) and subsequent suicidal thoughts.

The Current Study

Building on research concerning risk factors for suicidal ideation and the conditions of the COVID-19 pandemic, in this study I identified environmental, social, and psychological factors that predispose formerly incarcerated people to suicidal ideation during the pandemic. I used path analysis to identify pathways between variables. I recruited a cross-sectional sample of Amazon Mechanical Turk (MTurk) participants to complete a series of questionnaires in June through July, 2020, during which time many people were in self-quarantine. Using stress proliferation theory as a framework, I predicted that both existential isolation and depression would mediate the relationship between incarceration and suicidal ideation while holding constant race, gender, income, education, psychological treatment, previous suicide attempts, and interpersonal isolation. I hypothesized further that incarceration history would predict financial loss and loss of emotional support, and subsequent interpersonal conflict. These environmental and social factors would then predict depression, existential isolation, and ultimately suicidal ideation. I present the model in Figure 1 and its corresponding pathways in Table 4. I also asked whether people *without* an incarceration history would

exhibit the same relationships between variables as those with an incarceration history. To compare the magnitude of the relationships in the model between those with and without an incarceration history, I conducted exploratory Fisher's r-to-z transformations. Finally, to examine whether characteristics of incarceration impacted the results, in exploratory analyses I compared variables across incarceration duration and recency.

The current study makes several novel contributions to the literature. For one, to my knowledge it is the first to identify factors disproportionately experienced by formerly incarcerated people that precipitate suicidal ideation. Second, it highlights features specific to the COVID-19 pandemic that compound risk of suicidal ideation. Finally, it investigates the role of existential isolation in the mental health of formerly incarcerated individuals.

CHAPTER 2: METHOD

Procedure. I measured variables via a Qualtrics survey composed of questionnaires. I administered the survey over the Amazon Mechanical Turk (MTurk) platform, and participants received \$2.00 in compensation for their participation. This study was approved by the University of Vermont Institutional Review Board.

Participants. Nine hundred and forty-seven participants completed the study, with a mean age of 33.5 ($SD = 11.99$). I present demographic characteristics of the participants in Table 1. Fifty-one (5.4%) participants reported a history of incarceration, 881 (93.0%) reported no history of incarceration, and 15 participants (1.6%) did not disclose their incarceration history. Two hundred and seventeen participants reported experiencing any suicidal ideation (22.9%), 724 reported no suicidal ideation (76.5%), and 6 (0.6%) did not respond.

Existential isolation. I measured existential isolation with the six-item Existential Isolation Scale (Pinel, 2017). Participants respond with the extent to which they agree with each statement on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). Example statements include “Where I am currently living, people do *not* often share my perspective,” and “Where I am currently living, I often have the same reactions to things as other people around me” (reverse coded).

Emotional support. I measured emotional support with the four-item Short Emotional Support Scale (Hahn et al., 2010). Participants indicated the extent to which they agreed with statements on a 5-point likert scale from 1 (disagree strongly) to 5 (agree strongly). Example items include “I have someone with whom to share my most private worries and fears,” and “I have someone who will listen to me when I need to talk.”

Depression. Depression was measured with the eight-item Patient Health Questionnaire-8 (PHQ-8; Kroenke & Spitzer, 2002). Participants indicate the extent to which they experienced each of 8 problems in the last two weeks on a scale from 1 (None of the time) to 5 (most, or all of the time). Items include “Little interest or pleasure in doing things,” and “Feeling down, depressed, or hopeless.”

Suicidal ideation. I measured suicidal ideation with the four-item Suicidal Ideation Measure (Klein et al., 2012). Considering the last two weeks, participants rate the extent to which they agree with each statement on a scale from 1 (disagree strongly) to 5 (agree strongly). Statements included “I thought about killing myself,” and “I felt that I would kill myself if I knew a way.” Another statement in this measure is: “I had thoughts about death.” Given the widespread illness and death caused by the COVID-19

pandemic, it is likely that many people have thoughts about death that are not related to ending their own lives. Given these conditions, I will *not* include the item “I had thoughts about death” in the analysis.

To assess history of suicide attempts, following the Suicidal Ideation Measure participants responded to the question “Have you ever attempted suicide before?” Participants could respond “I have never attempted suicide,” “I have attempted suicide once,” or “I have attempted suicide two or more times.”

Financial concern and interpersonal conflict. I assessed the financial concern and interpersonal conflict variables within a battery of questions concerning participants’ experiences during the COVID-19 pandemic. To measure interpersonal conflict, participants were given the prompt: “Since the beginning of the COVID-19 pandemic, to what extent have you experienced a change in:” followed by a series of statements, including “The amount of conflict in your current living situation?” Participants answered on a Likert scale from 1 (Significantly Decreased) to 7 (Significantly Increased), with 4 representing “No Change.” In the same battery I used one item to assess financial concern: “How concerned are you for your own financial well-being or for the financial well-being of a loved one?” Participants could respond on a 7-point Likert scale, from 1 (“Not Concerned at All”) to 7 (“Extremely concerned”).

Incarceration history and demographic variables. Incarceration history was assessed with the question “Have you ever been incarcerated in prison or jail?” to which participants could respond “yes” or “no.” I assessed income with the question “Under what income bracket does your household fall? If you are at least partially dependent on parents or guardians, please answer with respect to your parents or guardians,” followed

by a list of 6 income brackets ranging from “less than \$20,000” a year to “over \$100,000” a year. I assessed education with the question “What is the highest degree or level of school you have completed? If you are currently enrolled in school, please indicate the highest degree you have received,” followed by a list of eight options, beginning with “less than a high school diploma,” and ending with “Professional degree (e.g. MD, DDS, DVM) or Doctorate degree (e.g. PhD, EdD).” Participants responded to nominal demographic measures assessing their gender, sexual orientation, race and ethnicity, and whether they were receiving medication or psychotherapy to treat a psychological disorder. Participants also responded to an open-ended question assessing age.

Pandemic-related variables. I assessed the job loss, COVID-19 contraction, and pandemic-onset drug use and loss of meaning within a battery of questions concerning participants’ experiences during the COVID-19 pandemic. I assessed pandemic-related financial loss with the question “Have you experienced financial hardship due to the pandemic such as losing a job, reduced work hours, being furloughed or having to close down a business?” to which participants could respond “Yes” or “No.” To determine whether participants had loved ones who contracted COVID-19, the questionnaire asked “Have any of your loved ones been diagnosed with coronavirus?” to which participants could respond “Yes” or “No.” To measure changes in drug use and sense of meaning, participants were given the prompt: “Since the beginning of the COVID-19 pandemic, to what extent have you experienced a change in:” followed by a series of statements, including “Your use of other drugs?” and “Your sense of meaning?” Participants answered on a Likert scale from 1 (Significantly Decreased) to 7 (Significantly Increased), with 4 representing “No Change.”

Interpersonal isolation. I assessed interpersonal isolation with the four-item Interpersonal Isolation scale. Participants respond with how frequently each item applied to them on a four-item scale from 1 (Never) to 4 (Often). Example statements include “Where I am currently living, I spend a lot of time alone,” and “Where I am currently living, I often feel lonely.”

Data exclusion. Given the high rates of inattentive and non-human respondents in MTurk samples (Chmielewski & Kucker, 2020), I included three questions within the survey with the purpose of disqualifying inattentive and non-human participants. Because non-human bots are unable to interpret photos of questions, I included a photo of the question “What is 15 – 10?.” I embedded the second attention check within the interpersonal isolation questionnaire, asking participants to rate the frequency with which they could “see Europe from [their] window” (only participants living in the United States were able to respond to the MTurk survey, so no participants were physically in Europe at the time of the survey). The third attention check was embedded in a list of personality questions: “I see myself as illiterate, or completely unable to read.” Participants who responded incorrectly to any of these three questions were sent to the end of the survey and their responses will be excluded from analysis.

CHAPTER 3: RESULTS

Data transformation. I first analyzed the frequency distributions of the variables in order to identify nonnormal distributions. Analysis of skewness and kurtosis statistics revealed significant skewness and kurtosis within the emotional support ($skew = -1.56$, $SE = .08$, $kurt = 2.0$) and suicidal ideation ($skew = 2.40$, $SE = .08$, $kurt = 7.20$) variables. To account for possible effects of skewness and kurtosis, I transformed the emotional

support variable by squaring its values. Because the suicidal ideation variable exhibited extreme skew, I recoded it as a categorical variable, with participants who endorsed no suicidal ideation in one category, those who endorsed any suicidal ideation (that is, they gave a score greater than one on any of the items on the suicidal ideation measure) in another category, and those who did not respond in a third category. I did not include participants who did not respond to the suicidal ideation measure in the analysis.

Descriptive Statistics and Correlations. I present descriptive statistics of demographic characteristics and study variables in Table 1-2. I used chi-square difference tests to identify significant differences in variables between participants with and without an incarceration history. Among demographic characteristics, tests yielded significant differences in income, education, and gender, with formerly incarcerated individuals having on average lower income and educational attainment than those without an incarceration history (Table 1). Formerly incarcerated participants were also disproportionately male. Among study variables, independent samples t-tests revealed that incarcerated individuals reported significantly less emotional support and greater financial concern, interpersonal conflict, existential isolation, depression, and suicidal ideation than those without an incarceration history (Table 2). Among pandemic-related variables, formerly incarcerated individuals reported more job loss and pandemic-onset drug use than those without an incarceration history, but did *not* report a greater number of loved ones having contracted COVID-19 or more loss of meaning.

I next performed bivariate correlations between all study variables (Table 3). The environmental variables of incarceration history and financial concern associated negatively with emotional support, and positively with both interpersonal variables

(existential isolation and conflict) and mental health variables (depression and suicidal ideation). Conflict correlated negatively with emotional support and positively with existential isolation and depression. Depression, existential isolation, and suicidal ideation related positively with one another. Most correlations were of low to moderate magnitude ($r = .10$ to $.52$) with the strongest correlation appearing between depression and suicidal ideation ($r = .52$).

Path Analysis. To identify direct and indirect paths connecting incarceration history and suicidal ideation, I carried out path analysis using the lavaan package version 0.6-7 (Rosseel, 2012) in the R statistical software package version 4.0.0 (R Core Team, 2020). Path analysis uses model fit indices to determine the *overall* fit of the observed data to the hypothesized model. In addition, analyses yield direct paths between model-specified variables, that is, the relationship between two variables regardless of the context of the overall model (Figure 1). The significance and magnitude of indirect paths demonstrate how variance is carried through a series of three or more variables (Table 4). Finally, the magnitude of the total direct and total indirect paths demonstrates the contribution of each to the total explained variance in the outcome variable (in this case, suicidal ideation). I describe these steps in the following paragraphs. In the current model, I specify that the mediating variables covary with one another, specifically, existential isolation and depression, emotional support and financial concern, and emotional support and conflict. The model controls for race, education, gender, age, income, psychological treatment, and interpersonal isolation.

I used model fit indices to determine how closely the observed data align with the hypothesized pathways. The most meaningful model fit index, the Chi-square statistic,

assesses the presence of a significant difference between the data I collected and to the data that my model hypothesizes, with $p < .05$ indicating that the model does *not* describe the collected data. In addition to the Chi-square statistic, other model fit indices clarify other qualities of the data. The Comparative Fit Index (CFI; a value greater than .95 indicates good fit) and Tucker–Lewis Index (TLI; ≥ 0.95 indicates good fit) compare the hypothesized model to the null hypothesis, or the model in which there are no relationships between variables. The Root Mean Squared Error of Approximation (RMSEA; $< .08$ indicates good fit) accounts for the model’s parsimony (number of relationships), and Standardized Root Mean Square Residual (SRMR; $< .08$ indicates good fit) compares the residuals of the observed data to the hypothesized data.

Chi-square statistics and TLI demonstrated that the observed data did *not* fit the hypothesized model (chi-square = 32.06, $p < .001$, TLI = 0.876). However, other model fit indices indicated good fit (RMSEA = 0.068, SRMR = 0.031, and CFI of 0.965). Because the chi-square statistic demonstrates the overall fit of the observed data to the hypothesized data, these indices ultimately suggest that the model does not account for the patterns in the data. That is, the variables may predict one another in ways not specified by paths in the model, or variables *not* included in the analysis (confounding variables) may be accounting for patterns in the observed data.

Direct Paths. Figure 1 displays the standardized beta coefficients of the direct paths between study variables. As predicted, the path analysis revealed a significant positive direct effect of incarceration history on financial concern ($b = 4.20$, $p < .001$, $95\%CI = [1.97, 6.45]$, $\beta = .12$), existential isolation ($b = 0.94$, $p < .001$, $95\%CI = [0.54, 1.29]$, $\beta = .17$), and depression ($b = 0.11$, $p < .001$, $95\%CI = [0.04, 0.18]$, $\beta = 0.11$), and a

negative direct path to emotional support ($b = -2.93, p = .003, 95\%CI = [-5.47, -0.55], \beta = -0.10$). It further yielded a positive direct path from financial concern to conflict ($b = 0.05, p < .001, 95\%CI = [0.029, 0.061], \beta = 0.19$) and depression ($b = 0.01, p < .001, 95\%CI = [0.00, 0.02], \beta = 0.19$), and a positive direct path from conflict to depression ($b = 0.02, p < .001, 95\%CI = [0.01, 0.03], \beta = 0.23$) and existential isolation ($b = 0.05, p = .012, 95\%CI = [0.01, 0.10], \beta = 0.08$). It revealed further negative paths from emotional support to depression ($b = -0.01, p < .001, 95\%CI = [-0.02, 0.00], \beta = -0.19$) and existential isolation ($b = -0.03, p < .001, 95\%CI = [-0.05, -0.02], \beta = -0.07$). Finally, both existential isolation and depression exhibited a direct pathway to suicidal ideation ($b = 0.03, p = .001, 95\%CI = [0.01, 0.05], \beta = 0.09$; and $b = .33, p < .001, 95\%CI = [0.90, 1.15], \beta = 0.44$), respectively.

Indirect Paths. Table 4 displays the standardized beta coefficients and significance level of the indirect pathways from incarceration to suicidal ideation. The analysis yielded a significant pathway from incarceration to suicidal ideation through existential isolation ($b = 0.03, p = .010, 95\%CI = [0.01, 0.06], \beta = 0.02$), and depression ($b = 0.11, p = .002, 95\%CI = [0.04, 0.18], \beta = 0.06$). Incarceration also related to suicidal ideation by way of its relationship with financial concern and financial concern's subsequent relationship with conflict and depression. Specifically, the analysis yielded a significant path from incarceration through financial concern, depression and suicidal ideation ($b = 0.02, p = 0.004, 95\%CI = [0.01, 0.04], \beta = 0.01$), and a significant path through financial concern, conflict, depression, and ultimately suicidal ideation ($b = 0.01, p = 0.012, 95\%CI = [0.00, 0.02], \beta = 0.01$). However, the pathway from incarceration

through financial concern, conflict, existential isolation, and suicidal ideation was not significant ($b = 0.00$, $p = 0.190$, $95\%CI = [0.00, 0.00]$, $\beta = 0.00$).

Incarceration also predicted suicidal ideation by way of its relationship with emotional support and emotional support's subsequent relationship with depression and existential isolation. Specifically, the analysis revealed a significant pathway from incarceration to lower emotional support, depression, and ultimately suicidal ideation ($b = 0.02$, $p = 0.038$, $95\%CI = [0.00, 0.04]$, $\beta = 0.01$). However, the pathway from incarceration to lower emotional support, existential isolation, and subsequent suicidal ideation was not significant ($b = 0.00$, $p = 0.130$, $95\%CI = [0.00, 0.01]$, $\beta = 0.00$). In combination, the indirect and direct paths resulted in an R-squared for suicidal ideation of .32, meaning that 32% of the variance in suicidal ideation is explained by the variables in the model.

Additional analyses. I next performed exploratory comparisons of variables by incarceration duration (Tables 5-6) and incarceration recency (Tables 7-8). I first performed a median split such that approximately half of participants were categorized as having spent over six months incarcerated, and the other half were incarcerated for fewer than six months. Similarly, approximately half of participants were incarcerated up to six years ago and the other half were incarcerated over six years ago. Those who spent over six months incarcerated reported more suicidal ideation, existential isolation, and loss of meaning, than those who spent less than six months incarcerated. Those who served their time up to six years ago reported more suicidal ideation than those who served their time over six years ago. Given the small sample size of 51 formerly incarcerated participants, however, the analysis cannot yield definitive results.

I next conducted Fisher's *r*-to-*z* transformations to determine whether the magnitude of the direct paths in the model differed significantly by incarceration history. Table 9 presents the partial correlation coefficients of each of the direct paths of both those with and without an incarceration history. It also shows the *z* value and significance of the difference between the groups. The analysis yielded a significant difference between those with and without an incarceration history in the relationship between 1) financial concern and conflict, 2) financial concern and depression, 3) conflict and existential isolation, and 4) existential isolation and suicidal ideation. The magnitude of these relationships was stronger among those with an incarceration history than among those without.

CHAPTER 4: DISCUSSION

This study sought to identify variables that put formerly incarcerated individuals at risk for suicidal ideation during the COVID-19 pandemic. We found that those with an incarceration history experienced less emotional support and more financial concern, conflict, existential isolation, depression, suicidal ideation, and pandemic-related drug use and job loss than those without an incarceration history. Incarceration duration was associated with worse outcomes, with those who spent over six months incarcerated reporting more suicidal ideation, existential isolation, and loss of meaning than those who spent less than six months incarcerated. Those with a more recent incarceration also experienced greater suicidal ideation than those who were incarcerated over six years ago. These findings are consistent with previous research demonstrating more harmful collateral consequences for reentering individuals whose incarceration was more recent and of longer duration (Anderson, 2016).

We also examined pathways through which collateral consequences of incarceration relate with one another in predicting suicidal ideation. Although three model fit indices demonstrated good fit of the hypothesized model to the data, the most meaningful index, the chi-square statistic, indicated poor fit. This suggests that the model did not ultimately account for relationships between the variables, or that variables other than those included in the model accounted for patterns in the data. For example, the model did not specify that incarceration, conflict, or emotional support exhibited a direct relationship to suicidal ideation (rather, the model specified that these variables related to suicidal ideation *indirectly*, by way of their relationship with other variables). The model may not have achieved overall significance because the observed data exhibited direct relationships between variables (for example, conflict and suicidal ideation) in a way not captured by the hypothesized model. Alternatively, a confounding variable not included in the model, such as stigma, may account for patterns in the observed data. That is, the relationship between incarceration and depression, existential isolation, and suicidal thoughts may be best explained by its relationship with stigma. Stigma may leave one feeling socially rejected and misunderstood, thereby instilling existential isolation and depression. Stigma, or another confounding variable, may better explain the relationships between the variables.

Although the overall model did not achieve significance, many of the pathways within the model did reach significance. Specifically, incarceration predicted suicidal ideation by way of its relationship to financial concern and subsequent conflict and depression. In addition, incarceration predicted lower emotional support, which in turn predicted depression and suicidal ideation. Existential isolation mediated the relationship

between incarceration and suicidal ideation. However, the pathways testing whether incarceration predicted existential isolation indirectly (by way of its relationship with emotional support and conflict), were not significant. Finally, those with an incarceration history exhibited a significantly stronger relationship between the following variables than those without: 1) financial concern and conflict, 2) financial concern and depression, 3) conflict and existential isolation, and 4) existential isolation and suicidal ideation.

I used stress proliferation theory as a framework in this analysis to determine how the downstream collateral consequences of incarceration (namely, financial concern, loss of emotional support, and conflict) would in turn produce psychological consequences (depression, existential isolation, and suicidal ideation). Stress proliferation is evident in the relationship between incarceration and depression. Incarceration related to depression by way of its relationship to the secondary downstream stressors of financial concern, emotional support, and conflict. It also related to depression directly, suggesting that the experience of incarceration itself is related to the development of depression. These findings corroborate Turney and colleagues (2012), who demonstrated that relationship problems and financial stress accounted for a moderate amount of increased depression among formerly incarcerated men.

The findings also support previous research suggesting that the interpersonal and psychological consequences of financial loss predict suicidal ideation, rather than the condition of low income itself (Dombrovski et al., 2018). The relationship between financial concern and depression, along with the relationship between financial concern and conflict, was stronger among those with an incarceration history than in those without. Given the difficulty of acquiring wealth for those with an incarceration history,

financial concern may augur more protracted negative future outcomes, thereby precipitating more depression among those with an incarceration history. Finally, the negative relationship between incarceration and emotional support may be explained by the relationship loss and stigma that follows incarceration (Mumola, 2000). These factors are among incarceration's proliferating collateral consequences that predict depression, and ultimately suicidal ideation.

Incarceration predicted existential isolation directly, and in turn suicidal ideation. However, emotional support and conflict did *not* mediate the relationship between incarceration and existential isolation. This suggests that it is not the collateral social ramifications of incarceration that contribute to feelings of existential isolation, but rather the experience of incarceration itself, or other collateral consequences of incarceration not measured here. For instance, these findings suggest that if a formerly incarcerated individual has a relationship characterized by conflict due to the financial stress of reentry, this conflict does *not* contribute to the existential isolation they may feel. This conflict may, however, relate to depression, and subsequent suicidal thoughts. Similarly, a reentering individual's struggle to find emotional support in close relationships may relate to depression and subsequent suicidal thoughts, but these results do not suggest that this lack of emotional support is related to existential isolation.

If not accounted for by conflict and lack of emotional support, what might explain the elevated levels of existential isolation reported by formerly incarcerated individuals? Elevated levels of existential isolation suggest that formerly incarcerated individuals, more than the general population, feel that others do not share, understand or validate their internal experiences and perceptions. Most relationships are with people who have

never experienced incarceration, the legal system, and the subsequent social and legal collateral consequences. Consequently, formerly incarcerated individuals are left at least partially alone in their subjective experiences, as others are unable to experientially relate to the past and ongoing burdens of incarceration. Similarly, the stigma surrounding incarceration may make reentering individuals reticent to share their experiences with others, as many try to conceal their criminal record. Concealing one's identity and past may constitute existential isolation as others then fail to relate to one's experiences. Future research could test these conjectures by comparing the existential isolation of formerly incarcerated individuals who have relationships characterized by similar lived experiences to those without. Future studies might also test stigma as a mediator between incarceration and existential isolation, as those who experience stigma may feel that the larger public does not validate or understand their experiences. Finally, given the lack of significance of the overall fit of the model, future research should change model specification or add new variables to achieve a more accurate model.

Analyses revealed further that existential isolation mediated the relationship between incarceration and suicidal ideation. People commonly cite solace in cherished relationships as a reason to live, as human connection engenders meaning and pleasure. Existential isolation may signify one's inability to truly connect with others; for the highly existentially isolated individual, others are separated from them by an unbridgeable gap of misunderstanding. In addition to interfering with human connection, existential isolation may leave one alone in one's interpretations of the reality, further entrenching the uncertainty of reentry. Existential isolation may also signal the presence of other interpersonal factors thought to precipitate suicidal thoughts, such as thwarted

belongingness, social alienation, and unworthiness (Joiner, 2005; Williams, 2009). However, as the analysis controlled for interpersonal isolation, the relationship from existential isolation and emotional support to suicidal ideation is *not* accounted for by a lack of relationships characterized by mutual concern. Rather, it may be accounted for by the lack existential and emotional connection within those relationships.

The relationship between existential isolation and suicidal ideation was stronger among those with an incarceration history than in those without. Existential connection may be more predictive of mental distress among formerly incarcerated individuals because social connection and support are imperative to successful reentry (Taylor, 2016), so existential isolation may foretell future difficulties. In addition, those with non-normative identities may place a higher valuation on existential connection because it signifies relationships that will not be stigmatizing.

These data were collected during June – July, 2020, during which time most people in the United States were in self-quarantine due to the COVID-19 pandemic. The hardship of the pandemic for those with an incarceration history is illustrated by their disproportionate job loss and pandemic-related increase in drug use and interpersonal conflict (Table 3). The stressors of the pandemic may compound the stressors of having a criminal record, making financial stability, existential connection, and emotional support even more necessary for mental wellbeing. Those with social connection and supports may be fortified against suicidal thoughts, as relationships signify that we need not weather the stressors of the pandemic alone. Similarly, financial stability is imperative to shouldering the stressors and uncertainty of the pandemic. The difficulty of achieving

social support and financial stability for the formerly incarcerated, then, may leave them particularly vulnerable to psychological distress during the COVID-19 pandemic.

The findings of this study come with a number of limitations. Given the cross-sectional nature of the study, these data cannot speak to whether incarceration precipitated study variables or whether study variables were present *before* incarceration. Similarly, a causal relationship between the variables cannot be concluded because of the lack of random assignment. To clarify the temporal development of suicide risk factors, future longitudinal research will be better able to identify sociocultural, environmental, interpersonal and psychological factors that follow incarceration. In addition, although 946 participants completed the survey in total, only 51 participants endorsed a history of incarceration. This limited number of participants compromises the generalizability of the findings and may signify that the study lacked sufficient power to capture results. Fifty-one out of 946 participants is a lower rate of incarceration history than that of the general population (Pfaff, 2017). Given the stigma surrounding incarceration, this low rate may be the result of participants' unwillingness to reveal their incarceration history. Finally, given that these data were collected during the COVID-19 pandemic, it is unclear whether the findings would hold true in the absence of a pandemic.

Despite their limitations, the findings of this study have implications for both policy and clinical practice. Policy implications include eliminating legal barriers for those with a criminal record such as justice system fees and restrictions on public assistance and professional licensure. If reentering individuals faced fewer stressors, these results suggest a corresponding drop in conflict and depression. Similarly, if relationship partners shouldered fewer joint burdens, more energy could be channeled

into productive communication, connection, and support (Saxbe, 2020). In addressing emotional distress, therapists may elicit moments of existential connection in session through empathy and matching client body position and tone of voice (Pinel, 2015). Therapists may also target interpersonal relationships outside of session by encouraging clients to peruse moments of shared subjective experience in their relationships, for example, by cooking or dancing. Finally, reentry programs may target existential isolation by connecting reentering individuals with others with similar lived experiences.

Support groups offer one such way to address existential isolation and emotional support by connecting people with similar lived experiences. An individual in a support group may feel existentially connected if they perceive other group members to have experienced the same struggles and joys they themselves have experienced. Consistent with this view, when asked how they would reform the prison environment, incarcerated women in one qualitative study reported desiring more opportunities to connect with others with similar backgrounds and experiences (Van Olphen et al., 2009). This research suggests that support groups may ease existential isolation in a way that fosters mental health. In sum, these findings highlight the importance of financial and social support and during the COVID-19 pandemic, and yet that this support remains out of reach for many formerly incarcerated individuals.

Table 1.**Demographic and mental health characteristics by incarceration history.**

Variable	N(%) Formerly Incarcerated	N(%) Not Formerly Incarcerated	Chi- Square Statistic	<i>p</i>	Effect Size ¹
Suicidal Ideation					
Yes	15 (29.4%)	217 (22.9%)	26.21	.000	.16
No	36 (70.6%)	724 (76.5%)			
Gender					
Male	36 (70.6%)	425 (48.2%)	10.66	.005	.11
Female	13 (25.5%)	431 (48.9%)			
Gender non-binary	2 (3.9%)	24 (2.7%)			
Household Composition					
Live alone	11 (21.6%)	97 (11%)			
Live with partner only ²	9 (17.6%)	177 (20.1%)			
Live with partner, child(ren) and/or other family members	13 (25.5%)	234 (26.5%)	11.31	.080	.11
Live with only child(ren)	2 (3.9%)	21 (2.4%)			
Live with other family members only ³	9 (17.6%)	250 (28.4%)			
Live with friend(s) or roommate(s) only	4 (7.8%)	49 (5.6%)			
Household Income					
Less than \$20,000	13 (25.5%)	75 (8.5%)			
\$20,000 to \$49,999	17 (33.3%)	298 (33.8%)	19.05	.002	.14
\$50,000 to \$99,999	17 (33.3%)	334 (37.9%)			
Over \$100,000	4 (7.8%)	174 (19.8%)			
Education					
Less than a high school diploma	5 (9.8%)	3 (3%)			
High school degree or equivalent (e.g. GED)	7 (13.7%)	80 (9.1%)	57.14	.000	.25
Some college, no degree	14 (27.5%)	201 (22.8%)			
BA or AS	19 (37.3%)	425 (48.2%)			
M.A or Professional Degree	6 (11.7%)	171 (19.4%)			

Race or ethnicity						
White	34 (66.7%)	602 (68.6%)				
Hispanic or Latinx	5 (9.8%)	64 (7.3%)				
African-American	7 (13.7%)	67 (7.6%)				
Asian or Asian American	2 (3.9%)	120 (13.7%)	8.95	.256	.10	
American Indian or Alaskan Native	1 (2.0%)	5 (0.6%)				
Middle Eastern	0 (0%)	6 (0.7%)				
Native Hawaiian or Other Pacific Islander	0 (0%)	6 (0.7%)				
Other Race or Ethnicity	0 (0%)	7 (0.8%)				
Psychological Treatment						
Yes	13 (25.5%)	164 (18.6%)	1.48	.224	.04	
No	38 (74.5%)	717 (81.4%)				
Lost Job due to COVID-19						
Yes	38 (74.5%)	417 (47.3%)	14.25	.000	-.12	
No	13 (25.5%)	464 (52.7%)				
Loved-one contracted COVID-19						
Yes	13 (25.5%)	279 (31.7%)	0.87	.352	.03	
No	38 (74.5%)	601 (68.3%)				

Note: Chi-square difference tests comparing variables across incarceration history.

¹Effect size was measured with Phi or Cramer's V.

²“Partner” was described as “spouse or significant other.”

³“Other family members” includes parents, siblings, cousins, aunts and uncles, and/or Grandparents.

Table 2.**Continuous variables by incarceration history.**

Variable	Formerly Incarcerated (<i>n</i> = 51)		Not Formerly Incarcerated (<i>n</i> = 881)		Range	<i>p</i>	<i>d</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>			
Financial concern	5.8	1.5	4.9	1.7	1 - 7	.001**	-.48
Existential isolation	5.0	1.5	3.7	1.2	1 - 7	.000***	-1.0
Interpersonal isolation	2.6	0.9	2.4	0.7	1 - 7	.083 <i>n.s.</i>	-.33
Emotional support	3.8	1.3	4.3	1.0	1 - 5	.007**	.54
Interpersonal conflict	4.9	1.6	4.3	1.2	1 - 7	.016*	-.45
Depression	2.3	0.8	1.9	0.7	1 - 4	.000***	-.63
Age	39.5	9.2	33.2	11.9	18 - 77	.000***	-.54
Sense of meaning	3.8	1.5	4.1	1.3	1 - 7	.121	.27
Drug use	4.1	0.8	3.7	1.0	1 - 7	.004**	-.37

Note: Independent samples t-tests comparing continuous study variables by incarceration history. **p* < .05; ***p* < .01 ****p* < .001.

Table 3.

Bivariate correlations between study variables.

	1	2	3	4	5	6	7
1. Incarceration History	-						
2. Emotional Support	-.12***	-					
3. Financial Concern	.11**	-.07*	-				
4. Conflict	.10**	-.20***	.17***	-			
5. Existential Isolation	.22***	-.23***	.12***	.16***	-		
6. Depression	.14***	-.26***	.32***	.35***	.28***	-	
7. Suicidal Ideation	.16***	-.23***	.17***	.21***	.25***	.52**	-

Note. All correlations between variables are significant at $p < .05$.

Table 4.**Indirect paths.**

Indirect Paths	β	p
Pathways through existential isolation and depression		
Incarceration → existential isolation → suicidal ideation	0.02	.010
Incarceration → depression → suicidal ideation	0.06	.002
Pathways through financial concern		
Incarceration → financial concern → depression → suicidal ideation	0.01	.004
Incarceration → financial concern → conflict → depression → suicidal ideation	0.01	.012
Incarceration → financial concern → conflict → existential isolation → suicidal ideation	0.00	.190
Pathways through emotional support		
Incarceration → emotional support → depression → suicidal ideation	0.01	.038
Incarceration → emotional support → existential isolation → suicidal ideation	0.00	.130
Total indirect effects	0.10	.000
Total direct effects	1.21	.046
Total effects	1.32	.036

Table 5.**Categorical variables by incarceration duration.**

Variable	N(%) Less than six months incarceration duration	N(%) Longer than six months incarceration duration	Chi-Square Statistic	<i>p</i>	Effect Size
Suicidal Ideation					
Yes	10 (38.5%)	17 (77.3%)	7.29	.007	.39
No	16 (61.5%)	5 (34.6%)			
Loved-one contracted COVID-19					
Yes	6 (23.1%)	6 (27.3%)	0.11	.738	.05
No	20 (76.9%)	16 (72.7%)			
Job loss					
Yes	17 (65.4)	18 (81.8%)	1.63	.202	.18
No	9 (34.6%)	4 (18.2%)			

Note: Chi-square difference tests comparing categorical study variables by incarceration duration. Effect size was measured with Phi or Cramer's V.

Table 6.

Continuous variables by incarceration duration.

Variable	Less than six months incarceration duration		N(%) Longer than six months incarceration duration		Range	<i>p</i>	<i>d</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>			
Financial concern	5.5	1.4	6.0	1.7	1 - 7	.319	
Existential isolation	4.4	1.6	5.5	1.2	1 - 7	.009	-.77
Interpersonal isolation	2.7	0.8	2.5	0.9	1 - 4	.380	
Emotional support	3.7	1.4	3.7	1.3	1 - 5	.846	
Interpersonal conflict	4.6	1.6	4.9	1.4	1 - 7	.515	
Depression	2.3	0.8	2.4	0.8	1 - 4	.446	
Sense of Meaning	3.2	1.3	4.3	1.5	1 - 7	.010	-.78
Drug use	4.2	0.9	3.8	0.8	1 - 7	.094	

Note: Independent samples t-tests comparing continuous study variables by incarceration duration.

Table 7.**Categorical variables by incarceration recency.**

Variable	N(%) Up to six years ago	N(%) Six years ago or more	Chi- Square Statistic	<i>p</i> value	Effect Size
Suicidal Ideation					
Yes	19 (70.4%)	8 (38.1%)	5.00	.025	-.32
No	8 (29.6%)	13 (61.9%)			
Loved-one contracted COVID-19					
Yes	5 (18.5%)	7 (33.3%)	1.38	.241	.17
No	22 (81.5%)	14 (66.7%)			
Job loss					
Yes	20 (74.1%)	15 (71.4%)	0.04	.842	.03
No	7 (25.9%)	6 (28.6%)			

Note. Chi-square difference tests comparing categorical study variables by incarceration recency. Effect size was measured with Phi or Cramer's V.

Table 8.

Continuous variables by incarceration recency.

Variable	Up to 6 years ago		More than six years ago		Range	<i>p</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>		
Financial concern	5.9	1.6	5.6	0.3	1 - 7	.475
Existential isolation	5.2	1.6	4.5	1.2	1 - 7	.115
Interpersonal isolation	2.6	0.9	2.7	0.8	1 - 4	.442
Emotional support	4.0	1.2	3.4	0.3	1 - 5	.439
Interpersonal conflict	5.1	1.6	4.3	1.4	1 - 7	.142
Depression	2.5	0.8	2.2	0.7	1 - 4	.152
Sense of Meaning	3.6	1.5	3.9	1.5	1 - 7	.291
Drug use	4.1	1.1	4.0	0.5	1 - 7	.527

Note: Independent samples t-tests comparing continuous study variables by incarceration recency.

Table 9.**Direct path correlation coefficients by incarceration history.**

Variable pairs: direct paths in model	<i>r</i> value Formerly incarcerated	<i>r</i> value Not formerly incarcerated	<i>z</i>	<i>p</i>
Financial concern & conflict	.46**	.13***	2.47	.007
Financial concern & depression	.56***	.29***	2.26	.012
Conflict & existential isolation	.40**	.06	2.39	.009
Conflict & depression	.47**	.27***	1.54	.058
Emotional support & depression	-.43**	-.24***	1.45	.073
Emotional support & existential isolation	-.16	-.19***	0.21	.427
Existential isolation & suicidal ideation	.36*	.14***	1.67	.047
Depression & suicidal ideation	.34*	.51***	-1.37	.085

Note. Partial correlation coefficients of the direct paths in the model are presented, with

* $p < .05$; ** $p < .01$ *** $p < .001$. The right two column represent Fisher's r-to-z

comparisons, including the *z* value and significance of the difference between those with and without an incarceration history.

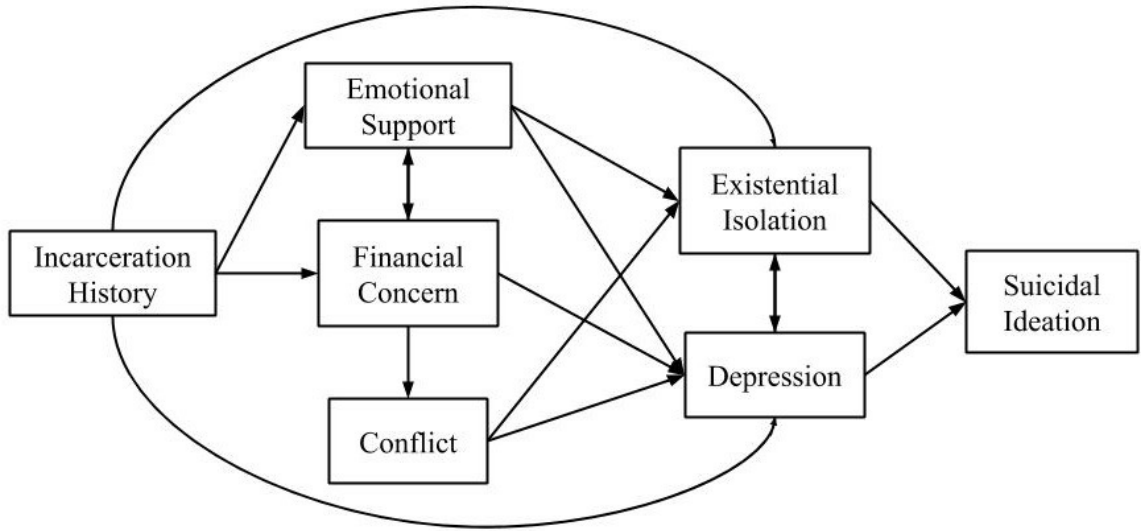


Figure 1: Hypothesized Path Analysis Model

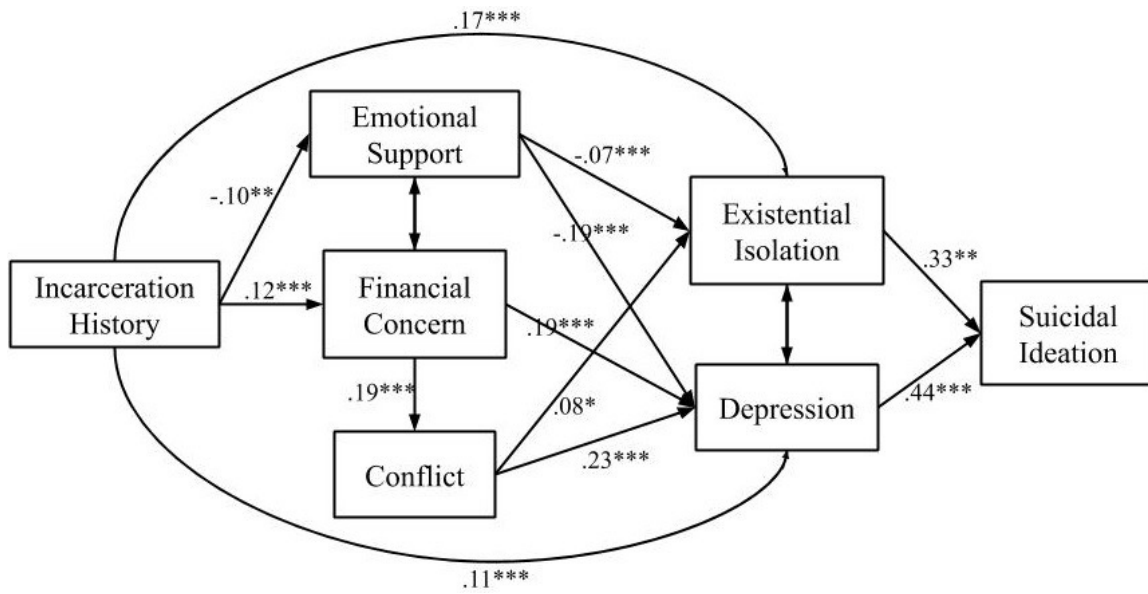


Figure 2: Completed Path Analysis Model

Note. Values represent standardized beta coefficients of the direct paths in the model. All coefficients are significant at $p < .05$.

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