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Recovery from Homelessness: Choice, Mastery, and Relatedness

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ACCEPTANCE

This dissertation, RECOVERY FROM HOMELESSNESS: CHOICE, MASTERY, AND RELATEDNESS, by JOSHUA J. CASTLEBERRY, was prepared under the direction of the candidate's Dissertation Advisory Committee. It is accepted by the committee members in partial fulfillment of the requirements for the degree, Doctor of Philosophy, in the College of Education & Human Development, Georgia State University.

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RECOVERY FROM HOMELESSNESS: CHOICE, MASTERY, AND RELATEDNESS

by

JOSHUA CASTLEBERRY

Under the Direction of Dr. Catherine Chang

ABSTRACT

Homelessness is a multifaceted experience involving loss, trauma, physical endangerment, psychiatric symptoms, and alcohol and drug use, and it is frequently associated with worsening well-being (Davies & Allen, 2017; Dordick, 2002; Henry et al.; Johnstone et al., 2016; Somers et al., 2015). Individuals experiencing homelessness are in a constant state of survival, characterized by confusing and overwhelming service structures, and social stigmatization. Homeless services are often restrictive in choices over aspects of treatment and accommodation, requiring services users to engage with treatment in exchange for continued accommodation in hopes of the service user achieving positive recovery outcomes. Previous researchers have shown that choice plays an important role in recovery (Manning & Greenwood, 2019), and linked factors that promote self-determination in the individual to positive outcomes in services (Greenwood & Manning, 2017; Krabbenborg et al., 2017; Reis et al., 2000; Samuolis et al., 2006). Utilizing factors of choice, relatedness, and mastery, homeless services can potentially increase recovery outcomes. Our first hypothesis was partially supported as the results from correlation analysis showed a pattern of correlates indicating that as choice, mastery and

relatedness increased so did well-being; while psychiatric symptoms decreased as choice and mastery increased. Results for our second hypothesis also received partial support. Hierarchical regression analyses indicated that mastery was the greatest predictor of psychiatric symptoms and well-being, while relatedness accounted for the more variance in alcohol and drug use. Finally, the results from parallel mediation analyses showed a significant total indirect effect of choice on psychiatric symptoms and well-being, but not alcohol and drug use. However, the relationship between choice and all three recovery outcomes were mediated by mastery. Consequently, relatedness did not show a significant indirect effect on any of the recovery outcomes. These results support that the relationship between choice and the recovery outcomes is carried through mastery as relatedness does not contribute significantly to the indirect effect. Thus, hypothesis 3 was not supported. The results of hypothesis 3 should be interpreted with caution as the parallel mediation conducted was statistically underpowered due to insufficient sample size.

INDEX WORDS: Self-determination theory, choice, mastery, relatedness, recovery

RECOVERY FROM HOMESLESSNESS: CHOICE, MASTERY, AND RELATEDNESS

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JOSHUA CASTLEBERRY

A Dissertation

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DEDICATION

I am dedicating this manuscript to my family. To my wife, Leigh Castleberry - Thank you for loving me through this work, and your countless hours editing my writing. Your faith in me grows my own. You encourage me to be my best, and always center me back to my relationship with our Lord. To my children, Eli and Hannah Castleberry - There are things that anyone can do and things only you can do. I pray that I have shown you never to trade something only you can do, for something anyone can. For me it is being a husband to your mother and a father to the two of you. Thank you for being the lights of my life.

I would also like to recognize our parents (James and Nancy Castleberry and Warren and Lisa Oglesby), for praying and cheering us through this work.

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CHAPTER 1

HOMESLESSNESS: THE INFLUENCE OF CHOICE, RELATEDNESS, SOCIAL SUPPORT, AND MASTERY ON PSYCHOLGICAL SYMPTOMS AND ALCOHOL AND DRUG USE

Homelessness is a major societal concern that has widespread and deleterious effects on the individual and community. The experience of homelessness is devastating both financially and personally, fraught with desperation, trauma, and social marginalization. Individuals facing homelessness are living with a series of losses, including loss of housing, employment, economic security, family, health, safety, and wellness (Brubaker et al., 2013). Most importantly, they have lost the protection of a community through marginalization and stigmatization (Ingram et al., 2016; Kidd, 2007). The experience of homelessness is one of a loss of privacy, safety, and connection. Excluded from family, friends, neighbors, and society at large, people experiencing homelessness live in abject poverty. This experience results in disruptions in areas of needs, such as relationships and autonomy (Dorick, 2002; Gills et al., 2010; Hubley et al., 2014).

The population of individuals experiencing homelessness is crosscut by mental illness, substance use, and traumatic stress disorders (Gills et al., 2010). These issues are pervasive among America's homeless. According to the 2018 Annual Homeless Assessment Report (AHAR) to Congress, on a single night, 552,830 people experience homelessness in the United States, with 194,467 of these individuals staying in unsheltered locations. Of this population, 111,122 (20%) experienced severe mental illness, 86,647 (16%) are considered chronic substance abusers, and an estimated 171,377 31% experience a combination of mental health and substance use problems (e.g., alcohol and/or drugs). While not self-reported as problematic, alcohol and drug use among individuals experiencing homelessness have been as high as 78%

(O'tool, Conde-Martel, Gibbon, 2004; Substance Abuse and Mental Health Services Administration [SAMHSA], 2001). Though seen as a primary barrier to transitioning from homelessness to stable housing (Willenbring et al., 1990), by self-report, individuals experiencing homelessness do not contribute mental health and substance abuse problems as the primary reason for becoming homeless (Tessler et al., 2001). Since homelessness is associated with compromised mental health and contributes to increased substance use, trauma, and emotional disorders (Goodman et al., 1991; Lee & Schreck, 2005), it is apparent that many of these conditions are not realized until after losing their residence (Brubaker et al., 2013).

The transition to and experience of homelessness have life-altering effects (Goodman, et al., 1991; Munoz et al., 1999; Seeger, 1990). Compounded by limits to health care, use of services can be expensive and instant health care and emergency rooms often fail to provide the necessary level of care needed to facilitate recovery (Busen & Engebretson, 2008; Terry et al., 2010;). The confrontation with the unpredictable and overwhelming system of services contributes to higher levels of stress experienced by individuals enduring homelessness (Felner et al., 1983; Thoits, 1982). Rates of suicidal ideations and attempts are also high. As high as 66% experienced suicidal ideations and 34% reported suicide attempts (Eynan et al., 2002). Recognizing the seriousness of the state of homelessness and its effects, researchers have turned their attention to the ways in which individuals experiencing homelessness recover (Cornes et al., 2014; Gillis et al., 2010; Greenwood et al., 2005; Manning & Greenwood, 2019; Tsemberis et al., 2004). Researchers have shown that through recovery efforts, homeless individuals can and do experience positive change in their mental health (Schanzer et al., 2007; Xie et al., 2005), and decreased drug and alcohol misuse (Polcin, 2009).

Previous researchers have suggested that aspects of the environment, particularly choice in services, mastery, and relatedness promote recovery in homelessness (Greenwood & Manning, 2017; Greenwood et al., 2005; Martins et al., 2016; Shank et al., 2015; Reis et al., 2000; Srebni, Livingston et al., 1995; Tsemberis et al., 2004). Most recently, perceived choice has been found to predict recovery in a range of domains (Manning & Greenwood, 2019). Manning and Greenwood (2017) found that opportunities to make informed and effective choices regarding treatment and care are important to restoring an individual's sense of mastery. They went on to report that choice and mastery were especially important to decreasing psychiatric symptoms and problem-related alcohol and drug misuse. According to self-determination theory (Ryan & Deci, 2000b), the relationship between choice and recovery is carried through mastery. Krabbenborg et al. (2016) added that relatedness also provides additional protection for individuals experiencing homelessness, as it may compensate for insufficient capacities for self-regulation, reducing the negative effects of increase stress, and can prevent enduring homelessness (Ford & Russo, 2006; Rosenfield, 1997; White, 2001). Further studies have found that recovery involves improved social ties (Urcuyo et al., 2005) and better relationships (White, 2007; Whitley & Drake, 2010).

While choice, mastery, and recovery have been studied considerably, other factors which may affect the process of recovery have received less attention (Gillis et al., 2010). One such factor, relatedness, has received very little attention in the homelessness literature, especially in relationship to choice and mastery. Al Shamma et al. (2015) found that higher levels of relatedness were predictive of higher levels of quality of life. Given the unique needs of this population (e.g., increased alcohol and drug use and psychiatric symptoms), relatedness may be a key support. This study seeks to address this gap in the literature by investigating the

relationships among choice, relatedness, perceived social support, and recovery (ie., psychiatric symptoms, alcohol and drug use, and well-being) with individuals experiencing homelessness.

Self-Determination Theory

Self-determination theory (Ryan & Deci, 2000a) provides a theoretical framework for the enhancement of recovery. It is a theory of motivation, development, and wellness. Self-determination theory begins by making an important distinction from other theories of motivation. Where previous theories of motivation are thought of in unitary concepts, namely something that differs in amount, self-determination theory provides an explanation of motivation focusing on types of motivation rather than amounts (Deci & Ryan, 2000). In the context of many homeless service settings, the issue of motivation is rooted in how someone can be more motivated to engage in treatment (e.g. substance use; Ibabe et al., 2014; Osborn & Stein, 2019; Reis et al., 2000). The primary distinction is between autonomous and controlled motivation. Autonomous motivation describes what one does when they feel a full sense of willingness, volition, and choice (Vallerand, 2000). Whatever the activity, if done with a sense of interest, enjoyment, and value, it is happening with autonomous motivation. In contrast, controlled motivation refers to acting to get rewarded or to avoid punishment (Deci & Ryan, 2000; Krabbenborg et al., 2017; Williams et al., 2006). It is doing something because one feels pressured, demanded, or obliged to do it. Historically, homeless service environments motivate through a controlled motivation rather than an autonomous motivation (Greenwood & Manning, 2017). Self-determination theory suggests that when people are more autonomously motivated their performance, wellness, and engagement are greater than in controlled motivation. Ryan and Deci (2000) describe a second important distinction, which is the belief that all people have a set of basic psychological needs. According to self-determination theory, the primary needs relevant

to motivation are competence (to feel confident and effective in relation to whatever it is one is doing), relatedness (to feel cared for by others, to care for others, to feel a sense of belonging), and autonomy (to self-organize and regulate one's own behavior), and avoid heteronomous control (Ryan & Deci, 2000). Considered human needs and something that must be satisfied for an individual to achieve optimal performance and optimal wellness. If the need is not satisfied, there are negative consequences to the individual (Deci & Ryan, 2000; Gagne, 2003; Ryan & La Guardia, 2000). The concepts of psychological needs are important to the discussion of recovery and homelessness for the purposes of knowing and understanding what will promote autonomous motivation in service utilization and recovery. When an individual feels competent, related, and a sense of volition they will be autonomously motivated, and positive outcomes will follow (Vallerand, 2000). When considering how to promote positive motivation in homeless service, self-determination theory encourages service to create circumstances that support these basic psychological needs.

Self-determination theory further distinguishes between two types of autonomous motivation: Intrinsic motivation (motivation to do something because it is found interesting and enjoyable) and extrinsic motivation (motivation to do something because it leads to some separable consequence) (Vallerand, 2000). Finding that people can internalize extrinsic motivation, or own another's belief or value as their own, Ryan and Deci (2000) add another type of autonomous motivation called internalized motivation. This occurs when an individual identifies the value of a belief or behavior and internalize it, resulting in an internalized autonomous motivation (Vallerand, 2000).

Choice

Researchers interested in self-determination theory view choice as having an important role in the meeting three psychological needs: competence, relatedness, and autonomy (Deci & Ryan, 1985; Deci & Ryan 2000; Gagne, 2003). Martins, Ornelas, and Silva (2016) defined choice as the "relationship of choice and control, reflecting the level of choice and sense of control that people feel they have over the support they receive, and the level of control they consider they have over their own lives." These researchers and others characterized choice in one of three ways: no choice, controlled choice, and autonomous choice (Martins et al., 2016; Srebnik et al., 1995; Tafarodi et al., 1999; Tsemberis el al., 2004). Deci and Ryan (2000a) explained that when people are able to meet these psychological needs, their behavior is characterized by volition, autonomy, and results in autonomous choice, as opposed to control, demand, and pressure, which results in no choice or controlled choice. The outcome of autonomous choice is the development of intrinsic motivation and is marked by greater psychological well-being (Tsai et al., 2010).

Behavior that is intrinsically motivated is defined by volition and engagement for the sake of its own pleasure, without secondary rewards. Choice exerting influence on intrinsic motivation is best exemplified as freedom of engagement (Tafarodi et al., 1999). Choice in aspects of life can have significant consequences on mental health, and alcohol and drug use (Rodin & Langer, 1977). More recently, choice has been linked to patient motivation and health behaviors. In a study by Williams et al. (2006), it was found that in a sample of 1,006 individuals, choice increased perceived competence and motivation, resulting in increased use of cessation medications and 6-month prolonged abstinence from tobacco. Choice has also been linked to weight loss and diabetes management (Williams et al., 1998), medication adherence (Williams et al., 1996), and, in a sample of women with histories of trauma, choice in treatment

was shown to decrease hospitalizations (Clark et al., 2005). Dwight-Johnson et al. (2001) found that individuals experiencing depression were more likely to engage in therapy when it was their choice, over those that were assigned to therapy. Additionally, researchers have shown that when individuals are given choice over treatment options, addiction and mental health services are more effective (Mancini, 2007; Manning & Greenwood, 2019; Sterling et al., 1997).

As evidenced by previous literature, opportunities to engage in choice regarding treatment and services are important to positive outcomes (Ng et al., 2012). This relationship between choice and positive outcomes can best be understood through self-determination theory. According to self-determination theory, choice facilitates the restoration of an individual's sense of mastery (Deci & Ryan, 2000; White, 2001). Researchers in behavioral contingency claim that an individual's actions can shape how outcomes are experienced (O'Connor & Vallerand, 1994), and by choosing to engage in challenging experiences, one develops a sense of personal control, or mastery (Deci & Ryan, 2000).).

Control and opportunity are essential components of choice and reveal a connection between the perception of choice and choices that are environmentally afforded. Individuals experiencing homelessness often engage in services that are characterized by rules and regulations that restrict choice (Lyon-Callo, 2008; Cornes et al., 2014; Greenwood & Manning, 2017). Intending to prevent bad decisions, and to teach independent living skills, services are structured on a continuum of care model of provider-led care, that reward individuals who comply with the rules (Tsemberis & Eisenberg, 2000). Those who are unwilling or unable to comply with the rules are exited from treatment and end up bouncing between homeless services and other institutions (Hopper et al., 1997; Tsemberis, 2013).

Mastery

Mastery has been defined as the "extent to which one regards one's life-chances as being under one's own control in contrast to being fatalistically ruled" (Pearlin & Schooler, 1978, p. 4). Mastery is emphasized as the central characteristic of Deci and Ryan's (1980) fundamental psychological need of competence and self-determination. Well-being and mastery have been linked to overall well-being, experiences of hopelessness, as well as mental health functioning, empowerment, recovery (Badger, 1993; Davidson & Strauss, 1997; Roberts et al., 1994; Rosenfield, 1991), and have been found to play an important role in the relationship between choice and recovery (Greenwood & Manning, 2017). Mastery may better be defined by the belief that one possesses the skills, attributes, and knowledge to meet life's stressors, and the perceptions that they have control over them (Pearlin & Schooler, 1978).

Greenwood and Manning (2017) conceptualized mastery as a characteristic that can increase or decrease through personal experience. According to self-determination literature, mastery is subject to external forces that may be undermined or promoted in the environment (Deci & Cascio, 1972; Deci & Ryan, 2000). As such, environments play an important role, because they can drive an individual toward regaining confidence in themselves, and a belief that it is possible to reclaim control over one's life. However, in the presence of controlling environments, individuals may engage in unhealthy coping, such as avoidance or antisocial behavior, thus negatively affecting the development of mastery (Deci & Ryan, 2000). While environments that encourage personal control and belief in one's abilities, would promote mastery (Greenwood & Manning, 2017).

Previous research on individuals with psychiatric disabilities has demonstrated that mastery is connected to well-being, and that its affect occurs through a proximal mood or state such as depression or self-esteem (Badger, 2001; Blankertz, 2001). Building on this research,

Greenwood et al. (2005) conducted a longitudinal study arguing that mastery is a mechanism through which increased choice decreases psychiatric symptoms in a sample of 197 mentally ill adults experiencing homelessness. Their results found that mastery predicted decreases in psychiatric symptoms over time, and mediated the effect of choice on psychiatric symptoms. Later, Greenwood and Manning (2017) replicated these results in a sample 101 individuals experiencing homelessness with recent problem-related alcohol and drug misuse. Greenwood and Manning's (2019) study of 160 individuals experiencing homelessness expanded Greenwood et al. (2005) study, finding that mastery predicted physical health, psychiatric symptoms, and community integration (e.g. sense of belonging in a community).

Mastery is uniquely important to those experiencing homelessness. As these experiences of poverty, unemployment, trauma, and mental illness are likely to undermine or decrease feelings of mastery for individuals facing homelessness (Borg et al., 2005). The aforementioned research suggests that in circumstances where problems are caused by alcohol and drug use and psychiatric symptoms, it is important to promote an individual's sense of mastery. Consistent with self-determination theory, this research also highlights the importance of attending to the relationships an individual experiencing homelessness seeking services has to themselves, others, and their environment.

Relatedness

Relatedness is a basic psychological need linked to personal achievement, adjustment, and psychological outcomes (Deci & Ryan, 2000, Ryff & Singer, 1998). Self-determination theory defines relatedness as a sense of belonging and feelings of connectedness through establishing high quality, satisfying, and positive bonds with others (Deci & Ryan, 2000; Ryan, 1993). While most of the literature on self-determination theory's basic psychology needs has

focused on autonomy and competence, recent research suggests that relatedness plays an important role in not only in the decrease of psychiatric symptoms, but also in psychological well-being (Inguglia et al., 2015). Researchers link relatedness to positive adjustment, higher levels of prosocial behavior, and lower levels of externalizing problems (Inguglia et al., 2015; Karcher and Santos, 2011; Samuolis et al., 2006). Lamborn and Groh (2009) found that emerging adults who displayed higher levels of relatedness experienced higher self-esteem and fewer psychological symptoms.

Although autonomy and competence have been shown to exert the most powerful influences on motivation, a growing body of research and theory points to the importance of relatedness in recovery (Inguglia et al., 2015; Reis et al., 2000; Samuolis et al., 2006). Evidence for the importance of relatedness can be found much earlier. In the premiere findings of Anderson et al. (1976), who found that autonomously motivated individuals displayed low levels of intrinsic motivation in the presence of an experimenter who ignored their attempts to interact. Additionally, attachment theory supports the importance of relatedness, as the idea of secure attachments presumes to foster self-determination. Taken as exploratory behavior, a child will demonstrate more robust self-determination contingent on their attachment security to a parent (Bowlby, 1979; Bretherton, 1987; Frodi et al., 1985). Furthermore, across the lifespan, self-determination has been shown to be more likely to flourish in the presence of secure attachments (Ryan & La Guardia, 2000). Additionally, attachment theory represents proximity seeking as a universal need that, when thwarted, leads to negative psychological outcomes (Deci & Ryan, 2000). This is consistent with self-determination's idea of a need for relatedness.

These findings support the role of relatedness in a less central role in its influence on motivation. Deci and Ryan (2000, p. 235) named relatedness as having a role in motivation,

"albeit a more distal one." Vallerand (1997) described the position of relatedness in self-determination as a "needed backdrop, a distal support of intrinsic motivation". Although it may play a more remote role, relatedness plays an important function in activities and tasks that are inherently social in nature (Vallerand et al., 2000). Relatedness is an important predictor of self-determination in sports (Blanchard & Vallerand, 2000), fitness classes (Cadorette et al., 1996), and work (Richer et al., 2000).

In addition to engaging in social context, Vallerand (1997) adds that relatedness serves an important function in internalized motivation. Self-determination theory describes a process through which individuals integrate the motivations and competencies for changing a particular behavior or goal (Williams, et al. 2006). Internalized motivation occurs when the beliefs and values held by an individual or group is adopted by others. Also referred to as values transmission, relatedness is a key player in this process. Grouzet and Vallerand (2005) reported that relatedness moderated the internalization of values between athletes and their coaches. Finding that only athletes who felt related to their coaches, internalized the sportspersons-like values their coaches held. Although little research has been conducted on the role of relatedness, preliminary studies suggest the need for relatedness serves as a key variable in the internalized motivation sequence.

The experience of homelessness thwarts an individual's experience of relatedness because of social isolation (Ware et al., 2007). These individuals experiencing homelessness often have a history of living in hostile environments and have limited to no support or social network (Johnson et al., 2005; Thompson et al., 2010; Wolf et al., 2010). Frequently, they experience abuse and have difficulty developing healthy relationships (Agorastos et al., 2014). Through these experiences, and the necessity of survival while living in unsheltered locations,

many individuals experiencing homelessness are suspicious and avoidant of others (Kidd, 2003; Thompson et al., 2006). These feelings of exclusion, social isolation, and the experience of thwarted relatedness can result in their believing themselves to be incompetent to function in society (Brueckner et al., 2011). Thwarted relatedness also contributes to increased psychiatric and physical health problems, which negatively influence their motivation to seek homeless services, as well as contribute to worsening well-being (Brubaker et al., 2013; Hubley et al., 2014; Lam & Rosenheck, 2000). Recognizing the unique needs and circumstances of individuals experiencing homelessness, relatedness plays an important role in promoting self-determination and recovery through provider-led services.

Recovery

Recovery has often been measured as a decrease in deleterious symptoms or an increase in symptom management. Similarly, recovery in areas affecting individuals experiencing homelessness (e.g. psychiatric symptoms, alcohol and drug use, and well-being) involve decreases in symptoms, or fewer psychiatric symptoms, as well as improved well-being (Green et al., 2015). There is also a growing body of literature recognizing that social isolation and a lack of connectedness among individuals experiencing homelessness is one of the reasons well-being is worse than with the rest of the population (Inguglia et al., 2015; Reis et al., 2000; Samuolis et al., 2006). Individuals facing homelessness endure experiences of trauma, alcohol and drug use, and psychiatric symptoms (Anthony, 1993; Manning & Greenwood, 2019). Problematic alcohol and drug use unduly effects individuals facing homelessness (Ibabe et al., 2014). An estimated 40% are affected by alcohol abuse, 15% misuse drugs, and an overwhelming 80% are predicted to have experienced alcohol and drug use during their lifetime (SAMHSA, 2011). Alcohol and drug misuse related problems contribute to the complicated lives

of those experiencing homelessness. It increases the likelihood of severe health problems (McCarty et al., 1992) and connotes a loss of personal control or mastery (Pauly et al., 2016), coupled with the increased rates of trauma and emotional distress contribute to decreased service utilization (Ibabe et al., 2014).

Additionally, homelessness is often stigmatized in communities and by society at large, which leads to future isolation and marginalization further contributing to lower levels of well-being (Jett et al., 2014). The experience of stigmatization increases barriers to treatment, housing, and employment (Fischer & Breakey, 1991). Alcohol and drug use and the related effects common to those experiencing homelessness contribute significantly to psychiatric symptoms (Somers et al., 2015). Brubaker et al. (2012) surveyed 145 individuals experiencing homelessness to examine the barriers and supports related to exiting homelessness. Brubaker et al. (2012) found that among the most significant barrier was a sense of providers not caring about those who are homeless which highlights their experience of stigmatization and apathy by those in the general population. In a study by Drodick (2002), individuals receiving homeless services were perceived by the providers to be homeless due to alcohol and drug use problems. This and other studies support the relevance of stigmatization of alcohol and drug use on the effect of psychiatric symptoms. It should be noted that there is evidence of relationships and support among the homeless for the sake of shared survival (Cohen & Sokolovsky, 1989). While these relationships may promote survival and social connection, they also support maladaptive behaviors, such as alcohol and drug use. Chohen and Sokolovsky (1989) found that individuals experiencing homelessness who did not drink experienced the most social isolated.

Linking alcohol and drug use and psychiatric symptoms, Ibabe et al, (2014) found that individuals experiencing alcohol and drug use also had high prevalence of trauma histories. In a

qualitative study of 75 individuals experiencing homelessness, Lowe and Gibson (2011) found that 64% of participants reported maladaptive coping, and that substance use was a means to cope with stress related to experiences of homelessness. The daily survival of homelessness, leaves individuals vulnerable to psychiatric symptoms, thus increasing alcohol and drug use, which in turn is a contributing factor to prolonging the duration of homelessness (Ibabe et al., 2014; Pauly et al., 2016; Somers et al., 2015). The exacerbation of alcohol and drug use and psychiatric symptoms and worsening well-being often results in lower levels mastery, and feelings of guilt, shame, and social isolation which denote lack of relatedness (Biswas-Diener & Diener, 2006; Lowe & Gibson, 2011). These experiences of homelessness contribute to lower levels of mastery and relatedness resulting in a lack of self-determination, leading to behaviors of avoidance of engaging in support, and limited efficacy in navigating systems of care (Finfgeld-Connett, et al., 2012).

Implications and Recommendations

Self-determination has been shown to be a valuable theory of motivation that offers empirical support for a continuum of perceived control and highlights the variable and dynamic nature of motivation (Deci & Ryan, 2000). This makes self-determination theory well-suited for conceptualization motivation in populations experiencing homelessness. Self-determination theory also has empirical support for describing and predicting motivation and recovery in the use of homeless services (Manning & Greenwood, 2019). The literature on self-determination theory in the recovery of mental health and alcohol and drug use among those who are homeless has increased over the past decade. This research has mainly focused on the relationship between choice and mastery, while, minimal research has been done on the relationship between choice,

mastery, and relatedness in the context of recovery in homelessness. Therefore, little is known about the importance of relatedness in the context of homeless services.

In order to effectively serve individuals experiencing homelessness, researchers need to better understand the relationship between choice, mastery, and relatedness on outcomes relevant to recovery (e.g. decreased symptoms of psychiatric symptoms and alcohol and drug use, increased well-being). There is a need to address gaps in the literature regarding the investigation of the relationship between choice, mastery, relatedness, and recovery with individuals experiencing homelessness. Following an exhaustive literature search, the author found no published accounts of quantitative research specifically on choice, relatedness, and mastery among those experiencing homelessness. Additionally, no research was found that supports the effectiveness of relatedness on recovery with individuals experiencing homelessness.

An additional gap in the literature with individuals experiencing homelessness exists due to the absence of research regarding the relationship between relatedness, choice, and well-being. While previous research has shown that gains in social connectedness and support are associated with well-being (Ysseldyk et al., 2013), there are no studies to date that examine the relationship between choice, relatedness, and well-being. Therefore, the need to examine the effect of choice and relatedness on recovery outcomes is great; such research could help identify factors related to treatment retention, positive outcomes, and engagement for clients which hold high attrition in substance use services, such as those experiencing homelessness. Further analysis of the utility of self-determination theory to explain motivation for service engagement and recovery in samples of individuals experiencing homelessness is an important step in validating self-determination theory as a theory with good clinical utility within this population.

Our understanding of factors that support self-determination (e.g. autonomy, competence, and relatedness) and motivation for a variety of treatment outcomes and our understanding of the impacts of choice, mastery, and relatedness on recovery, we must begin to look at their relationship in the context of recovery in homelessness. Furthermore, it is important to also examine these variables on psychiatric symptoms and alcohol and drug use uniquely, as they are important contributors in barring service utilization and extending the duration of homelessness. I recommend researchers look at the way choice, mastery, and relatedness can decrease psychiatric symptoms and alcohol and drug use. Specific research questions that need to be addressed include investigating the relationship between choice, mastery, relatedness and recovery (e.g. psychiatric symptoms, alcohol and drug use, and well-being), and to examine the direct and indirect effects between these variables. Does perceived choice in services predict recovery? Does mastery, and relatedness mediate the relationship between perceived choice and recovery outcomes? It would also be important to examine differences in recovery based on demographic factors.

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CHAPTER 2

RECOVERY FROM HOMELESSNESS: CHOICE, MASTERY, AND RELATEDNESS

Homelessness involves a series of losses such as loss of health, shelter, relationships, and well-being. What individuals facing homelessness lose in security, they gain in alcohol and drug use, traumatic experiences, stigmatization, and marginalization. The experience of homelessness is one of exclusion, poverty, and disadvantage, ultimately resulting in disruptions in connectedness, increased emotional disorders, alcohol and drug use, and, if left unresolved, death (Gills et al., 2010). An individual is considered homeless if they are without a house, at imminent risk of losing housing, designated homeless under other Federal statutes, and/or fleeing/attempting to flee domestic violence (HUD; Department of Housing and Urban Development, 2011). In 2018, 552,830 people experienced homelessness in the United States on a single night (Annual Homeless Assessment Report to Congress (AHAR), 2018). HUD (2018) reported that the majority of this population is male (60%) with approximately 71% aged 24 years and older. The racial/ethnic distribution is approximately 49% White, 40% Black/African-American,1% Asian/Pacific Islander, 22% Hispanic/Latinx, and 6% Multiracial. These samples have been approximately representative of the southeastern United States (AHAR, 2018). Homeless individuals also report experiencing mental illness (20%), and alcohol and drug use (78%) (O'Tool, et al., 2004, Substance Abuse and Mental Health Services Administration [SAMHSA], 2001). The long-term impact of experiencing homelessness includes increased rates of suicidal ideations and attempts, higher risk of HIV/AIDS, tuberculosis, and overall increased mortality rates (Davies & Allen, 2017; Fischer & Breakey, 1991; Goodman, et al., 1991). Eynan et al., reported that 66% of individuals experiencing homelessness had suicidal ideations and 34% reported suicide attempts.

The life-altering effects of transitioning to homelessness are compounded by confusing and overcrowded health care services, that often fail to provide the necessary level of care needed to facilitate recovery (Munoz et al., 1999; Terry et al., 2010). Fraught with stress and thwarted needs, the confrontation of the unpredictable and overwhelming system of services contributes to a lack of engagement and motivation in services (Felner et al., 1983; Thoits, 1982). While homelessness has deleterious effects, individuals experiencing homelessness can, and do, recover. Recovery in homelessness best defined as recovery from experiences linked to living on the street (e.g., trauma, anxiety, decreased well-being, and substance use; Carlson & Dalenberg, 2000; Green et al., 2015; Johnston et al., 2016; Urcuyo et al., 2005; Whitley & Drake, 2010). However, persons experiencing homelessness can experience positive changes in their mental health (Schanzer et al., 2007; Xie et al., 2005) and decreased drug and alcohol misuse (Polcin, 2009).

Factors that promote self-determination and autonomous motivation, particularly choice, mastery, and relatedness, promote recovery across various domains (Greenwood & Manning, 2017; Johnstone et al., 2016; Martins et al., 2016; Shank et al., 2015). Self-determination theory labels these factors as autonomous supports that enhance an individual's sense of control and connected, thus leading to self-determined motivation (Vallender, 2000). Additionally, enhancing opportunities to make informed choices in the context of trusted relationships about treatment and care increases an individual's sense of control as well as promotes recovery (Krabbenborg et al., 2016; Manning & Greenwood, 2019).

Self-Determination Theory

Edward Deci and Richard Ryan (2000) proposed a comprehensive theoretical framework of motivation, development, and well-being. Finding motivation to be a key variable in

predicting treatment outcomes (Greenwood et. al., 2005), self-determination theory has increasingly been used as a framework to promote recovery with clients and to gain insight into varying treatment contexts. Previously, motivation has been viewed by researchers and health professionals as something that primarily varies in amount. Self-determination theory begins by making an important distinction on types of motivation rather than amounts. It goes on to further the distinction between autonomous (self-determined) and controlled types of motivation. Individuals who are autonomously motivated view themselves as having a full sense of willingness, volition, and choice. They are the initiator and sustainer of their actions (Klag et al., 2010). This is in contrast to individuals who lack self-determination. These individuals tend to be motivated through control, pressure, or coercion, which in turn demotivates engagements (Nix et al., 1999). This is relevant to the discussion of homeless services, as historically, providers motivate through controlled environments, driven by a continuum of care model that provides rules and regulations for service users to follow.

Vallerand (1997) proposed a dynamic model of motivation to serve as a framework for organizing and understanding the underlying mechanisms of self-determination's motivational process, the Hierarchical Model of Intrinsic and Extrinsic Motivation. In their theory of self-determination, Ryan and Deci (2000) distinguish between three basic psychological needs fundamental to motivation: *competence* (to feel confident and effective in relation to whatever it is you're doing), *relatedness* (to feel cared for by others, to care for others, to feel like you belong), and *autonomy* (to self-organize and regulate one's behavior; Deci & Ryan, 2000). Vallerand (1997) introduced the organizing concept of autonomy support. According to this model, autonomy support involves supporting others to be self-initiating rather than exerting pressure to behave in particular ways (Klag et al., 2010). Vallerand's model explains that

autonomy supports affect motivation through factors that satisfy an individual's three basic psychological needs. Autonomy support is provided through individuals working to promote self-determination in others. A professional counselor can express autonomy support by taking on the perspective of their client, acknowledge their feelings and perceptions, and provide choice and meaningful rationale. Vallerand (2000) provides extensive support for this model in a diverse context such as work, substance use treatment, interpersonal relationships, homelessness, education, and sports.

Choice

Researchers interested in self-determination theory view choice as an autonomous support, an important factor in promoting autonomous motivation in individuals. (Deci & Ryan 2000; Gagne, 2003; Vallerand, 2000). Martins et al. (2016) defined perceived choice as the "relationship of choice and control, reflecting the level of choice and sense of control that people feel they have over the support they receive, and the level of control they consider they have over their own lives". Often characterized as no choice, controlled choice, and autonomous choice, studies have found that choice serves as an autonomous support associated with positive outcomes (Mancini, 2007; Sterling et al., 1997; Tafarodi et al., 1999). William et al. (1998) found, in a sample of 128 patients with diabetes those who perceived their health care providers as autonomously supportive were more motivated to regulate their glucose levels and showed improved physiological outcomes. This suggests that autonomy support can have a significant influence on important physiological outcomes. Choice as a primary variable in a study by Williams, et al. (2006) (n = 1,006) was found to increase perceived competence and motivation, resulting in increased use of cessation medications and 6-month prolonged abstinence from tobacco in a sample of adults recruited through physician offices in Rochester NY. Greenwood et

al. (2005) conducted a longitudinal study (*n* = 197) examining the autonomous support factor in a sample of individuals experiencing homelessness, choice, and its relationship to mastery and psychiatric symptoms. Choice significantly accounted for decreased psychiatric symptoms with individuals facing homelessness, and that relationship was partially mediated by perceptions of personal control (mastery). Manning and Greenwood (2019) would go on to find that this relationship carried through several recovery domains (e.g., physical health, psychiatric symptoms, and community integration) in a similar sample of individuals experiencing homelessness (*n* = 160).

Choice is expressed through the environmental supports that increase personal control and opportunity, revealing a connection to an individual's sense of personal control. Choice is an important autonomous support that exerts its influence on outcomes through the restoration of an individual's sense of mastery (Deci & Ryan, 2000; White, 2001).Relevant to experiences of homelessness, services are often characterized by rules and regulations that restrict choice (Lyon-Callo, 2008; Cornes et al., 2014; Greenwood & Manning, 2017). Often these rules are as much for the service user as for the facilitation and maintenance of the service itself. Services providers would benefit from understanding how autonomous supports will help bolster treatment outcomes. Individuals utilizing homeless services would experience greater self-determination engaging in an environment that promoted autonomous supports.

Mastery

Pearlin and Schooler (1978) defined mastery as the belief that one possesses the skills, attributes, and knowledge to meet life's stressors and the perceptions that they have control over them. Found to be a mechanism by which choice exerts its influence on outcomes (Greenwood et al., 2005), mastery is also linked to well-being, experiences of hopelessness, as well as mental

health functioning, empowerment, and recovery (Badger, 1993; Davidson & Strauss, 1997; Roberts et al., 1994; Rosenfield, 1991). Shown in the self-determination literature as being subject to external forces (Deci & Cascio, 1972; Deci & Ryan, 2000), mastery is susceptible to autonomous supports (Manning & Greenwood, 2019). Through autonomous supports, individuals can move toward regaining confidence in themselves, and in turn, regain perceived control over their lives. In contrast, individuals in controlling environments may develop or return to unhealthy coping, such as avoidance or antisocial behavior (Deci & Ryan, 2000).

Though much of the literature has linked choice and mastery to positive outcomes, mastery may also play an important role in the relationship between relatedness and outcomes. Though experiences of homelessness may dampen self-efficacy, resilience studies have pointed towards mastery in associations to prosocial behavior and lower socioemotional problems (Solberg et al., 2007). Ramakrishnan and Masten (2019) found that children experiencing homelessness ($N = 87$) who scored higher on mastery had fewer socioemotional problems and more prosocial behavior, even after taking age, gender, intellectual functioning, level of sociodemographic risk, and extent of lifetime adversities into account. Similarly, Gory et al., (1990) had previously argued that the experience of homelessness significantly includes a persons' sense of mastery which in turn would affect their economic mobility. Examining the effects of mastery and social support Gory et al., (1991) found that not only did mastery predict depressive symptoms in a sample of homeless individuals surveyed through the Homeless Enumeration and Survey project, but also that mastery mediated the effect of mental hospitalization and health on depression. Additionally, Manning and Greenwood (2017) found that mastery mediated the relationship between choice and psychiatric symptoms in a sample of 101 homeless service users in Ireland.

Self-determination theory explains this relationship directionally. Individuals who scored higher in relatedness experienced more positive relations and higher perceptions of social support, which in turn enhanced mastery. Though previous literature has shown a connection between motivation, social functioning, and mastery (Baumeister & Vohs, 2007; Furrer & Skinner, 2003), these associations have been significantly understudied among individuals experiencing homelessness and utilizing homeless services.

This study conceptualized mastery as a characteristic that can increase or decrease through personal experiences. These personal experiences of homelessness undermine feelings of personal control or mastery (Borg et.al., 2005). Coupled with the controlled environments of services, individuals facing homelessness are at high risk for exiting services, turning to substances for coping, and experiencing increased psychiatric symptoms. In services that experience high attrition, mastery has been shown to sustain engagement and increase autonomous motivation with service users (Gills et al., 2010; Klag et al., 2010). The aforementioned research suggests it is important to promote an individual's sense of connectedness. Consistent with self-determination theory, this research also highlights the importance of attending to the relationships an individual experiencing homelessness seeking services has to themselves, others, and their environment.

Relatedness

A basic psychological need, relatedness has been linked to many psychological outcomes (Deci and Ryan, 2000, Ryff & Singer, 1998). Self-determination theory defines relatedness as having a sense of belonging and feelings of connectedness, establishing high quality, satisfying, and positive bonds with others (Deci & Ryan, 2000; Ryan, 1993). The importance of relatedness has most clearly been expressed in connection with vocational rehabilitation service engagement

and outcome literature (Tansey et al., 2017). Relatedness has also shown strong support from the psychotherapy researchers, indicating that a clients' motivation to change is higher within a working alliance (Roest et al., 2016). Tansey et al. (2017), measuring relatedness using the Working Alliance Inventory (WAI-12; Chan et al., 2004), found that relatedness predicted autonomy, and optimized the stages of change for employment in a sample of individuals with disabilities (n = 277). A meta-analysis conducted by Horvath, Del Re, Fluckiger, and Symonds (2011), which included 201 studies, found an overall robust effect size (r = .275) of working alliance predicting therapy outcomes. Additionally, Wampold (2013) named the working alliance as one of the strongest validated factors influencing therapy success. Tansey et al., (2017) found that, in a sample of people with disabilities (n = 277), relatedness played the most prominent role in facilitating change both directly and indirectly on engagement and outcomes. Additionally, Osborn and Stein (2018) found that relatedness/working alliance accounted for a significant proportion of the variance in well-being, in a sample of 60 adults with serious mental illness in an inpatient psychiatric hospital.

Supported by self-determination theory, Krabbenborg et al. (2016) added that relatedness also services as a predictive factor of recovery with individuals experiencing homelessness. Ford and Russo (2006) explained that factors akin to relatedness may assist individuals experiencing homelessness in compensating for insufficient capacities for self-regulation, thus, reducing the negative effects of increased stress, and can prevent enduring homelessness. Recovery from experiences of homelessness is best supported through improved social ties (Urcuyo et al., 2005) and better social ties (White, 2007; Whitley & Drake, 2010). Researchers have also reported that relatedness mediated the relationship between the severity of their limitations and the development of autonomy in populations of individuals with a disability. This suggests that the

relationship that one has with their service provider is more important than the severity of their limitations, and higher levels of relatedness are predictive of higher levels of quality of life.

Given the unique needs of this population (e.g., increased alcohol and drug use, emotional disorders, worsening well-being), relatedness may be a key support, and an important consideration within individuals experiencing homelessness recovery. Supportive factors in recovery from homelessness are a counseling concern. The American Counseling Association (ACA) *Code of Ethics* (2014), professional counselors are called to " honor diversity and embrace a multicultural approach in support of the worth, dignity, potential, and uniqueness of people within their social and cultural context". Homelessness is a unique experience existing in social and cultural contexts that inherently deprives individuals of worth, dignity, and potential.

Relevant to homeless service engagement, experiencing homelessness is associated with thwarting the need for relatedness (Ware et al., 2007). Prevalent histories of abuse and trauma, and limited to no social support (Wolf et al., 2010), these individuals have difficulty developing healthy relationships (Agorastos, et. al., 2014). Feelings of stigmatization, exclusion, and social isolation, homeless persons experience decreased personal control and mastery (Brueckner et al., 2011). Despite an extensive body of literature on relatedness and motivation, little research has been done with individuals experiencing homelessness and the relationship between relatedness and outcomes. This study hopes to address this gap by investigating relatedness in relationship with choice, mastery, and recovery outcomes (e.g. psychiatric symptoms, alcohol and drug use, and well-being). As such, this study seeks to examine supporting factors that promote recovery with persons experiencing homelessness with the objective of addressing this gap in the literature by investigating the relationships among choice, mastery, relatedness, and recovery (i.e.,

psychiatric symptoms, alcohol and drug use, and well-being) with individuals experiencing homelessness.

Recovery Outcomes

Individuals experiencing homelessness face a multitude of challenges. Enduring experiences of trauma, problematic alcohol and drug use, stigma, social isolation and often exacerbated psychiatric symptoms (Anthony, 1993; Ibabe et al., 2014; Manning & Greenwood, 2019). As a result of these experiences, recovery from homelessness is multifaceted, involving decreases in deleterious symptoms, increases in symptom management, as well as personal and interpersonal changes. Often measured across what Gillis et al., (2010) call the domains of recovery, researchers and service providers have worked to create methods of measuring recovery that can be operationalized and used not only in the recovery of the individual, but also to assess and evaluate systems of care (O'Connell et al., 2005; Armstrong et al., 2009). Unique to homelessness, recovery in the areas of psychiatric symptoms and alcohol and drug use are two primary domains that service providers focus outcome measures and evaluate success (Green et al., 2015). Alcohol and drug misuse related problems contribute to the complicated lives of those experiencing homelessness and connotes a loss of mastery (Pauly et al., 2016), coupled with the increased rates of trauma and emotional distress contribute to decreased service utilization (Ibabe et al., 2014). Additionally, the stress of daily survival while homeless, leaves individuals vulnerable to psychiatric symptoms, thus increasing alcohol and drug use, which in turn is a contributing factor to prolonging the duration of homelessness (Somers et al., 2015).

Increasingly, services and researchers are recognizing that the effects of social isolation and a lack of relatedness among individuals experiencing homelessness may be better accounted for in positive outcomes such as well-being (Inguglia et al., 2015; Reis et al., 2000; Samuolis et

al., 2006). Factors of homelessness contributing to increases psychiatric symptoms and alcohol and drug use also contribute to reportedly worsening well-being (Johnstone et al., 2016). Uniquely and feelings of guilt, shame, and social isolation which denote lack of relatedness have been shown to be among the greatest contributors to worsening well-being with individuals experiencing homelessness. (Biswas-Diener & Diener, 2006; Lowe & Gibson, 2011). Self-determination theory explains these relationships through the thwarting of an individual's basic psychological needs (Deci & Ryan, 2000; Ng et al., 2012). As lower levels of mastery and relatedness result in a lack of self-determination, leading to behaviors of avoidance of engaging in support, resulting in increased psychiatric symptoms, alcohol and drug use, and worsening well-being (Finfgeld-Connett, et al., 2012; Manning & Greenwood, 2019).

Several factors have been mentioned as significant in these recovery outcomes. Self-determination provides a theoretical framework for explaining how the variables choice, mastery, and relatedness influence psychiatric symptoms, alcohol and drug use, and well-being (Deci & Ryan, 2000; Krabbenborg et al., 2016; Manning & Greenwood, 2019; Ng et al., 2012; Reis et al., 2000). This paper attempts to clarify how these factors influence one another and affect recovery outcomes by testing the mediation model depicted in Figures 1.1, 1.2, and 1.3. As choice has been shown to be an autonomous support of self-determination through the promoting of Ryan and Deci's (2000) basic psychological needs (i.e. competence, relatedness, and autonomy). Researchers have primarily focused on choice as a predictor of mastery (Manning & Greenwood, 2019). However, while evidence supports choice's relationship to relatedness (Ryan & Deci, 2008), the connection between the effects of choice and the need for relatedness appears less intuitive and therefore not the subject to much research (Katz & Assor, 2007). Self-determination theory explains that these relationships are carried through the meeting of the

basic psychological need mastery (Ng et al., 2012), however there is also evidence that basic psychological need relatedness may also play a mediating role (Krabbenborg et al., 2016; Reis et al., 2000). According to self-determination theory, autonomous motivation is promoted through relatedness as well as mastery (Deci & Ryan, 2000). Previous research has shown that mastery fully mediates the relationship between choice and recovery outcomes (Greenwood et al., 2005; Manning & Greenwood, 2019). Thus, the mediating capacity of relatedness will be significantly lower than that found in mastery. Hence it is likely that relatedness will only partially mediate the relationship between choice and our recovery outcomes, while mastery is likely to fully mediate said relationship.

Present Study

Researchers have emphasized the importance of examining the effects of choice, mastery, and relatedness in order to understand their unique effect on recovery (Dennis et al., 2012; Inguglia, et al., 2015; Manning & Greenwood, 2019). Choice and mastery have been shown to predict positive outcomes in a range of domains (Gills et al., 2010; Manning & Greenwood, 2019). Self-determination theory proposes that the relationship between choice and recovery is carried through mastery (Ng et al., 2012). Previous research has demonstrated that relatedness predicts mastery and recovery outcomes with individuals experiencing homelessness (Iwanaga et al., 2017). Little research has been done with individuals experiencing homelessness to examine the relationship between choice, mastery, relatedness and recovery outcomes. To address these gaps, the current study (a) examines the effects of choice, mastery, and relatedness on psychiatric symptoms, alcohol and drug use and well-being, and (b) investigates whether mastery and relatedness mediate the effects of choice on psychiatric symptoms, alcohol and drug use and well-being. These results would be beneficial for the development or adaptations of services used

by individuals experiencing homelessness as well as promote clinical interventions and training that would best serve the individual in recovery.

The research questions of this study are three-fold. 1. What are the associations between choice, mastery, relatedness, psychiatric symptoms, alcohol and drug use, and well-being? 2. To what degree does choice, mastery, and relatedness account for changes in psychiatric symptoms, alcohol and drug use, and well-being? 3. Are the relationships between choice and recovery outcomes (e.g. psychiatric symptoms, alcohol and drug use, and well-being) mediated by mastery and relatedness in a sample of individuals experiencing homelessness? Based on self-determination theory and previous research, I expect that:

Hypothesis 1. We predict that choice, mastery, and relatedness will correlate negatively with psychiatric symptoms, alcohol and drug use, and in turn, correlate positively with well-being.

Hypothesis 2. We predicted mastery will account for a significant amount of variance in psychiatric symptoms and alcohol and drug use, while relatedness will uniquely account for a significant amount of variance in well-being.

Hypothesis 3. Based on theoretical predictions and previous research, we hypothesize that mastery and relatedness will partially mediate relationships between choice and recovery outcomes (psychiatric symptoms, alcohol and drug use, and well-being.)

Method

Participants

Participants were recruited from homeless services at an urban homeless service provider in the southeastern United States. This study included participants who were experiencing homelessness and utilizing the services of an urban homeless service provider, 18 years or older,

spoke English, and did not have active symptoms that could affect their response accuracy. This sample population consisted of participants engaged in a homeless service treatment setting. These participants had already chosen to engage in treatment and were working to end their homelessness. Participants were recruited through two homeless shelters operated by a single provider of homeless services. Recruitment scripts were read during classes and flyers were posted onsite with a recruitment script that included a brief description of the project and rationale for the study, University affiliation, ability to withdrawal, location instructions, and contact information (see Appendix A & B). This data was collected between February and May of the 2020 COVID-19 pandemic. Due to the disruption caused by the COVID-19 pandemic to homeless services, sheltering-in-place orders, quarantine guidelines set forth by the CDC, and a lockdown initiated by the shelter system in which participants were being recruited, this project collected data in both the online web-based platform Qualtrics and in-person surveys. A total of 37 participants completed the survey through Qualtrics. Once the lockdown was lifted, the researchers were able to continue data collection in person. A total of 71 participants completed the in-person survey.

The total sample size included 108 homeless adults who were current homeless services users. Of the total sample only 104 were used in the analysis after addressing missing data. The final sample used in this study consisted of 104 homeless adults (66 women, 37 men, and 1 other). On average, participants were 44.2 years old (SD = 12.5). Regarding education, 63.6% reported obtaining a high-school diploma, 23% a GED, 7.6% as having no education, and 5.8% a special education diploma. Regarding supportive financial services, 55% reported they received food stamps, 9.6% supplemental security income (SSI), 4.8% WIC supplemental nutrition, and 1.9% receive either temporary aid to needy families (TANF) and/or aid to families with

dependent children (AFDC). Regarding employment status, 77.8% reported being unemployed, 9.6% part-time (< 40 hours per week), 8.7% unable to work, 6.7% fulltime (+40 hours per week), and 2.9% were students. The sample was ethnically and racially diverse (21.2% European American/White, 66.3% African American/Black, 4.8% Latinx/Hispanic, 1.9% Asian American/Asian, 1.9% Native Hawaiian/Pacific Islander, and 3.8% another race/ethnicity). See Table 1 for full participant demographic breakdown.

Procedure

Data utilized for this study was a combination of archival data collected by the homeless service provider and data collected by the researcher. Archival data included the Colorado Symptom Index (CSI), the Global Appraisal of Individual Need Scale (GAIN), and the BBC Well-being Scale (BBC). Archival measures provided by the homeless service organization was collected by the provider upon the service user's entry into services and at periodic assessment points during treatment. This data collection is a regular part of the assessments collected by the service organization. Survey data collected by the researcher occurred prior to requesting archival data on participants, thus archival data collected was administered at a point in time before participants were surveyed by the researcher.

Participants were recruited through a homeless service organization located in a major metropolitan city. Services available to these residents include case management, family support, housing services, access to meals, substance use recovery groups, individual counseling, group counseling, education, and employment support. The services provided are structured in a continuum of care model, culminating in housing and employment. Individual service users have their own living spaces, bedrooms, and bathrooms. These services and accommodations are leveraged against compliance with rules, thus, participants who have engaged the longest in

services have more accommodation and opportunity than service users newer to the organization. These newer individuals must comply with rules and regulations that are more stringent than service users further in the continuum.

The executive leadership of the homeless service organization agreed to grant access to data collected on adults residing in their homeless services and accommodations. During the shelter lockdown recruitment was conducted through flyers posted in the shelters that included an invitation and link to the survey (see Appendix B). After following the survey link, the participants then viewed an online informed consent (see Appendix C) and survey on an independent survey website and worked through questions at their own pace. Participants first read the online consent form and indicated consent. After providing consent, participants completed the demographic questionnaire and self-report surveys. Following the lockdown, the researchers were granted access to recruit and collect data in person. Recruitment occurred during informational sessions and in which a script (see Appendix A) was read that included "why we are doing this study," and "what will happen during this study," from the consent form. This informational session occurred immediately after classes held in the shelter. Those attendees who were interested were directed to when and where the survey was held. Participants who attended the survey were read the in-person informed consent (see Appendix D). Service users who consented to participate completed the demographic questionnaire and self-report surveys, including Consumer Choice survey (CCS), Pearson's Self-Mastery Scale (MSS), and the Working Alliance Inventory (WAI). Participant data collected by the researcher was cataloged via a client provided ID that is utilized by the service organization. This ID was used to request, and match collected data with archival data provided by the service organization. This occurred for both online and in person participants. Participants were compensated $5 after

completing the survey. If a participant was unable to complete the survey or opted out of the survey after having started, they were compensated $5.

Power Analysis

Consistent with recommendations by Frazier, Tix, and Barron (2004), a priori power calculations were conducted in G*Power (version 3.1.9.2; Faul el al., 2007) to provide guidance on appropriate sample size to detect hypothesized main and interaction effects for correlation and regression analysis. To achieve power of 0.80 to detect a significant effect, given an alpha level of .05 a minimum total sample size of 98 after addressing outliers and missing data (Cohen, 1988). To meet inclusion criteria, a potential participant must be utilizing the services of the organization, be 18 years or older, speak English, and not have active symptoms that could affect their response accuracy.

For the mediation analyses, Monte Carlo simulations were run using Schoemann, Boulton, and Short's (2017) web-based power analysis tool. For analyses to achieve .80 power to detect a significant indirect effect of choice on recovery outcomes through parallel mediators' mastery and relatedness the following correlations were calculated from Manning and Greenwood (2019) and Osborn and Stein (2019). A correlation of $r = -0.15$ (a small effect) between the choice and psychiatric symptoms through parallel mediators mastery and relatedness, $r = -0.10$ (a small effect) choice and alcohol use through parallel mediators mastery and relatedness, $r = -0.12$ (a small effect) choice and drug use through parallel mediators mastery and relatedness, and $r = 0.25$ (halfway between a small and medium effect) between choice and well-being through parallel mediators mastery and relatedness, a minimum total sample size of 237 is required to have power of 0.80 to detect an indirect effect at the $a = 0.05$

level. Due to the constraints of the COVID-19 pandemic the mediations analysis for this study were conducted with an underpowered sample size of 104.

Measures

Demographic Questionnaire

The demographic questionnaire collected a variety of information, including participants' racial and ethnic identity, gender identity, age, highest completed education, and employment history. The questionnaire also asked participants to include their Client ID number, for the purposes of archival data collection. For a full list of demographic questions refer to Appendix E.

Choice

Perceived choice was measured with the Consumer Choice Scale (CCS; Srebnik, Livingston, Gordon, & King, 1995). The CCS is a 15− item scale where participants were asked to report the amount choice they had in housing, treatment, and services. The measure has been shown to have good internal consistency within a sample of individuals experiencing homelessness (Cronbach's alpha = .94; Manning & Greenwood, 2019). The items measure perceptions of how much choice an individual has in housing in terms of place, who they room with, and how their home is decorated and furnished. These items also included choice in treatment including the type of services as well as the choice to engage or not. Items are scored on a 5- point Likert scale from 1 (*None*) to 5 (*Completely my choice*) indicating that the higher the sum score the more perceived choice an individual has. A sample of items includes "the people you live with," "how you spend your day," and "whether or not to participate in services". The CCS had a Cronbach's alpha of .93 in this study.

Mastery

Mastery was measured with the seven-item Pearlin Self-Mastery Scale (MSS: Pearlin & Schooler, 1978). Participants rate each item on a 4- point Likert scale, measuring a participant's appraisal of mastery. The participant indicates the extent to which they agree or disagree with statements such as "I have little control over the things that happen to me". Responses range from 1 (*strongly agree*) to 4 (*strongly disagree*). Higher sum scores indicate more mastery. Five negative items are reverse scored. This measure has been previously used with individuals experiencing homelessness and shown acceptable reliability (Cronbach's alpha = .75; Manning & Greenwood, 2019). The MSS had a Cronbach's alpha of .70 in this study.

Relatedness

Relatedness was measured using the Working Alliance Inventory- Short Revised (WAI-SR; Busseri & Tyler, 2003; Hatcher & Gillaspy, 2006). The abbreviated version of the WAI has previously been used to measure relatedness and in samples of individual's experiencing homelessness (Stergiopoulos, Gozdzik, O'Campo, Holtby, Jeyaratnam, & Tsemberis, 2014; Tansey, Iwanaga, Bezyak, & Ditchman, 2017). This self- administered assessment consists of 12 items measured on a 5- point Likert scale 1 (*never*) to 5 (*always*). Higher sum scores indicate more relatedness. The measure was abbreviated from the original 36- item version (Horvath & Greenberg, 1989). This short-form asks the participant what they think and feel about the relationship with their service provider, including goals (i.e., agreement about the goals of therapy), tasks (i.e., agreement about the tasks of the therapy), and bonds (i.e., the bond between client and therapist). Items were revised from first- person declarative ("I feel uncomfortable with…") to second- person interrogatory ("How often do you feel uncomfortable with…?") so that the instrument could be read to clients (Cronbach's alpha = .93; Neal & Rosenheck, 1995) in case management programs. The scale has good psychometric properties, with mean reliability

estimates ranging from .79 to .97 (Cronbach's alpha). The WAI had a Cronbach's alpha of .94 in this study.

Psychiatric Symptoms

Psychiatric symptoms were assessed by the Colorado Symptom Index (CSI; Shern, Wilson, Coen, Patrick, Foster, Bartsch, & Demmler, 1994). The CSI is a 14− item brief, a self-report measure which asks participants to report the frequency with which they experience specific symptoms. This measure has been previously used with individuals experiencing homelessness and shown excellent internal consistency (Cronbach's alpha = .90; Manning & Greenwood, 2019). An example item is "How often have you felt nervous, tense, worried, frustrated, or afraid?" Items are answered with respect to how often one has experienced symptoms within the last month on a 5-point scale from 1 (*not at all*) to 5 (*everyday*). Sum scores on the CSI range from 14-70, with higher scores indicating greater frequency of psychiatric symptoms. The CSI had a Cronbach's alpha of .90 in this study.

Alcohol and Drug Use

Substance use was assessed with the 6-item Substance Problem Subscale of the Global Appraisal of Individual Need Scale (GAIN; Dennis et al., 2002), which has been previously used with individuals experiencing homelessness (Dennis et al., 2002). This scale is used to measure the frequency of alcohol and drug use in the past month on a scale from 1 (*0 times*) to 6 (*20-30 times*). Higher sum scores indicate higher need for alcohol and drug use treatment. Alphas for this measure are not typically recorded due to qualitative differences between the different types of substances recorded (Morral, et al., 2006). The GAIN had a Cronbach's alpha of .94 in this study.

Well-being

Well-being was assessed by the the BBC Well-being scale (Kinderman, et al., 2011). A 24-item self-report measure of well-being with three subscales (psychological well-being, physical health, and well-being and relationships). Items are scored on a 4-point Likert scale 1 (*strongly disagree*) to 4 (*strongly agree*), measuring a participant's appraisal of well-being. A greater sum score is indicative of greater general well-being. This measure as previously been used with individuals experiencing serve mental illness either experiencing homelessness or at high risk of homelessness and shown excellent internal consistency (Cronbach's alpha = .91; Osborn & Stein, 2018). The BBC had a Cronbach's alpha of .90 in this study.

Results

Preliminary Analysis

Prior to conducting analysis, I examined the data to ensure statistical assumptions were met for correlational and regression analysis. Outliers were identified using boxplots and an analysis of standard residuals was carried out, which showed that the data contained no outliers. Missing data were checked to see if they occur randomly using Little's Missing Completely at Random test (MCAR, Little, 1988; Fichman & Cummings, 2003). Little's Missing Completely at Random (MCAR) Test ($\chi 2$ =273.72, p = .135) provides evidence to support the assumption that the missing data values are a simple random sample of all data values. Two participants had missing data for mastery, and two participants had missing data for relatedness. Due to analysis using sum scores these four subjects were removed bringing total sample size to 104. Tests of univariate skewness and kurtosis of the residuals revealed that the distributions for all continuous variables were well within the parameters for univariate normality (Chou & Bentler, 1995). Tests to see if the data met the assumption of collinearity indicated that multicollinearity was not a concern (Choice, Tolerance = .91, VIF = 1.09; Mastery, Tolerance = .85, VIF = 1.17;

Relatedness, Tolerance = .93, VIF = 1.07). Additionally, data was screened for other potential violation of assumptions including linearity, homoscedasticity using scatter plots, and independence of residuals (Psychiatric symptoms, Durbin-Watson = 1.88; Alcohol and Drug use, Durbin-Watson = 2.28; Well-being, Durbin-Watson = 1.91). Using scatter plots of the standardized residual and standardized predicted values of the dependent variable alcohol and drug use indicated a degree of heteroscedasticity. Overall, this violation of the homoscedasticity assumption was not considered severe enough to present a major problem. Correlational analysis also evidenced no serial correlation. Though high correlation (r = -.57) was found between the dependent variables psychiatric symptoms and well-being. However, no other dependent variables were highly correlated.

Table 1 displays demographic participant data, and Table 2 displays the means, standard deviations, and Cronbach's coefficients alpha based on observed scores. Preliminary analyses indicated that in this sample, psychiatric symptoms and alcohol and drug use were present, and in low rates. The average CSI (psychiatric symptoms) score was 1.9 (SD = .76), indicating that participants had experienced psychiatric symptoms in the past 30 days. Scores on the GAIN (alcohol and drug use) (M = .80, SD = .80) indicated that on average most participants did not experience alcohol or drug use. Alternatively, the average BBC (well-being) score was 3.6 (SD = .67) indicating moderate well-being.

Primary Analysis

In order to test the first hypothesis that choice, mastery, and relatedness correlates negatively with psychiatric symptoms, alcohol and drug use, and in turn correlate positively to well-being, Pearson's correlation coefficients were calculated excluding cases pairwise. Table 3 provides the correlations between all variables. Significant bivariate correlations were observed

among the study variables. Choice and mastery were negatively and moderately correlated with psychiatric symptoms (Choice, $r = -.202$, $p = .039$; Mastery, $r = -.455$, $p = .000$). Choice, mastery, and relatedness were positively and moderately correlated with well-being (Choice, $r = .336$, $p = .000$; Mastery, $r = .434$, $p = .000$; Relatedness, $r = .275$, $p = .005$). Additionally, choice and relatedness were positively correlated with alcohol and drug use (Choice, $r = .231$, $p = .018$; Relatedness, $r = .243$, $p = .013$). However, relatedness and alcohol and drug use were not significantly correlated. Amongst the independent variables choice and relatedness were positively and moderately correlated to mastery (Choice, $r = .295$, $p = .002$; Relatedness, $r = .255$, $p = .009$) while choice and relatedness were not significantly correlated. This pattern of correlates indicates that as choice, mastery and relatedness increased so did well-being; while psychiatric symptoms decreased as choice and mastery increased. Hypothesis one was partially supported.

The second hypothesis, that mastery accounts for a significant amount of variance in psychiatric symptoms and alcohol and drug use, while relatedness uniquely accounted for a significant amount of variance in well-being was then tested. To test this hypothesis, we conducted a series of hierarchical regression analyses. Choice was entered in the Step 1 as it is the theorized autonomous support promoting mastery and relatedness (Manning & Greenwood, 2019). Mastery was entered in Step 2 as previous work has shown it is a predictor of our recovery outcomes (Ng et al., 2012; Greenwood et al., 2005). Finally, relatedness was entered in Step 3 as it is the newest variable to be tested in this model. (see Tables 4, 5, and 6).

Before running each regression, preliminary analyses were conducted to ensure no violation of assumptions of normality, linearity, and homoscedasticity. With psychiatric symptoms (CSI) as the dependent variable, choice (CCS) predicted 4.1% of the variance in Step

1 ($R^2\Delta$ = .041, $F\Delta$ = 4.360, p = .039), mastery (MSS) predicted 17.1% of the variance in Step 2 ($R^2\Delta$ = .171, $F\Delta$ = 21.960, p = .000), and relatedness (WAI) did not predict a significant amount of variance in Step 3 ($R^2\Delta$ = .000, $F\Delta$ = .015 p = .904). With alcohol and drug use (GAIN) as the dependent variable, choice (CCS) predicted 5.4% of the variance in Step 1 ($R^2\Delta$ = .054, $F\Delta$ = 5.776, p = .018), mastery (MSS) did not predict alcohol and drug use (GAIN) in Step 2 ($R^2\Delta$ = .029, $F\Delta$ = 3.183, p = .077). However, Relatedness (WAI) predicted 8.3% of the variance in Step 3 ($R^2\Delta$ = .083, $F\Delta$ =9.908, p = .002). Finally, with well-being (BBC) as the dependent variable, choice (CCS) predicted 11.3% of the variance in Step 1 ($R^2\Delta$ = .113, $F\Delta$ = 13.017, p = .000), mastery (MSS) predicted 12.3% of the variance in Step 2 ($R^2\Delta$ = .123, $F\Delta$ = 16.240, p = .000), and relatedness (WAI) predicted 3.2% of the variance in Step 3 ($R^2\Delta$ = .032, $F\Delta$ = 4.398, p = .038). Thus, hypothesis 2 was partially supported.

The third hypothesis was that mastery and relatedness will mediate relationships between choice and the recovery outcomes (e.g. psychiatric symptoms, alcohol and drug use, and well-being). Though our sample did not meet recommended size to achieve power at .80 the Hayes' PROCESS Macro on SPSS (Hayes, 2013) was used to conduct parallel mediation analyses to test this hypothesis. . These results should be read with caution as it is likely our mediation analyses resulted in false negatives (Type II error) (Rsang et al., 2009). The results of the PROCESS procedure are presented in Table 7 and Figures 2, 3, and 4.

Psychiatric symptoms. The direct effect of choice on mastery was significant (b = 0.13, SE = 0.04, p = .002), and the direct effect of mastery on the psychiatric symptoms (CSI) was also significant (b = − 0.57, SE = 0.12, p =.000). The direct effect of choice on relatedness was not significant (b = 0.02, SE = 0.07, p = .717), nor the direct effect of relatedness on psychiatric symptoms (b = − 0.01, SE = 0.07, p = .903). The direct effect of choice on psychiatric symptoms

(CSI) was not significant ($b = -0.04$, $SE = 0.05$, $p = .419$), but the total indirect effect was significant (*Indirect Effect* $= -0.07$, $SE = 0.02$; 95% CI: −.13, −.02). Mastery was found to mediate the relationship between choice and psychiatric symptoms (*Indirect Effect* = −0.07, SE = 0.02; 95% CI: −.13, −.02). However, relatedness did not significantly mediate the relationship between choice and psychiatric symptoms.

Alcohol and Drug use. The direct effect of mastery on alcohol and drug use was significant ($b = -0.13$, SE = 0.05, $p = .010$), as well as the direct effect of relatedness on alcohol and drug use ($b = 0.09$, SE = 0.03, $p = .002$). The direct effect of choice on alcohol and drug use was significant ($b = 0.06$, SE = 0.02, $p = 0.002$), but the total indirect effect was not significant (*Indirect Effect* = −0.01, SE = 0.01; 95% CI: −.05, .01). Mastery was found to significantly mediate the relationship between choice and alcohol and drug use (*Indirect Effect* = −0.01, SE = 0.01; 95% CI: −.039, −.002). However, relatedness did not significantly mediate the relationship between choice and alcohol and drug use (*Indirect Effect* = 0.002, SE = 0.01; 95% CI: −.01, .02).

Well-being. The direct effect of mastery on well-being was significant ($b = 0.69$, SE = 0.20, $p = 0.000$), as well as the direct effect of relatedness on well-being ($b = 0.24$, SE = 0.11, $p = 0.038$). The direct effect of choice on well-being ($b = 0.22$, SE = 0.08, $p = 0.009$), and the total indirect effect (*Indirect Effect* = 0.09, SE = 0.05; 95% CI: .008, .210) were significant. Mastery was found to significantly mediate the relationship between choice and well-being (*Indirect Effect* = 0.08, SE = 0.04; 95% CI: .021, .188). However, relatedness did not significantly mediate the relationship between choice and well-being (*Indirect Effect* = 0.01, SE = 0.02; 95% CI: −.039, .066).

Summary of Mediation Analysis

Choice and the three recovery outcomes were mediated by mastery. However, relatedness did not show a statistically significant indirect effect. The total indirect effects of the 3 mediation analyses were statistically significant. These results also indicated that the relationship between choice and the recovery outcomes is carried through mastery as relatedness does not contribute significantly to the indirect effect. Thus Hypothesis 3 was not supported. These statistically nonsignificant findings may due to the smaller sample size of the study (n = 104). The original power analysis for this study required a minimum total sample size of 237 to achieve power of .80 to detect a statistically significant indirect effect. Following these findings, a post-hoc power analysis was conducted to calculate the actual power of the parallel mediation analyses and give a means by which to understand why statistically nonsignificant results may have occurred (Balkin & Sheperis, 2011). Post-hoc power analyses were conducted using Monte Carlo simulations run by Schoemann et al.'s (2017) web-based power analysis tool. Correlations and standard deviations calculated from this study were used (see Table 3). The mediation of the relationship between choice and the recovery outcomes (psychiatric symptoms and well-being) through mastery was at the power .88 and .81 respectively. However, the sample size was insufficient to achieve power of .80 for the recovery outcome alcohol and drug use. Additionally, the sample size was insufficient to achieve power of .80 for the mediating variable relatedness between choice and any of the recovery outcomes (psychiatric symptoms, alcohol and drug use, and well-being). The post-hoc power analyses demonstrate that these statistically nonsignificant findings may have been due to lack of statistical power.

Discussion

As the first study to examine the effect of choice, mastery, and relatedness on the recovery outcomes psychiatric symptoms, alcohol and drug use, and well-being in individuals

engaging in homeless services, there were important findings to contribute to the existing literature. For the first research question, the associations uncovered largely affirms previous findings that choice, mastery, and relatedness are correlated with the recovery outcomes, psychiatric symptoms, alcohol and drug use, and well-being (Greenwood & Manning, 2017; Inguglia, et al., 2015; Tsemberis et al., 2004). Choice and mastery were found to be negatively correlated with psychiatric symptoms and positively correlated with well-being, such that as a participant's choice and mastery increased, their observed psychiatric symptoms decreased, and well-being increased. If homeless services increased choices for the participants in this study, service users engaged would have decreased psychiatric symptoms and increased well-being. A surprising finding was the significant positive correlation between the predictor variables choice and relatedness to and alcohol and drug use. While unexpected, these results are not entirely unique. Manning and Greenwood (2019) found a non-significant positive correlation between for alcohol use and mastery. As choice is positively associated with mastery, it could be suggested that the relationship found between mastery and alcohol use in the work done by Manning and Greenwood (2019) is reflected in our data between choice and alcohol and drug use. In the work done by Manning and Greenwood (2019), they surveyed for alcohol and drug use independently. In this study we examined alcohol and drug use together. From these current findings we are unable to differentiate if these relationships are with alcohol or drug use. This could be another reason for the unexpected results. Additionally, relatedness did not correlate with psychiatric symptoms, although it was found to be significantly correlated with well-being and alcohol and drug use. These findings are not surprising as prior work has shown relatedness to be a poor predictor of symptom reduction and more closely associated with growth related variables such as well-being (Reis et al., 2000). However, the positive correlation between relatedness and

alcohol and drug use was unexpected. Previous work details that alcohol and drug use are frequently underreported in homeless service settings (Morral et al., 2000; O'Toole et al., 2004). Self-determination theory indicates, that as autonomous motivation is fostered through relatedness (Ritholz et al., 2011; Thompson et al., 2004), feelings of trust and safety are promoted (De Vires, 2008). Our findings suggest that individuals who reported greater relatedness were more self-determined, thus more likely to feel safe to disclose alcohol and drug use.

Overall, our findings show that the more choice, mastery, and relatedness homeless adults experience, the less psychiatric symptoms are reported, and in turn report higher rates of well-being. Furthermore, the association between mastery and recovery outcomes was especially strong in predicting psychiatric symptoms and well-being. This finding is consistent with previous research showing the relationship of choice, mastery, and recovery in a subgroup of individuals experiencing homelessness (Greenwood & Manning 2017; Manning & Greenwood, 2019) and generalizes beyond psychiatric symptoms to well-being, as well as a different subgroup of homeless adults (e.g. engaged in a continuum of care model of homeless services). Our findings are also consistent with self-determination theory (Ryan & Deci, 2000) and highlight the importance of attending to the need for relatedness in providing services to individuals experiencing homelessness. Together these findings indicate that perceived choice, mastery, and relatedness, are critical in these recovery outcomes. Services that aim to prompt recovery from homelessness should prioritize approaches that offer choice and nurture belonging and connectedness.

In our final hypothesis we examined the mediated relationships between choice and recovery outcomes through mastery and relatedness. In this research, the relationship between

choice and recovery outcomes was mediated by mastery, as previously observed (Greenwood et al , 2005; Greenwood & Manning, 2017; Manning & Greenwood, 2019). However, our findings did not generate support for the mediating role of relatedness. These results need to be interpreted with caution as the sample collected was not sufficient to achieve power at .80. While indirect effects were detected for the mediating role of mastery in the relationship of choice and recovery outcomes, there was not sufficient data to detect such an effect for the role of relatedness.

Implications

This study is unique, in that it is the first to examine the relationship between choice, mastery, relatedness, and recovery outcomes with adults experiencing homelessness who are engaged in services that are provider-led in their structure. Our findings provide evidence that there is a choice, even with services in a continuum of care model, and through this research we see that when combined with the added effect of relatedness, positive outcomes are promoted in psychiatric symptom reduction, alcohol and drug use, and enhanced well-being. This adds to a body of literature used to advocate for choice amongst homeless services by adding the contribution of relatedness. This is important because continuum of care services are often governed by rules, regulations, and are seemingly restrictive, however, there is scope for service users to experience choice, and uniquely develop relatedness. Where choices may be seemingly limited, mastery is still being developed, and in the absence of choice, relatedness significantly acts as a buffer to psychiatric symptoms while promoting well-being. The literature is well-supported in its claims that choice is important to recovery (Dennis et al., 2012; Inguglia, et al., 2015; Manning & Greenwood, 2019). As choices are limited in homeless services that rely on abstinence and compliance with rules and regulations, mastery could be stripped away. Again,

our findings suggest that even in these settings choices can still promote the development of mastery, and with the added efforts to promote relatedness, services may still be able to promote self-determination amongst its service users. Services would do well to provide small choices and focus on cultivating belonging or relatedness amongst its service users.

Implications for Practice

Our findings add to the body of literature used to advocate for choice and relatedness in homeless services. There are also many counselor implications from this study, highlighting the central need for relatedness and mastery and the supportive role of choice. Since all three are predictors of recovery outcomes, interventions should support homeless adults in enhancing their self-determination. Clinicians would do well to create a therapeutic environment in which they dialog with clients, support them in choosing and attaining their own goals, and in which they agree on paths and supports to attaining those goals. Through the working alliance clinicians can support clients' need for relatedness thus enhancing their recovery outcomes. Additionally, counselors trained in motivational interviewing (Miller & Rollnick, 2002) may increase perceived choice, thus supporting a client's mastery. Motivational interviewing seeks to enhance self-determination by intrinsically motivating clients to change problematic behavior, through exploring and resolving ambivalence (Manon et al., 2017). This technique can be used by clinicians to foster self-determined behavior and in turn, improve their recovery outcomes.

Limitations and Suggestions for Future Research

The present study had several potential limitations that should be noted. First, this data was collected during the COVID-19 pandemic. Survey responses may be affected by the changing landscape of people's health concerns. Additionally, in our recruitment processes, we did not have access to participants from which we could randomly sample, thus ours is a

convenience sample. Because of this, inferences about generalizability must be made with caution. The service providers from which this data was collected had a 70% loss in service users during this research, due to CDC guided restrictions. It could be that the participants who self-selected into our study were further along in their recovery journey and were more motivated to engage in services, and so were more willing to talk about their experiences, relative to other homeless individuals who left service due to increased restrictions, or whom may still be battling addiction or coping with trauma. Our sample is likely not representative of the subgroup from which they were drawn or representative of the population of homeless services users. However, given the similarity of our findings to those of other studies (greenwood et al., 2005, Manning et al., 2019), we believe that our findings do have some generalizability to individuals experiencing homelessness in different contexts and service structures.

Second, this study focused on perceived choice over objective choice, using Srebnik et al.'s (1995) measure of perceived choice so that our results could be directly compared to past findings on the relationship between choice, mastery, relatedness, and recovery (Greenwood et al., 2017; Manning et al., 2019; Srebnik et al., 1995; Tsemberis et al., 2003). Objective choice could be a future area of research by examining program policy documents, however, there are limits to considering how policy informs on the ground practice (Cloke et al., 2005).

Third, even though similar to previous findings (Manning et al., 2019), the nonsignificant correlation between mastery and alcohol and drug use was surprising. Like Manning et al.'s (2019) findings, the average rate of use was low in the sample, and the measure has been used with similar populations (Dennis et al., 2002, Greenwood et al., 2017; Manning et al., 2019). This suggests that the nonsignificant relationships were not due to measure invariance; however, it may be important for future research to investigate the psychometric properties and measure

invariance of alcohol and drug use measures in varying subgroups of homeless adults. These results may also be a consequence of mastery not being significantly related to alcohol or drug use because abstinence is a requirement of continued services amongst the service provider. It could also mean that the measure used in this study did not fully capture recovery from alcohol and drug use. While our measure was a measure of frequency, it would not capture binges or problems caused by substance use. If considered, it is possible that a different relationship would be observed.

Fourth, the data from this study showed high correlation between psychiatric symptoms and drug use, as well as demonstrated heteroscedasticity in the scatter plot of the standardized residual and standardized predicted values of the dependent variable alcohol and drug use. From these we need to interpret our results with caution, as they may not be generalizable to a broader population of individuals experiencing homelessness. While the heteroscedasticity was not considered severe enough to present a major problem, future studies may benefit from alternate measures of alcohol and drug use.

Fifth, this study failed to demonstrate that relatedness mediated the relationship between choice and all three recovery outcomes. We want to guard against conclusions drawn from these null findings (Greenwald, 1975), as the mediation analyses performed were underpowered. This is due to a disruption in data collection amongst the COVID-19 pandemic. This researcher was prevented from accessing the sample population in its entirety by imposed population quarantine by the state and the continuum of care on homeless service providers. Because of insufficient data to detect any but the largest differences our mediation analyses may result in false-negative (Type II error) (Rsang et al., 2009). Future research would need to collect a sufficient sample to achieve power at Cohen's .80 or greater.

Finally, this study used cross-sectional, correlational designs. Thus, causal conclusions should not be made. Although the data were consistent with the theoretical model of self-determination, there may be other models that are consistent with the data as well. Additionally, recovery can have unpredictable paths in which individuals experience setbacks in addition to forward progress (Sobell & Sobell, 1993; Morse, 2000). Again, inferences from cross-sectional designs should be made more cautiously than usual. Longitudinal research is necessary to further uncover the nature of these relationships, as well as, following the recovery journey in homelessness over time could address causality.

Conclusion

These findings, taken together with previous research (Tsemberis et al., 2004; Greenwood et al., 2017; Manning et al., 2019), expand on the importance of choice, mastery, and relatedness to recovery (e.g. psychiatric symptoms, alcohol and drug use, and well-being) among homeless services users. Furthermore, the present study extends previous research by examining a growth-related dimension of recovery (e.g. well-being), as well as differences in relationships between the service provider and service user (e.g. relatedness). This finding suggests that it is important to preserve homeless service user's choice as it will have a direct consequence on their well-being.

Additionally, in a context where choice cannot be preserved, relatedness may act as a buffer, along with mastery, against psychiatric symptoms, alcohol and drug use, and promote well-being. It would benefit service providers and clinicians to invest in different ways to engage with their clients and identify which build trust and offer opportunities to develop relatedness. We hope that this work will add to the body of literature focusing on identifying supports for those who are homeless and developing ways in which service providers can interact with this

population to promote recovery and develop policies that will reduce the negative impact of homelessness. We also encourage researchers to continue to explore the role of choice, mastery, and relatedness regarding different homeless service settings. Experiences of homelessness can result in feelings of powerlessness and isolation (Brubaker et al., 2013). Allowing for choice and working to build relationships in a service setting may be an effective way to help repair that damage and promote recovery in a variety of domains.

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Table 1

Demographic Data for Participants

Variable	M	Range	%	*n*
Age (years)	44	18-74		104
Gender				
Man			63.5%	37
Woman			35.6%	66
Other			1%	1
Race/Ethnicity				
European-American/White			21.2%	22
African American/Black			66.3%	69
Latinx/Hispanic			4.8%	5
Asian American/Asian			1.9%	2
Native Hawaiian/Pacific Islander			1.9%	2
Another race/ethnicity			3.8%	4
Completed education				
No Education			7.6%	8
Highschool Diploma			63.6%	66
Special Education Diploma			5.8%	6
GED			23%	24
Support Services				
Supplemental Security Income			9.6%	10
Food Stamps			51%	53
WIC Supplemental Nutrition			4.8%	5
TANF* or AFDC*			1.9%	2
Employment Status				
Full-Time (40+)			6.7%	7
Part-Time (<40)			9.6%	10
Unemployed			77.8%	81
Student			2.9%	3
Unable to work			8.7%	3

Note. TANF = Temporary Aid to Needy Families; AFDC = Aid to Families with Dependent Children

Table 2

Descriptive Statistics for CCS, MSS, WAI, CSI, GAIN, and BBC

	Sum		Item Average		
Measure	M	SD	M	SD	α
ID					
Choice(CCS)	42.4	17.3	2.8	1.15	0.93
Mastery (MSS)	35.9	7.5	5.13	1.07	0.70
Relatedness (WAI)	42.3	12.4	3.52	1.03	0.94
DV					
Psychiatric Symptoms (CSI)	27.7	10.7	1.98	1.31	0.90
Alcohol and Drug use (GAIN)	4.0	4.0	0.80	0.80	0.94
Well-being (BBC)	85.7	16.3	3.57	1.43	0.90

Note. α = Cronbach's coefficient alpha.

Table 3

Correlations for Study Constructs

	1	2	3	4	5	6
1. Choice						
2. Mastery	.295**					
3. Relatedness	.036	.255**				
4. Psychiatric Symptoms	−.202*	−.455**	−.123			
5. Alcohol and Drug Use	.231*	−.094	.243*	.239*		
6. Well-being	.336*	.434*	.275*	−.527*	−.008	

$n = 104$; $^{*}p < .05$, $^{**}p < .01$

Table 4

Hierarchical Linear Regression Analyses for Psychiatric Symptoms

Step	Construct	*b*	*SE*	β	*p*	$R^2\Delta$	*F*	*p*
Step 1	Constant	32.4	2.561		<.001	.041	4.36	.039
	Choice	-.11	.056	-.202	.039			
Step 2	Constant	50	4.419		<.001	.171	13.6	<.001
	Choice	-.043	.053	-.075	.44			
	Mastery	-.57	.123	-.433	<.001			
Step 3	Constant	50.2	4.891		<.001	.000	8.98	.904
	Choice	-.043	.054	-.075	.42			
	Mastery	-.57	.128	-.430	<.001			
	Relatedness	-.01	.074	-.011	.904			

Table 5

Hierarchical Linear Regression Analyses for Alcohol and Drug Use

Step	Construct	*b*	*SE*	β	*p*	$R^2\Delta$	*F*	*p*
Step 1	Constant	1.725	1.026		.096	.054	5.77	.018
	Choice	.054	.022	.231	.018			
Step 2	Constant	4.640	1.923		.018	.029	4.54	.077
	Choice	.066	.023	.284	.005			
	Mastery	-.095	.054	-.178	.077			
Step 3	Constant	1.961	2.031		.336	.083	6.59	<.001
	Choice	.069	.022	.297	.003			
	Mastery	-.138	.053	-.258	.011			
	Relatedness	.097	.031	.298	.002			

Table 6

Hierarchical Linear Regression Analyses for Well-being

Step	Construct	*b*	*SE*	β	*p*	$R^2\Delta$	*F*	*p*
Step 1	Constant	72.246	4.040		<.001	.113	13.01	<.001
	Choice	.318	.088	.336	<.001			
Step 2	Constant	47.803	7.141		<.001	.123	15.5	<.001
	Choice	.216	.086	.228	.014			
	Mastery	.801	.199	.367	<.001			
Step 3	Constant	41.004	7.736		<.001	.032	12.21	<.001
	Choice	.224	.085	.236	.01			
	Mastery	.692	.202	.317	.001			
	Relatedness	.245	.117	.186	.038			

Table 7

The findings from parallel mediation model tests (unstandardized)

Dependent (DV)	Independent (IV)	Mastery (M_1)										
		Total effect		Direct effect		IV → M_1		M_1 → DV		Indirect effect		95% CI
		b	SE	*b*	SE	*b*	SE	*b*	SE	*c'*	SE	
Psychiatric Symptoms	Choice	-.11	.055	-.04	.05	.12	.04	-.57	.12	-.07	.02	**[-.136, -.022]**
Alcohol and Drug Use	Choice	.05	.022	.06	.02	.12	.04	-.13	.05	-.01	.009	**[-.040, -.002]**
Well-*b*eing	Choice	.31	.088	.22	.08	.12	.04	.69	.20	.08	.04	**[.019, .187]**
Dependent (DV)	Independent (IV)	Relatedness (M_2)										
		Total effect		Direct effect		IV → M_2		M_2 → DV		Indirect effect		95% CI
		b	SE	*b*	SE	*b*	SE	*b*	SE	*c'*	SE	
Psychiatric Symptoms	Choice	-.11	.055	-.04	.05	.02	.07	-.01	.07	-.0002	.006	[-.016, .009]
Alcohol and Drug Use	Choice	.05	.022	.06	.02	.02	.07	.09	.03	.002	.008	[-.016, .019]
Well-*b*eing	Choice	.31	.088	.22	.08	.02	.07	.25	.11	.006	.02	[-.038, .068]

Bolded confidence intervals do not include zero, indicating a significant indirect

Figure 1.1

Conceptual model, in which the relationship between choice and psychiatric symptoms is mediated by mastery and relatedness

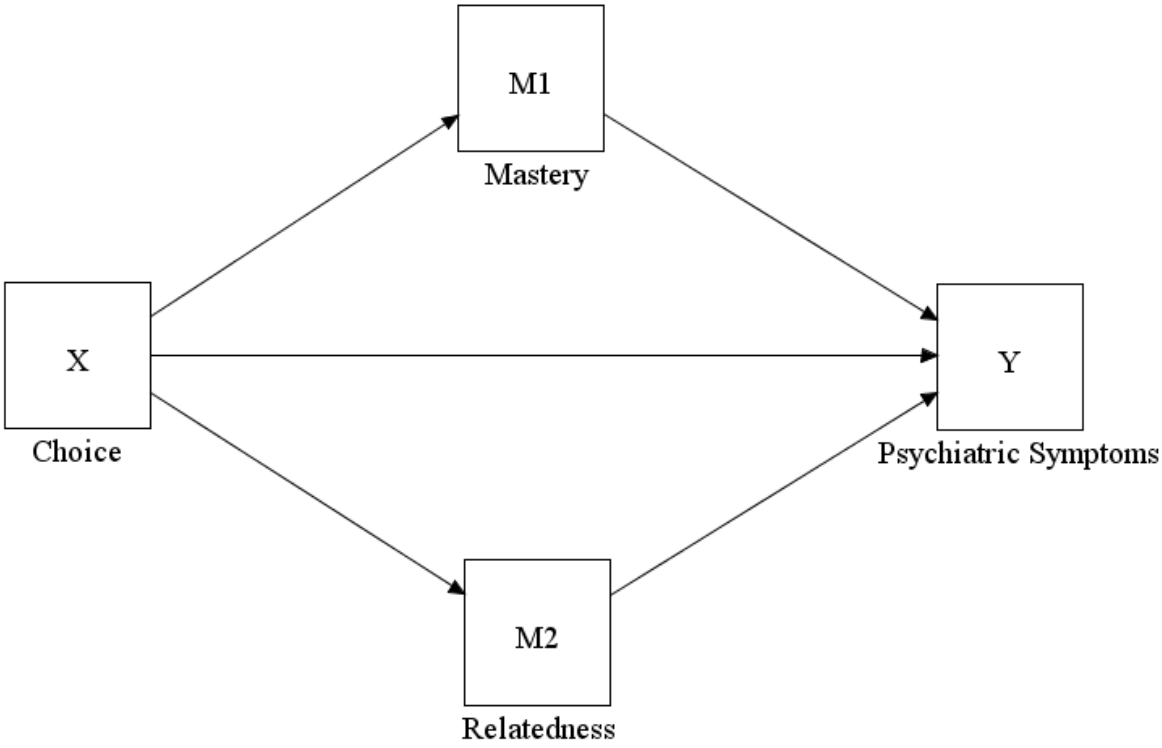


Figure 1.2

Conceptual model, in which the relationship between choice and alcohol and drug use is mediated by mastery and relatedness

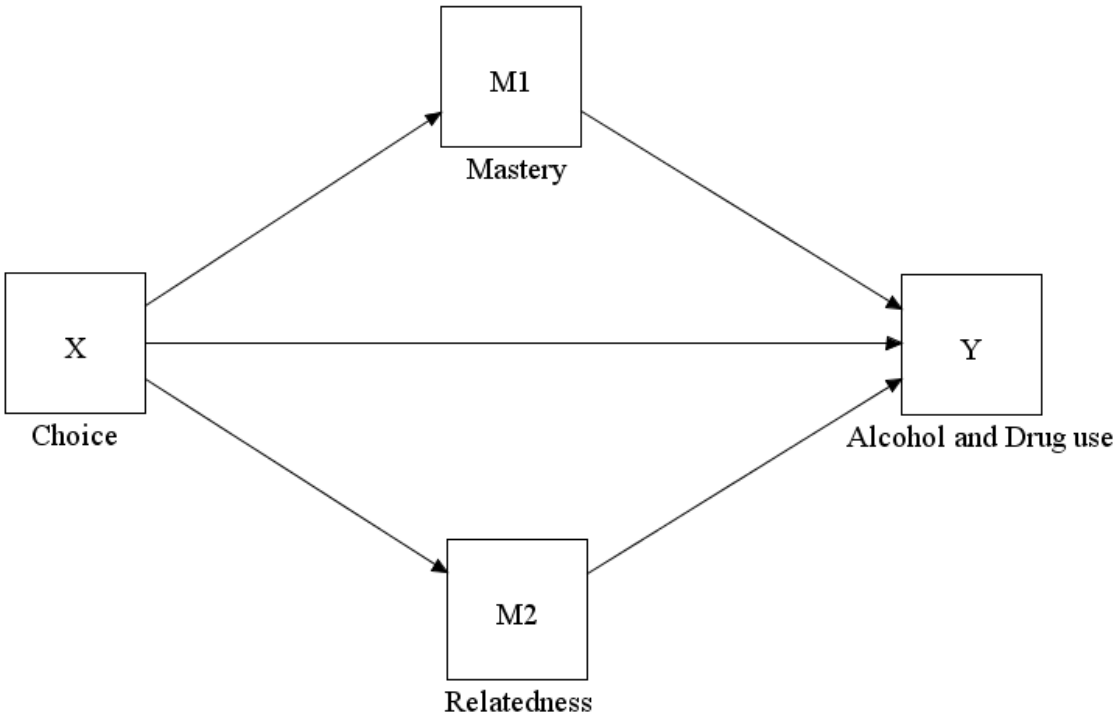


Figure 1.3

Conceptual model, in which the relationship between choice and well-being is mediated by mastery and relatedness

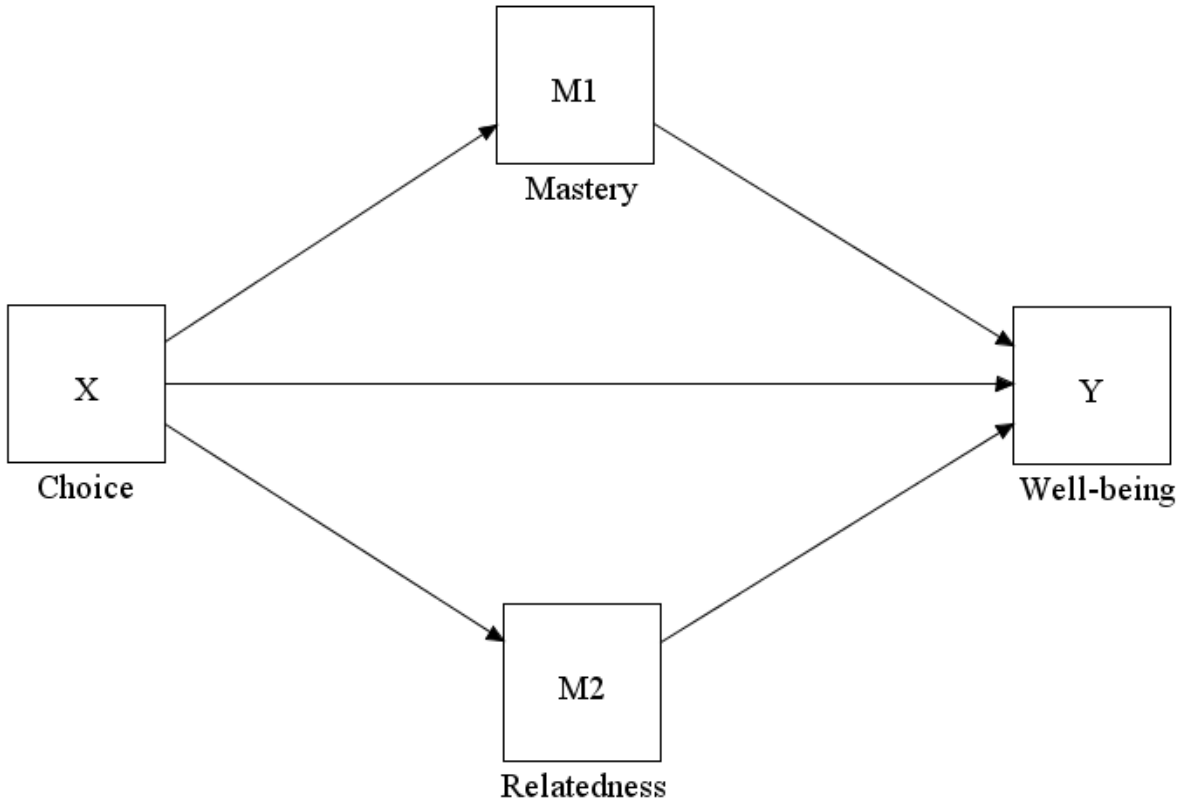
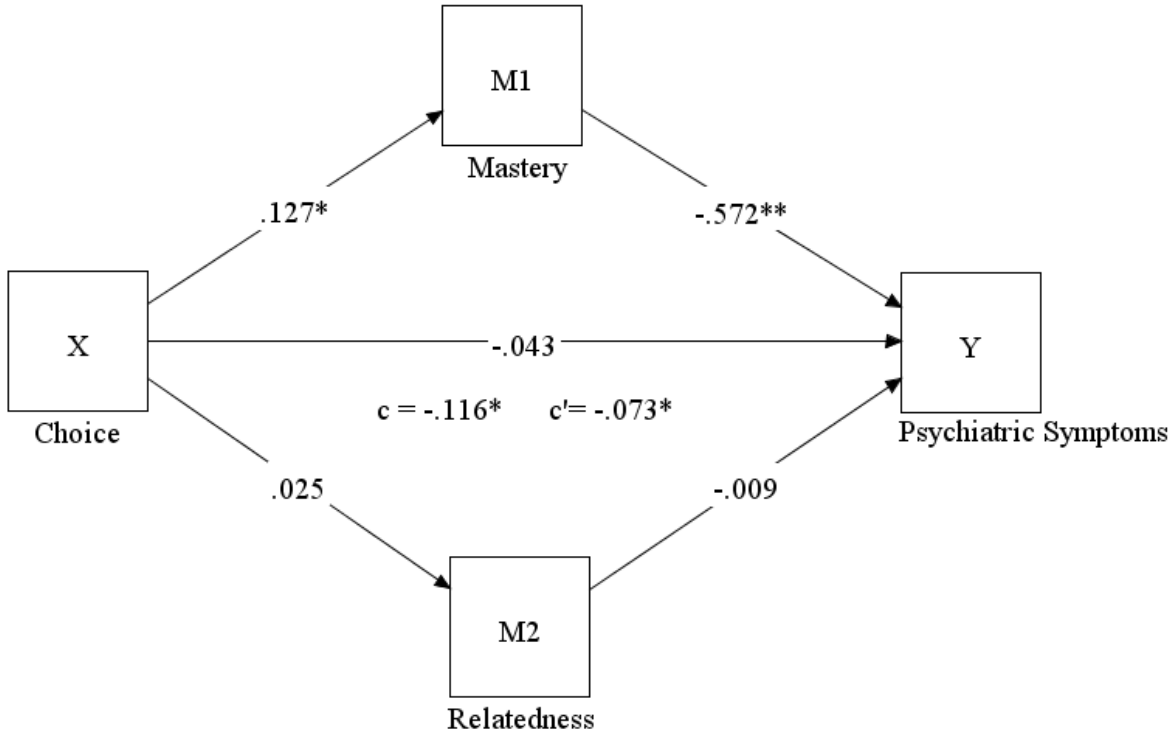


Figure 2.1

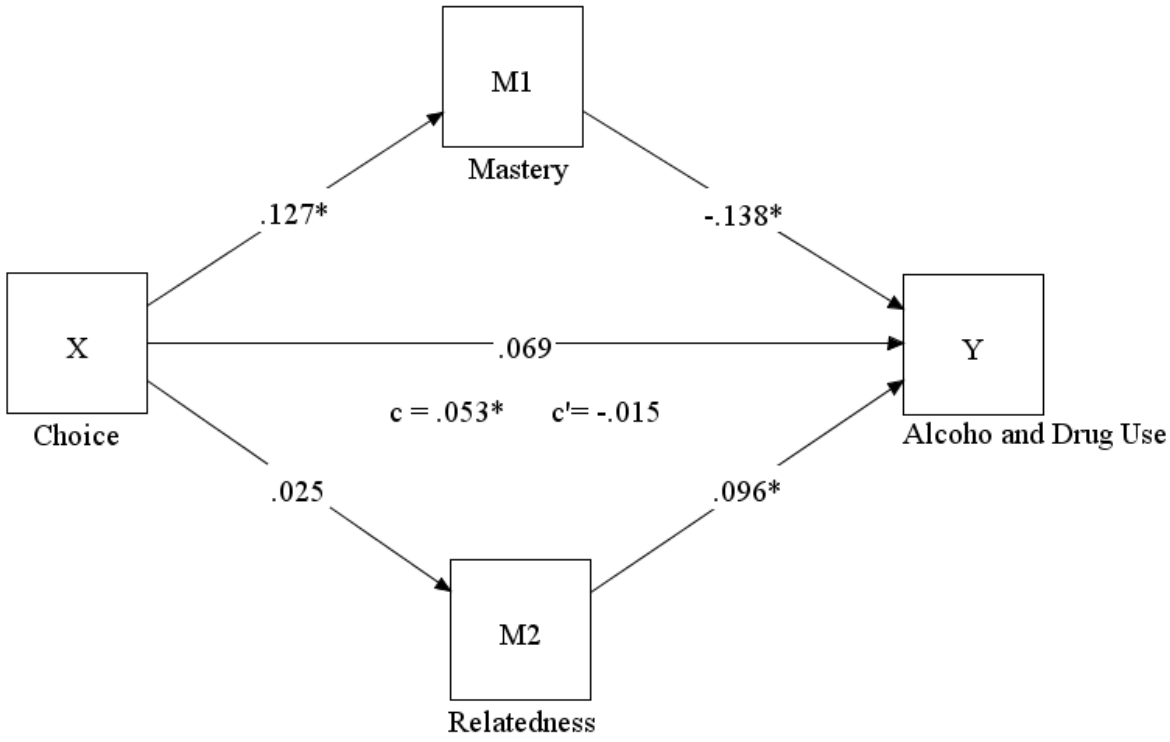
Indirect effect of Choice on Psychiatric Symptoms mediated by Mastery and Relatedness



Note. c = the total effect of Choice on Psychiatric Symptoms; c' = the total indirect effect of Choice on Psychiatric Symptoms. *$p < .05$; **$p < .001$.

Figure 2.2

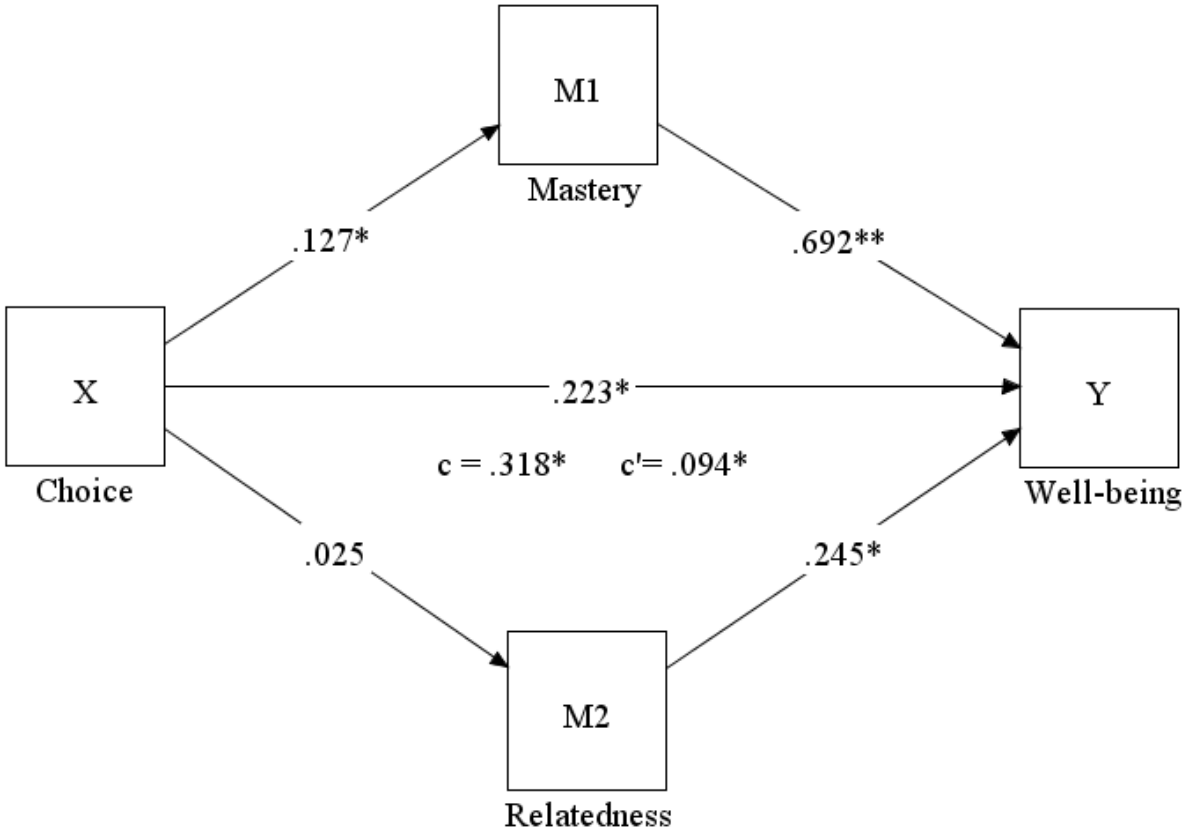
Indirect effect of Choice on Alcohol and Drug Use mediated by Mastery and Relatedness



Note. c = the total effect of Choice on Alcohol and Drug Use; c' = the total indirect effect of Choice on Alcohol and Drug Use. *$p < .05$; **$p < .001$.

Figure 2.3

Indirect effect of Choice on Well-being mediated by Mastery and Relatedness



Note. c = the total effect of Choice on Well-being; c' = the total indirect effect of Choice on Well-being. **p* < .05; ***p* < .001.

APPENDICES
APPENDIX A
Recruitment Script

Good morning/afternoon/evening. My name is Joshua Castleberry from Georgia State University and I am here today to go over the research study, and then later you will be able to do the study if you choose.

Where will the research be conducted?

We are conducting a research study here at the Atlanta Mission. We will be asking participants to answer questions in a private classroom here at the Atlanta Mission.

Why are we doing this study? (Purpose of Research)

We are doing a study because we want to learn more about motivation. We are working with individuals who go to homeless services.

Who can participate in the study?

If you are getting services at the Atlanta Mission, 18 years or older, and can speak English you can participate in the study. We will be enrolling 1000 participants for this study.

What will happen during the study?

If you participate in the study, I will be reading a survey to you and you will be reading along and answering on your own survey sheet. It will take about 45-60 minutes.

Are there good and bad things about the study?

There is nothing really good or bad that will happen by being part of this study. It is possible that some of the questions may make you feel sad because you are reminded about choices you have. If anything about the survey upsets you, you can talk to me or your counselor. We will also give you a list of other people and places you can go to and talk to about your stressful feelings.

Are there costs involved for you in this study?

No. You will not have to pay anything for this study.

Can you decide if you want to be in the study?

You don't have to be in the study and can stop anytime. You will still be able to stay at the organization and participate in services no matter what. No one will be upset with you if you do not participate. You can start and stop at any time.

Do you have any questions?

You can ask me any questions-just raise your hand. Does anyone have any questions? (Pause to see if anyone has questions)

APPENDIX B
Recruitment Flyer

Participate in a research study

Where will the research be conducted?

We are conducting a research study here at the Atlanta Mission. We will be asking participants to answer questions online here in the Atlanta Mission computer labs.

Why are we doing this study? (Purpose of Research)

We are doing a study because we want to learn more about motivation. We are working with individuals who go to homeless services.

Who can participate in the study?

If you are getting services at the Atlanta Mission, 18 years or older, and can speak English you can participate in the study. We will be enrolling 1000 participants for this study.

What will happen during the study?

If you participate in the study, you will be answering question online. It will take about 45-60 minutes.

Are there costs involved for you in this study?

No. You will not have to pay anything for this study.

Can you decide if you want to be in the study?

You don't have to be in the study and can stop anytime. You will still be able to stay at the organization and participate in services no matter what. No one will be upset with you if you do not participate. You can start and stop at any time.

Will I be paid?

Yes. You will be mailed $5 for your participation.

How do I participate?

If you are interested in the study, please enter the following link to your web browser and follow the instructions.

Link: https://gsu.qualtrics.com/jfe/form/SV_5aM7ApaYQ7Qxfq5

APPENDIX C
Online Informed Consent

Georgia State University
Informed Consent

Title: Choice, Mastery, Relatedness, and Recovery in Homelessness

Investigators: Catherine Chang, Ph.D. & Joshua Castleberry, Ed.S.

Introduction

- You are being asked to take part in a research study. It is up to you to take part in the study.
- We are doing this study is to learn about how relationships and having choices help individuals who are homeless.
- It will take a total of 45-60 minutes to complete.
- You will be asked to answer questions online.
- Participating in this study will not be any riskier than what you would on a normal day.
- This study is not good or bad for you. We hope to learn about how choice and relationships can make services better.

Why are we doing this study?
We are working with the Atlanta Mission to do a research study about motivation. We are doing this study because we would like to learn about relationships and choices as they related individuals experiencing homelessness. You are being asked to be part of this study. We plan on enrolling 1000 individuals at the Atlanta Mission aged 18 years and older.

What will happen during the study?
The study involves completing a survey. It will take a total of 45-60 minutes to complete the survey. You can use the Atlanta Mission computer labs to complete the survey. We are also asking your permission to request information on your progress from the Atlanta Mission.

Are there good things and bad things about the study?
There is nothing particularly bad or good that will happen to you when you take the survey. If you believe you have been harmed, contact Joshua as soon as possible. Georgia State University and the research team have not set aside money to pay for any harm. You may feel happy when you answer some of the items, and you may feel a little sad when you answer some other items. If completing the survey makes you feel upset, you can speak with your counselor. We will also show you a list of places you can call to talk with a counselor.

Do you get payments for being involved in this study?
You will be paid $5 dollars for your participation.

What can I do instead of taking the study?
You can choose not to take part in the study.

Can you decide if you want to be in the study?
If you do not want to be a part of this study, that is okay. No one will be upset or disappointed. If you say that you do not want to be part of this study, you will still be able to stay at the Atlanta Mission. If you say yes now but change your mind later, that will also be okay. You will be able to get help from the Atlanta Mission if you still want. If you decide that you want to be part of this study, you can skip any questions that you do not want to answer. You can also start the study and decided to stop at any time.

Who will know about your work in the study?
You will be given a special number, and the survey that you take will have this number on it, not your name. All your information will be linked to your own special number to keep it organized, but not to your name. At all times all your information will be kept either in a locked office or a computer that only I can get to.

All information that is gathered in the study will be reported in group form without any names attached to the information. So, your name and any information that you give us will be kept private to the extent allowed by law. These people will be able to see your information:

· Joshua Castleberry and Catherine Chang
- GSU Institutional Review Board
- Office for Human Research Protection (OHRP)

When we present or publish the results of this study, we will not use your name or other information that may identify you.

What might happen after the study?
We will remove information that may identify you and may use your data for future research. If we do this, we will not ask for any additional consent from you.

Who do you email if you have questions?
You may call Joshua at 678-371-9228 or email jcastleberry4@student.gsu.edu. He is the one in charge of this research and you can ask him questions about this study.

Call the GSU Office of Human Research Protections at 404-413-3500 or email them at irb@gsu.edu
- if you have questions about your rights as a research participant
- if you have questions, concerns, or complaints about the research

Signed Consent
By signing this form, you agree that:
- You have read this form.
- You were given the contact to ask all your questions.
- You want to be part of this study
- You know that you can stop whenever you want to.
- You know that agreeing or not agreeing to participate in this study will not affect your ability to stay at the Atlanta Mission.

- You know that you are not being asked to pay anything as part of this study.
- You know that you may ask any questions you have about the study.
- You know that how you answer the survey questions will be confidential and that no information about you will be given to anyone.

You may print or save a copy of this form for yourself. If you want to be part of this study, please type your name into the box below and click Continue.

APPENDIX D
In Person Informed Consent

Georgia State University
Informed Consent

Title: Investigating, Choice, Mastery, Relatedness, and Recovery in Homelessness

Principal Investigator: Catherine Chang, Ph.D.

Student Principal Investigator: Joshua Castleberry, Ed.S.,

Introduction and Key Information

- You are invited to take part in a research study. It is up to you to decide if you would like to take part in the study.
- The purpose of this study is to learn about how relationships and having choices help individuals who are wanting to end their homelessness.
- Your role in the study will last 45-60 minutes in one day.
- You will be asked to do the following: Completing a survey. A person from Georgia State University will read the survey to you.
- Participating in this study will not expose you to any more risks than you would experience in a typical day.
- This study is not designed to benefit you. Overall, we hope to gain information about how increasing choice and relationships in services can help make them better.

Why are we doing this study?
We are working with the Atlanta Mission to do a research study about motivation. We are doing this study because we would like to learn about how relationships and having choices help individuals who are wanting to end their homelessness. You are being asked to be part of this study. We plan on enrolling 1000 individuals at the Atlanta Mission aged 18 years and older.

What will happen during the study?
The study involves completing a survey. I (Joshua Castleberry) will read the survey to you. It will take a total of 45-60 minutes to complete. The study will take place in a quiet room in this Atlanta Mission facility. We are also asking your permission to request your assessment information from the Atlanta Mission.

Are there good things and bad things about the study?
No injury is expected from this study, but if you believe you have been harmed, contact the research team as soon as possible. Georgia State University and the research team have not set aside funds to compensate for any injury.

There is nothing particularly bad or good that will happen to you when you take the survey. You may feel happy when you answer some of the items, and you may feel a little sad when you answer some other items. If completing the survey makes you feel upset, you can speak with the person who read

the survey to you. We will also give you a list of places you can call if you want to talk to a counselor about how you are feeling.

Do you get payments for being involved in this study?
You will be paid $5 dollars for your participation.

What are the alternatives to taking the study?
The alternative to taking part in this study is to not take part in the study.

Can you decide if you want to be in the study?
If you do not want to be a part of this study, that is okay. No one will be upset or disappointed. The Atlanta Mission has very good ways to help you with your goals and if you say that you do not want to be part of this study, you will still be able to get help with them. If you say yes now but change your mind later, that will also be okay. You will be able to get help from the Atlanta Mission, if you still want. If you decide that you want to be part of this study, you can skip any questions that you do not want to answer. You can also start the study and decided to stop at any time.

Who will know about your work in the study?
You will be given a special number in addition to providing your Atlanta Mission ID, and the survey that you take will have this number written on it, not your name. We will type your survey answers into computers. All of your information that is put into the computer will be linked to your own special number to keep it organized, but not to your name. At all times all of your information will be kept either in a locked office, or a computer that only I can get to.

All information that is gathered in the study will be reported in group form without any names attached to the information. So, your name and any information that you give us will be kept private to the extent allowed by law. These people will be able to see your information:

- Joshua Castleberry (Me) and Catherine Chang
- GSU Institutional Review Board
- Office for Human Research Protection (OHRP)

When we present or publish the results of this study, we will not use your name or other information that may identify you.

What might happen after the study?
Researchers will remove information that may identify you and may use your data for future research. If we do this, we will not ask for any additional consent from you.

Do you have any questions?
(at this point the research team member will answer any questions the person may have)

Who do you email if you have questions?
You may call Joshua Castleberry (me) at 678-371-9228 or email jcastleberry4@student.gsu.edu. He is the one in charge of this research and you can ask him questions about this study.

Call the GSU Office of Human Research Protections at 404-413-3500 or email them at irb@gsu.edu

- if you have questions about your rights as a research participant
- if you have questions, concerns, or complaints about the research

Signed Consent

By signing this form, you agree that:

- You have read and listened while this form was read to you.
- You were given a chance to ask all of your questions and all of your questions were answered to your satisfaction.
- You want to be part of this study and you know that you can stop whenever you want to.
- You know that agreeing or not agreeing to participate in this study will not affect your ability to attend the Atlanta Mission.
- You know that you are not being asked to pay anything as part of this study.
- You know that you may ask now, or in the future, any questions you have about the study.
- You know that how you answer the survey questions will be confidential and that no information about you will be given to anyone.
- You have received a copy of the information included in this form.

We will give you a copy of this form to keep. If you want to be part of this study, please sign below.

Participant:

_____ _____

Printed Name Signature

Date: _____

Impartial Witness:

By signing the consent form, I attest that the information in the consent form and any other written information was accurately explained to, and apparently understood by, the participant, and that informed consent was freely given by the participant.

_____ _____

Printed Name Signature

Date: _____

_____

Name of person who obtained consent

APPENDIX E

We will start with some general questions. Please remember that you can raise your hand and ask questions any time during our time together. Also, you can skip any item that you want to.

1. What is your age? _____

2. What is your Gender? Are you a (please circle):

- Woman
- Man
- Other_____

3. Which of these groups best describes your race? Circle one or more.

- Black or African American
- White
- Asian
- American Indian or Alaska Native
- Native Hawaiian or other Pacific Islander
- Other_____

Please circle Yes, No, or Don't know.

4. Are you Hispanic or Latino?

- Yes
- No
- Don't know

5. Did you graduate from high school?

- Yes
- No
- Don't know

6. Do you have a GED?

- Yes
- No
- Don't know

7. Do you have a High School Diploma?

- Yes
- No
- Don't know

8. Do you have a Special Education Diploma?

- Yes
- No
- Don't know

9. What is the highest grade you completed as a child? If you did not complete a grade, just write 0.

Highest grade completed: _____

Please circle Yes, No, or Don't Know.

10. Do you currently receive Supplemental Security Income?

- Yes
- No
- Don't know

11. Do you currently receive Food Stamps?

- Yes
- No
- Don't know

12. Do you currently receive WIC Supplemental Nutrition Benefits?

- Yes
- No
- Don't know

13. Do you currently receive Temporary Aid to Needy Families (TANF), Aid to Families with Dependent Children (AFDC), public assistance, public welfare payments?

- Yes
- No
- Don't know

14. Do you currently receive Retirement or Disability Payments?

- Yes
- No
- Don't know

15. Which statement best describes your current employment status? (You can circle more than one):

- Full-time work (40 or more hours per week)
- Part-time work (less than 40 hours per week)
- Unemployed-currently looking for work
- Unemployed-currently not looking for work
- Homemaker
- Student
- Retired
- Unable to work or disabled
- Other:_____

APPENDIX F

Consumer Choice Scale (CCS; Srebnik et al., 1995)

You will now be asked questions about how many choices you have. People have many ways of relating to how much choice they feel they have in everyday life. For these questions, **think about how often you feel that way. Then circle your answer for each, using the response choices.**

Remember, we are only interested in what is true for you, and there are no right or wrong answers.

You can skip any item that you want to and you can raise your hand to ask questions any time during the survey.

The survey has choices that range from: "None" to "Completely" and you should only circle what is true for you.

Before we get started, here is an example of what you will be asked to do:

I can choose what kind of cookies I eat.	None	Not much	Some	Mostly	Completely

If you circle None that means that you *no choice in what kind of cookies you eat.*

If you circle Not much that means that you *rarely can choose what kind of cookies you eat.*

If you circle Some that means that you *sometimes can choose what kind of cookies you eat.*

If you circle Mostly that means that *most of the time you can choose*

what kind of cookies you eat.

If you circle Completely that means that you *always can choose what kind of cookies you eat.*

We are now ready to begin:

1. I can choose the place I stay.	None	Not Much	Some	Mostly	Completely
2. I can choose the people I live with.	None	Not Much	Some	Mostly	Completely
3. I can choose the decorating and furnishing where I stay.	None	Not Much	Some	Mostly	Completely
4. I can choose when visitors come over	None	Not Much	Some	Mostly	Completely
5. I can choose whether to have overnight guests.	None	Not Much	Some	Mostly	Completely
6. I can choose who has a key to my place.	None	Not Much	Some	Mostly	Completely
7. I can choose how I spend my day.	None	Not Much	Some	Mostly	Completely
8. I can choose who can come over.	None	Not Much	Some	Mostly	Completely
9. I can choose when the maintenance staff come over.	None	Not Much	Some	Mostly	Completely
10. I can choose when I see my counselor/social worker/or other service provider.	None	Not Much	Some	Mostly	Completely

11. I can choose whether I participate in services or treatment.	None	Not Much	Some	Mostly	Completely
12. I can choose the food I buy.	None	Not Much	Some	Mostly	Completely
13. I can choose whether I lock my door.	None	Not Much	Some	Mostly	Completely
14. I can choose to come and go.	None	Not Much	Some	Mostly	Completely
15. I can choose when I eat.	None	Not Much	Some	Mostly	Completely

APPENDIX G

Pearlin Self-Mastery Scale (Pearlin & Schooler, 1978)

You will now be asked questions about what you believe **about yourself**. For these questions, **think about how you much you agree with the statements. Then circle your answer for each, using the response choices.**

Remember, we are only interested in what is true for you, and there are no right or wrong answers.

You can skip any item that you want to and you can raise your hand to ask questions any time during the survey.

The survey has choices that range from: "Strongly Agree" to "Strongly Disagree" and you should only circle what is true for you.

Here is an example of what you will be asked to do:

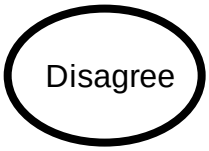
I am bad at baking cookies	Strongly Agree	Somewhat Agree	Agree	Neither	Disagree	Sometimes Disagree	Strongly Disagree

If you circle Strongly Agree that means that you *strongly believe that you are bad at baking cookies.*

If you circle Somewhat Agree that means that you *believe that you are somewhat bad at baking cookies.*

If you circle Agree that means that you *believe that you are bad at baking cookies.*

If you circle Neither that means that *you believe that you are not good nor bad at baking cookies.*

If you circle 

that means that you *believe that you are not bad at baking cookies.*

If you circle 

that means that you *believe that you are somewhat good at baking cookies.*

If you circle 

that means that you *belive that you are good at baking cookies.*

We are now ready to begin:

1. There is really no way I can solve some of the problems I have.	Strongly Agree	Sometimes Agree	Agree	Neither	Disagree	Sometimes Disagree	Strongly Disagree
2. Sometimes I feel that I'm being pushed around in life.	Strongly Agree	Sometimes Agree	Agree	Neither	Disagree	Sometimes Disagree	Strongly Disagree
3. I have little control over the things that happen to me.	Strongly Agree	Sometimes Agree	Agree	Neither	Disagree	Sometimes Disagree	Strongly Disagree
4. I can do just about anything I really set my mind to. *	Strongly Agree	Sometimes Agree	Agree	Neither	Disagree	Sometimes Disagree	Strongly Disagree
5. I often feel helpless in dealing with the problems of life.	Strongly Agree	Sometimes Agree	Agree	Neither	Disagree	Sometimes Disagree	Strongly Disagree

6. What happens to me in the future mostly depends on me. *	Strongly Agree	Sometimes Agree	Agree	Neither	Disagree	Sometimes Disagree	Strongly Disagree
7. There is little I can do to change many of the important things in my life.	Strongly Agree	Sometimes Agree	Agree	Neither	Disagree	Sometimes Disagree	Strongly Disagree

APPENDIX H

Working Alliance Inventory-Short Revised (WAI-SR; Busseri & Tyler, 2003)

You will now be asked questions about how you experience your service provider. For these questions, **think about the staff or service provider that you are closest with in the statements with the underlined space. Think about your experiences in your services then circle your answer for each, using the response choices.**

Remember, we are only interested in what is true for you, and there are no right or wrong answers.

You can skip any item that you want to and you can raise your hand to ask questions any time during the survey.

The survey has choices that range from: "Seldom" to "Always" and you should only circle what is true for you.

Before we get started, here is an example of what you will be asked to do:

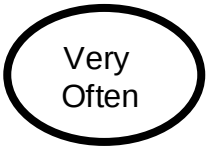
My therapist talks with about eating cookies.	Seldom	Sometimes	Fairly Often	Very Often	Always

If you circle Seldom that means that your *therapist rarely talks with you about eating cookies.*

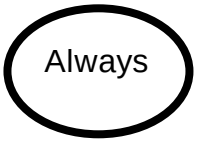
If you circle Sometimes that means that your *therapist sometimes talks* with *you about eating cookies.*

If you circle Fairly that means that your *therapist often talks with*

Often you about *eating cookies.*

If you circle 

that means that your *therapist talks with you about eating cookies most of the time.*

If you circle 

that means that your *therapist talks with you about eating cookies all the time.*

We are now ready to begin.

1. As a result of these sessions I am clearer as to how I might be able to change.	Seldom	Sometimes	Fairly Often	Very Often	Always
2. What I am doing in therapy gives me new ways of looking at my problem.	Seldom	Sometimes	Fairly Often	Very Often	Always
3. I believe___likes me.	Seldom	Sometimes	Fairly Often	Very Often	Always
4. ___and I collaborate on setting goals for my therapy.	Seldom	Sometimes	Fairly Often	Very Often	Always
5. ___and I respect each other.	Seldom	Sometimes	Fairly Often	Very Often	Always
6. ___and I are working towards mutually agreed upon goals.	Seldom	Sometimes	Fairly Often	Very Often	Always
7. I feel that___appreciates me.	Seldom	Sometimes	Fairly Often	Very Often	Always

8. _____ and I agree on what is important for me to work on.	Seldom	Sometimes	Fairly Often	Very Often	Always
9. I feel _____ cares about me even when I do things that he/she does not approve of.	Seldom	Sometimes	Fairly Often	Very Often	Always
10. I feel that the things I do in therapy will help me to accomplish the changes that I want.	Seldom	Sometimes	Fairly Often	Very Often	Always
11. _____ and I have established a good understanding of the kind of changes that would be good for me.	Seldom	Sometimes	Fairly Often	Very Often	Always
12. I believe the way we are working with my problem is correct.	Seldom	Sometimes	Fairly Often	Very Often	Always