

**EXPLORING RECOVERY AS A MEDIATOR IN CERTIFIED PEER SPECIALIST
SERVICES AND COMMUNITY INTEGRATION OUTCOMES:
CERTIFIED PEER SPECIALISTS AS TRANSLATIONAL PRACTITIONERS**

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A DISSERTATION

in

Social Work

Presented to the Faculties of the University of Pennsylvania

In

Partial Fulfillment of the Requirements for the

Degree of Doctor of Clinical Social Work

2021

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Dedication

For my parents who made sure we had access to a bigger world. My dad, who showed us that education is more than a degree, has now earned several through each of his children. Although my mom was taken much too early from us I can still feel her beaming with pride.

Acknowledgment

I want to acknowledge Dr. Phyllis Solomon for her support, clarity, and guidance. Her heart, humor and truth-telling are gifts that extend beyond this process. I'm deeply grateful for her ongoing mentoring and friendship. I'm also forever indebted to her for introducing me to Dr. Ryan Petros and Dr. Michelle Evans Chase. They really made a dream dissertation team whose brilliance was matched with kindness and generosity. I am so pleased Ryan agreed to join my committee bringing his calming presence and his sharp insight. Michelle brought an enthusiasm to statistics I didn't think possible and was always willing to troubleshoot. I can't thank them enough.

I also carry the stories of CPSs and people in recovery who modeled a relationship of strength and vulnerability that I hope this study honors.

My extended tribe of family and friends also nurtured and sustained me throughout this "longer than expected" process. My sisters, my cohort and many dear friends all knew when to send encouraging words and kept me going with group texts.

Finally, none of this would have been possible without the love, support and encouragement of Kristin, Andrei and Aleksei- my heart.

ABSTRACT

EXPLORING RECOVERY AS A MEDIATOR IN CERTIFIED PEER SPECIALIST SERVICES AND COMMUNITY INTEGRATION OUTCOMES: CERTIFIED PEER SPECIALISTS AS TRANSLATIONAL PRACTITIONERS

Mary K. Tuohy

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Objective: The rapid expansion of certified peer specialist (CPS) services to align mental health treatment with the recovery paradigm highlights the key intersection of recovery, community integration, and CPSs. This study explored recovery as a mediator of the relationships connecting reported community integration outcomes to quantity and variety of certified peer specialist (CPS) services delivered to individuals with severe mental illness receiving community mental health treatment.

Methods: Two survey data sets (n=104) - one measuring community integration and one measuring recovery, were correlated with CPS service utilization data from the prior month. Regression modeling was used to identify those measures of CPS services and covariates most likely to predict community integration, with significant predictors for community integration proceeding to mediation analysis. The ultimate goal of hypothesis testing for this study was to test recovery as a mediator of the relationship between CPS services and community integration.

Results: Three measures of CPS services: embedded clubhouse hours, community hours, and total hours emerged as greater predictors of community integration and were included for mediation analysis. Of the three services, only embedded clubhouse services

showed partial mediation. Total CPS service hours were positively correlated with community integration but did not show mediation. Community CPS service hours however, were negatively correlated with community integration, and the relationship was not mediated by recovery.

Conclusion: Together these results suggest greater impact for CPS interventions in programs and settings highly aligned with recovery. The results favor site-based programs, particularly the clubhouse model for this sub-population of service recipients. Negative findings for community-based services highlight challenges for individuals with living in restrictive settings and characteristics that likely accompany that, suggest more deliberate approaches to services in the community may be necessary. The identified potential for CPSs to promote recovery may help guide the rapid expansion of CPS services and the growing movement for national CPS training and certification.

Keywords: certified peer specialists, recovery, community integration, severe mental illness

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Chapter 1: Introduction

Statement of the Problem

Recovery has been the driving force in behavioral health care since the issuance of the President's New Freedom Commission on Mental Health (2003). This recovery movement to help people with severe mental illness (SMI) live, work, and participate fully in community life (Presidents New Freedom Report on Mental Health, 2003), underscores the primacy of community integration as an outcome for people with SMI. Those driving the movement also continue to transform and reshape services to align with both recovery and community integration outcomes. Certified peer specialists (CPS) have emerged as part of this transformation enabling former recipients of mental health treatment to join the ranks of mental health providers. Since Georgia became the first state to allow Medicaid reimbursement for peer services in 2001, states have been rapidly adding and expanding CPS roles. The development of this peer work force within the recovery paradigm presents another opportunity to understand and explore community integration for individuals with severe mental illness. Placement of CPS in mental health agencies also highlights the difficulty for providers in alignment of services with these two conceptually related outcomes, recovery and community integration. Although community integration has been an ultimate goal of mental health treatment (World Health Organization [WHO], 2001, 2007), little evidence has emerged linking specific practice interventions with this goal (Wong & Solomon, 2002). CPSs are an important part of recovery, but carving out a unique role for the promotion of community integration has been complicated by a general lack of clarity regarding services provided by peers and state regulations that enable service reimbursement (Salzer et al, 2009). Yet,

CPSs have evolved beyond provision of interventions adjunctive to traditional treatment and continued to grow the delivery of independent billable service. Agencies continue to expand CPS services as if their presence alone yields recovery. Understanding CPS services and their impact on peers in the achievement of recovery and community integration has become a pressing policy and funding concern and an urgent practice need. Continued growth and expansion have exacerbated confusion over how to integrate CPSs into services, widening this gap in policy and practice.

Research Questions

Expanding the existing body of CPS research, the researcher laid the groundwork for more intentional use of CPSs by exploring the conditions under which CPS services promote recovery in support of community integration across physical, social, psychological, and capabilities domains. Three research questions guided this study:

- When controlling for personal characteristics, to what extent do the quantity and variety of CPS services explain the degree of community integration reported among individuals with severe mental illness?
- When controlling for personal characteristics, to what extent do the quantity and variety of CPS services explain the degree of recovery reported among individuals with severe mental illness?
- Is recovery a mediating factor in the relationships between CPS services and community integration outcomes among individuals with severe mental illness?

Background and Significance

The expansion of CPS services to align mental health treatment with the recovery paradigm highlights the key intersection of recovery, community integration, and CPSs. This confluence suggests that recovery lies at the crossroads between peer delivered services and community integration. From this perspective, CPSs are *translational practitioners* who amplify recovery through their own personal narratives and embody recovery values through a relational approach that may help to explain the impact of their services on community integration outcomes. The relationship between peer provider and peer recipient is then both an actualization of recovery philosophy and a vehicle for transformation toward community integration outcomes.

Community Integration

Community integration is self-directed engagement in life outside of treatment, and researchers have explored its complexity as an ultimate outcome throughout disability communities (Flynn & Aubrey, 1999; WHO, 2001, 2007). Over time, the focus of the concept has expanded from place-based/neighborhood exchange to include the complex interpersonal, structural, and identity factors that influence interaction between individuals and their communities. Wong and Solomon (2002) proposed a multidimensional framework in which community integration connects physical, social, and psychological integration. Community integration, in this context, relates to place-based access to neighborhood, goods, services, and social networks—and the sense of meaning and belonging derived from such access. The Wong and Solomon framework has remained one of four dominant conceptualizations (Baumgartner & Susser, 2012). The other three are the WHO social disability framework, the International Classification

of Functioning; participation in enclave or subcommunities, and the capabilities approach (Petros et al 2020). Although all conceptualizations include quality of life, independence, and personal agency, they vary with respect to integration of the subjective experiences of individuals and inclusion of a value-free approach (Mandiberg, 2010; Mbogoni, 2003; Ware et al., 2008).

Those implementing deinstitutionalization prioritized physical integration (Bond et al., 2004; Torrey, 2001), but recovery—encompassing social and psychological dimensions and macro factors impacting opportunities—underscores the need for a more nuanced perspective. Recognizing that most community integration measures come at the expense of psychological, social, and structural factors, but motivated by the need for broader guidance for program interventions, Petros et al. (2020) revisited community integration in their development of a comprehensive measure, the Community Connections and Engagement Scale (CCES). Embracing a multidimensional theoretical framework, the CCES adds a fourth domain for capabilities to Wong and Solomon's (2002) conceptualization. This overarching framework provided an approach to explore community integration in the context of the mental health recovery paradigm and was embraced throughout this study. Further exploration of these domains follows to allow for more robust understanding of possible targeted and/or related community integration service interventions.

Physical Integration. Individuals realize physical integration outside formal mental health services as they engage independently in community life and access goods and services outside their homes in a self-directed manner (Wong & Solomon, 2002). Because mental health professionals historically placed individuals in asylums away from

society with limited treatment alternatives, early attempts at community reentry and alternatives to custodial care naturally focused on physical space. There has been a continued shift away from providing services at dedicated sites to provide clinical and nonclinical supports in the community or outside recipients' residences; this shift is consistent with early work on normalization and its emphasis on community presence (Segal & Aviram, 1978; Wolfensberger, 1972).

Social Integration. An individual's degree of social integration corresponds to their level of connection with others and the extent to which their social network is large enough and varied enough (in terms of social roles) to meet the needs of their cultural context (Wong & Solomon, 2002). Social integration also corresponds to self-directed experience of connectedness through action (Wells, 2012). Primarily focused on interactional dimensions (Wolfensberger & Thomas, 1983), social integration extends beyond mere connection and includes reciprocity and purpose in interactions (Wong & Solomon, 2002). This is particularly relevant for individuals with severe mental illness, because such individuals placed in community settings often report smaller social networks with overrepresentation of care providers (Bronowski & Zaluska, 2008; Davidson et al., 2001; Wong & Solomon, 2002).

Psychological Integration. An individual achieves psychological integration through a sense of belonging and contribution to their self-defined community (Wong & Solomon, 2002). Psychological integration is concerned with perceptions of acceptance and exclusion. Although individuals with severe mental illness may be physically placed in a community, psychological integration addresses the extent to which they feel part of the community.

Capabilities. Capabilities consist of social opportunities and the capacity to access potential for self-improvement (Petros et al., 2020). Geographic communities, chosen communities, and macro factors that limit participation all contribute to capabilities (Petros et al., 2020). Capabilities factors are particularly relevant in the context of diminished economic and employment realities for individuals with severe mental illness (Mandiberg, 2010) as well as isolated community behavioral health service locations. These structural inequalities can create additional barriers for individuals with SMI, and capabilities considers the interaction between personal agency and access for citizenship (Ware, 2008).

Community Integration History. The passing of the era of institutionalization has left challenges and barriers to community integration in its wake. Intersecting with the U.S. civil rights movement in the 1960s, deinstitutionalization involved mental health treatment realigning with community integration and the rapid movement of people from institutions into community life (Bond et al., 2004; Torrey, 2001). Exposure of widespread institutional abuses, such as those at Willowbrook (the largest state institution whose deplorable living conditions were exposed and brought public awareness through investigative journalism in 1972), encouraged an emerging ex-psychiatric-patient survivor movement—including advocacy of community inclusion as a social justice and human rights issue (Hopper, 2007). At the same time, the introduction of new antipsychotic medications paved the way for a shift in clinical thinking toward community treatment (Barber, 2012). This combination of emerging medical developments and outside political agitation led to prioritization of physical community integration through hospital closures, the Community Mental Health Act, and expansion

of psychiatric rehabilitation and consumer-led treatment alternatives (Ralph, 2000; Torrey, 2001). However, deinstitutionalization also led to new forms of isolation within the community (Geller, 2000; Wong & Solomon, 2002) and a rise in homelessness and incarceration among individuals with serious mental illness (Ditton, 1999). The exclusive focus on neighborhood placement failed to fully realize the benefits of community integration, resulting in an emerging consensus in favor of organizing further residential changes around values reflecting consumer choice, control, and empowerment (Parkinson et al., 1999; Wong & Solomon, 2002). The recent emphasis on the subjective experience of transformation through recovery has provided another context for actualization of these values and opened up a new era of community integration.

Recovery

The recovery movement altered the paradigm of mental health care (President's New Freedom Commission on Mental Health, 2003). Personal narratives of those with lived experiences (Deegan, 1988; Thomas & Hall, 2008) who regained meaningful lives (Davidson et al., 2005) have amplified hope and reduced widespread pessimism for people diagnosed with serious mental illness.

Since the inception in the present context, recovery has been the driving force in U.S. mental health policy and gained favor worldwide. However, differences in the use of the word "recovery" across medical, political, and provider contexts have continued to generate confusion about what mental health recovery is (Barber, 2012). The Substance Abuse and Mental Health Services Administration (2011) defines recovery as "a process of change through which individuals improve their health and wellness, live a self-directed life, and strive to reach their full potential" (<https://www.samhsa.gov/find-help/recovery>). This

definition from the federal government aligns with notions of mental health recovery as personal recovery—distinct from medical/clinical recovery with its focus on symptom reduction, loss and management (Barber, 2012).

Personal recovery, as a subjective process, can help facilitate action toward the ultimate goal of community integration. Community integration offers a person-in-environment approach (Petros et al., 2020) that frames both subjective experience and external opportunities through interactions among the physical, social, psychological and capabilities domains. In this way, recovery and its political context are not separate; rather, community integration expands the boundaries of recovery. As a companion to recovery, community integration guides an internal subjective process toward an objective universal aim.

Despite ongoing attempts to conceptualize and measure mental health recovery (Anthony, 1993; Bullock et al., 2000; Deegan, 1988; Jacobson, 2001; Jacobson & Greenley, 2001; O’Connell et al., 2005; Roe & Chopra, 2003; Silverstein & Bellack, 2008; Whitley & Drake, 2010; Wong et al., 2010), there has been no consensus on whether recovery is an outcome or a process (Moran et al., 2012). This distinction is likely a false dichotomy derived from the difficulty of capturing subjective experience rather than observable states (Slade, 2015). Recovery as both/and, results from a process allowing an individual to self-define what that outcome means for them. Personal recovery outcomes result from a set of conditions and values that are consistent across recovery narratives (Parker, 2014). Individuals who identify as being in recovery report nonlinear and deeply individual transformation processes (Anthony, 2004; Davidson et al., 2005) characterized by internal conditions that include hope, empowerment, agency, opportunity, and reciprocity

(Deegan, 1997; Jacobson & Greenley, 2001; Moran et al., 2012; Shepard et al., 2008). Four core values facilitate recovery: self-determination, person orientation, person involvement, and hope (Farkas, 2007). Mental health recovery prioritizes these internal conditions and core values regardless of the absence or presence of clinical symptoms or clinical treatment.

Mental health recovery fits with a general trend toward wellness across health care (Barber, 2012). Embracing the whole person in mental health represents a movement away from the medical treatment model, which early activists charged exacerbated alienation (Davidson et al., 2006) and disintegration across physical, psychological, social, and capabilities domains. As a result, an inherent tension has remained surrounding the codification of recovery within the mental health system. On the one hand, a political movement led by former patients has offered an alternative to the traditional medical model (Davidson et al., 1999), which has helped drive the widespread shift toward recovery. On the other hand, inclusion of recovery within traditional health care service and payment structures has left some advocates concerned that a professionally led movement will deemphasize social, economic and political dimensions of the approach (O'Hagen, 2009).

CPSs

CPSs work with peers to facilitate regaining balance and control of their lives and support their recovery (Chinman et al., 2006). CPSs use their own experiences of improved psychiatric conditions as the basis for the support they provide to others not as far along in the recovery process (Davidson et al., 2006). Although the relationships formed by CPSs are similar to those encountered in other mutual support and self-help programs, the CPS role in mental health has become formalized through the Centers for

Medicare and Medicaid Services. The belief that people with lived experiences of mental health treatment can relate to other individuals in mental health treatment better than others can be traced as far back as Pinel and the development of mental health infrastructure in the late 1700s (Davidson et al., 2012). The belief in the importance of lived experience was also a key component of Sullivan's development of milieu modality at Sheppard and Enoch Pratt Hospital in the 1920s (Davidson et al., 1999, 2012).

Although these examples involved hiring of peers to fill traditional provider roles, the ex-patient movement led groups of psychiatric service recipients to organize, advocate, and develop mutual support networks to reform an abusive system (Davidson et al., 2006; Deegan, 1992). The role of peers has shifted from advocacy and traditional self-help in consumer run agencies (Davidson et al., 2006) or embedded alongside other paid workers, as in clubhouse settings, to a role requiring state-determined training and certification (Centers for Medicare and Medicaid Services, 2007) for work within the very system they initially fought to transform. CPS training and certification has been uneven across the United States, with the length of training ranging from 30 hours to 28 weeks (Salzer et al., 2009). Practice roles, tasks and settings have also varied widely.

At the time of writing, employers of CPSs range from traditional clinical environments to psychiatric rehabilitation and residential settings. CPSs have remained embedded in democratic psychiatric rehabilitation environments, such as clubhouses, lodges, and freestanding drop-in centers; but they have also been increasingly found in hospitals, outpatient programs, community-based teams, and even correctional facilities. Across settings, CPSs have been engaging with groups or individuals and have reported working in agencies, client homes, and the community and providing telephonic support

(Salzer et al., 2010). Summarizing this great variability, Salzer et al. (2013) proclaimed, “A CPS is not a CPS is not a CPS” (p. 221).

CPSs and Recovery

Simply stated, CPSs embody recovery. When a CPS models their own recovery, they provide a template and an opportunity for others to internalize core recovery concepts. Understanding the pathway to pursuit of a subjective internal state of recovery can feel nebulous. Even amid a growing global movement, recovery has received criticism as being little more than an abundance of good ideas (Slade & Heyward, 2007). However, the recovery movement has grown through personal narratives of people with lived experiences, and the CPS relationship enables an opportunity to understand and embrace recovery narratives (Deegan, 1992). Hope, control, agency, and opportunity are all central tenets of recovery (Repper, 2003; Shepard et al., 2008), and these tenets align with the way CPSs operate to promote hope, belief in recovery, empowerment, self-esteem, self-efficacy, and self-management of difficulties with social inclusion (Repper & Carter, 2011). Hearing hope expressed as a sentiment, for example, is likely much less impactful for an individual than seeing hope actualized in a person with whom they identify. A person’s ability to see themselves in a CPS opens up to that person the possibility of obtaining results similar to those obtained by the CPS (Kesici & Erdogan, 2010). Through exchange of experience, strength, and hope, CPSs can fill a crucial role as translational practitioners, translating the abstract principles of recovery into meaningful goals and modeling actionable steps for mental health service recipients and providers alike.

Although some have expressed fears that the professional embrace of personal recovery will undermine the movement’s political and advocacy roots (O’Hagen, 2009),

the growing CPS workforce may offer further system transformation. Proponents of recovery have suggested that without fundamentally reconceptualizing the relationship between peers and system, recovery is nothing more than lip service (Jacobson & Curtis, 2000). The existence of a specific provider role for individuals with lived experiences is a manifestation of this reconceptualization. Individual CPS encounters translate personal recovery for other peers, and CPSs in the system amplify the political, economic and social dimensions of recovery. In this way, CPSs promote recovery, bootstrapping the process of transformation and change toward fuller community integration.

Recovery and Community Integration

Although no standard definition of community integration has emerged, community integration is conceptually related to recovery (Rogers, 1995; Steele & Bergman, 2001). The core values and internal conditions of recovery translate into action toward community integration (Bond et al., 2004; Onken et al., 2002), and both community integration and recovery share an emphasis on a meaningful life (Substance Abuse and Mental Health Services Administration, 2011). Together, these similarities suggest personal recovery is a key pathway to community integration. Recovery emphasizes an internal process of change, and community integration is an external manifestation of that transformation (Bond et al., 2004). Although some have described the subjective and abstract nature of recovery as a key challenge (Bond et al., 2004; Ralph, 2000), subjective experience provides depth across the physical, social, psychological and capabilities domains in the context of community integration.

Behavioral health services ultimately exist to facilitate goal attainment and help people live fuller lives in the community. Services for people with severe mental illness

have led to placement of people in communities but have often failed to help those people feel a part of their communities. CPSs may be uniquely qualified to advance both recovery and in turn community integration and bridge the divide between people with severe mental illness and their communities.

CPSs and Community Integration

CPSs hold great potential as challengers of the legacy of institutionalization in practices that reinforce separation from community and ultimately isolation. Peer narratives, which initially attracted attention to the subjective expert model in recovery, have the potential to connect subjective experience with universal expectations for community integration. Given their unique combination of provider and recipient roles, CPSs offer an enhanced link between service provision and community life. A person's identification with a CPS can impact their practical knowledge and skill attainment and expand their self-perception. In contrast to hopelessness and despair associated with long-term traditional treatment, CPSs, as explained by social comparison theory, provide possibilities and something to reach toward (Solomon, 2004). Although CPSs take a values-based approach, some settings and tasks are better aligned with specific community integration domains, as discussed in the sections that follow.

CPS Roles/Tasks and Physical Community Integration. As programs and policies have continued to realign to foster independence outside institutions and enhance community participation, many agency-based service environments have relocated into neighborhoods. This physical integration of services in the community has provided services with the ongoing potential to interact with community life. Even clinical services have become uncoupled from offices, and opportunities for treatment have grown to

include psychiatric rehabilitation and peer-based services in addition to traditional treatment options. CPSs are grounded in their own recovery, so a relational approach has typically been a consistent factor across all CPS service environments, although the specific CPS roles and tasks that foster physical integration depend on support type (in-person or telephonic), modality (individual, group, or embedded), and location (agency, community, or home).

In-Person or Telephonic Support Type. In-person support has continued to be the primary vehicle for CPS relationships. The degree to which in-person support directly enhances physical integration likely depends on additional factors, such as recovery orientation and location. Telephonic support has remained less common than in-person support and traces back to peer warm lines designed to prevent crisis and counter isolation. However, telephonic support has expanded to become an independent billable support service that allows individuals to remain in their own environments and access help when and where they find it most useful. Clinical services have also used telephonic peer support as a form of follow-up and resource linkage. Telephonic support has generally comprised a smaller percentage of overall CPS services billed, supplementing rather than supplanting in-person CPS services. Although both in-person and telephonic support can foster physical integration, telephonic support expressly evolved to support people in the community when existing programs were traditionally closed (e.g., evenings, overnights, and weekends).

Individual, Group, or Embedded Modality. Services provided by CPSs occur through individual, group, or embedded modality. Individual services are one-to-one meetings between a CPS and a person receiving services. Groups run by a CPS are often

structured around topics related to recovery or place a CPS in a role facilitating mutual support between members receiving services. Embedded support refers to services occurring in a milieu setting where CPSs are placed in a service environment without a defined role. Across these modalities, CPSs have reported spending the same amount of time in group activities as they do with individuals (Salzer et al., 2010). The relationship between modality and physical integration largely corresponds to emphasis or deemphasis of core relational values. The CPS values of mutuality, choice, and reciprocity conveyed through individual CPS relationships correlate with development of the personal agency necessary for self-directed community participation. Although on the surface the group and individual modalities are equally likely to promote physical integration, the extent to which the process replicates normative contexts further reinforces or erodes the CPS values. For example, large groups in the community might exacerbate stigma more than they lead to benefits from occurring in a natural setting. In this case, interactions would ultimately foster dependence and undermine potential for self-initiated community participation. However, a group modality may lead to friendship and mutual support between members that extends beyond service provision. In the embedded modality, CPSs operate similarly through opportunities to practice values. Closely aligned with drop in programs, embedded peer support is predominantly found in psychiatric rehabilitation settings in which mutuality is the foundation of an intentionally democratic community of choice. When CPSs are embedded in a recovery environment context, their emphasis on shared responsibility works to eradicate stigma, because the roles of all those in the community are indistinguishable in pursuit of shared community tasks.

Agency, Community, or Residence Location. Salzer et al. (2010) reported that CPSs spent twice as much time providing services in agency settings as they did in other settings. This may seem surprising, given the early emphasis on normalization in deinstitutionalization. CPS activities promoting normalization would likely best occur outside agency settings and instead focus on the natural environments where individuals live and negotiate needs, such as their communities and homes. However, CPSs remain important for mitigating oppressive aspects of environments where community participation is impossible—such as hospitals or prisons. Conversely, some psychiatric rehabilitation environments aim to create intentional communities in which the agency environment itself mitigates stigma and stress that are uncontrollable in community interactions. Research is needed into recovery in relation to provision of services in agencies to understand the degree to which the CPS relationship and values compensate or exacerbate the benefits of providing services in communities or homes.

CPS Roles/Tasks and Social Integration. The role of a CPS in fostering mutuality and reciprocity is foundational to the interactional and social networking dimensions of social integration highlighted by Wong and Solomon (2002). With site based services the primary mode of CPS service delivery (Salzer et al, 2010) there is considerable potential for community building and development of peer culture. Although some have expressed concern that programs and agencies create rarified environments that are less authentic than those occurring naturally in the community, programs and agencies also provide places where social networks can develop. Solomon (2004) explained the appeal of CPS relationships through social comparison theory: People are drawn to those they perceive as sharing commonalities with themselves. CPSs

can exploit the same mechanism as they shift programs away from the medical model. Programs sites thus do not risk enabling dependence but become necessary for maintenance of ties and access to the community in ways that are otherwise absent. Encouraging interactions between peers, CPSs can build environments similar to those of other enclave communities (Mandiberg, 2010) in which individuals prefer to be with people they perceive to be like themselves. Any CPS modality that allows formation of peer culture and connections between members therefore facilitates social integration.

CPS Roles/Tasks and Psychological Integration. Given the primacy of relationships for promotion of community integration, the mere existence of a formal CPS role is important to understanding psychological integration. The construction of an identity for a CPS as a person in recovery who has something to contribute to a larger community is the ultimate example for others who are not as far along in their own recovery. According to Wong and Solomon (2002), “psychological integration refers to the extent to which an individual perceives membership in his/her community, expresses an emotional connection with neighbors, and believes in his/her ability to fulfill needs through neighbors, while exercising influence in the community” (p. 19). A CPS fulfilling a professional helping-role models personal agency over dependence. Individuals often see their peers as more credible than other people because their peers share their experiential knowledge (Shubert & Borkman, 1994) and provide examples they can follow (Solomon, 2004). A service recipient’s relationship with a CPS offers the recipient an expanded sense of self. The living example of a CPS exercising influence within a program community and helping to translate this across contexts and settings triggers the mechanisms of social learning theory and social comparison theory that foster

psychological integration. It unlikely that any one modality or setting singularly fosters psychological integration; instead, psychological integration is likely fostered by a breadth of experiences across a range of settings. Developing a person's psychological integration thus likely requires amalgamation of physical, social, and capabilities domains through construction of an identity that embraces the person's ability to contribute.

CPS Roles/Tasks and Capabilities. On a systems level, the CPS role has provided a counter to historically low employment rates and underemployment among individuals with mental illness by creating new job opportunities for advancement of such individuals. Although some service recipients may feel inspired to become CPSs themselves, this opportunity likely has mostly symbolic significance for the majority of recipients. CPS presence on service teams generates even greater opportunities. CPSs have continued to push mental health services toward alignment with recovery principles simply through their continued presence and contribution as staff members. For service recipients, the opportunity to see someone with whom they identify interacting on equal terms with members of the professional team counters former narratives of helplessness. In a more direct way, CPSs also aid navigation of larger community interactions. Such CPS tasks include travel training, accessing other services, and recreational activities, which demonstrate actionable steps in the construction of a life outside of treatment. Although countering system exclusion with yet another role in the system is a source of inherent tension, CPSs form a mechanism of change internal to the system that can ultimately extend the possibilities of recipients beyond mental health services.

Hypotheses

The researcher tested three hypotheses:

- When controlling for personal characteristics, the quantity and variety of CPS services will be positively correlated with reported degree of community integration among individuals with severe mental illness.
- When controlling for personal characteristics, the quantity and variety of CPS services will be positively correlated with reported degree of recovery among individuals with severe mental illness.
- The relationships between CPS services and community integration outcomes will be mediated by the reported degree of recovery among people with severe mental illness.

Chapter 2: Design and Methods

Overview

The purpose of this study was to investigate, among people with severe mental illness, the relationship connecting reported degree of community integration to quantity and type of CPS services and a possible mediating role of recovery in this relationship. This was a retrospective point in time correlational study pairing self-reported community integration and recovery survey data with the prior months' CPS service utilization data for adult behavioral health service recipients at Elwyn. The researcher used regression analysis to identify and assess the strength of these relationships.

Setting

At the time of the study, Elwyn was the nation's oldest private, nonprofit organization supporting people with diverse challenges. Since 1852, Elwyn has been at the forefront of development of unique and innovative services and maximization of the potential of all people. Elwyn has grown into a multistate human services system assisting children, adults, and families at community sites, campus locations, local schools, workplaces, and private homes. At the time of the study, the organization served approximately 13,000 individuals each year and employed more than 2,700 people in multiple service lines at locations in the Pennsylvania counties of Philadelphia, Delaware, Chester, Lehigh, Northampton, Dauphin, and Berks and the states of Delaware, New Jersey, and California. This study took place within Elwyn's Behavioral Health Services Division, headquartered at 4040 Market Street in Philadelphia.

Behavioral Health Service Overview

Elwyn's leaders have always sought to position the organization at the forefront of developing unique, innovative services for people with disabilities; application of that vision specifically to individuals with mental illness began in 1974 with the opening of a vocational program for adults with psychiatric problems. Elwyn's behavioral health services continued to grow as community mental health services emerged and developed as distinct specializations throughout the 1980s and 1990s. As a result of this growth, Elwyn established the Behavioral Health Services Division in 1999 and incorporated recovery and psychiatric rehabilitation within the division in the early part of 2000. A recovery workgroup added in 2004 shifted focus toward a recovery-oriented system that embraced self-determination, hope, empowerment, recovery, and elimination of stigma and discrimination. Programs realigned to facilitate independent meaningful lives grounded in choice and individual goals throughout Philadelphia and Delaware County; at the time of the study, these programs included community residential programs, a psychiatric rehabilitation clubhouse, New Visions (a community integrated recovery center [CIRC]), outpatient services, a residential treatment facility for adults, crisis residential respite, mobile crisis for adults and children, freestanding peer support in Philadelphia, a peer-operated warm line, and a Fairweather Lodge.

Program Data Overview

Elwyn's program realignment developed alongside the City of Philadelphia's recovery transformation process and against the backdrop of the national recovery conversation. Philadelphia's leaders began with elimination of traditional psychiatric day programs, proposing instead a dually licensed psychiatric rehabilitation and outpatient

model called CIRC. Elwyn was one of five initial sites that piloted this model, which was heavily focused on integrating and reintegrating people with severe mental illness into the community. A community participation survey and recovery scale provided monthly data to the city during the first phase of implementation. Agencies used their own recovery planning tools within their records in compliance with state psychiatric rehabilitation services regulations. Aggregate data for community participation and recovery across all sites were scored by the city, making it difficult for agencies to integrate these data for agency program planning and individual recovery plans. The city eliminated survey data requirements as it expanded recovery efforts and added other levels of care. Agencies were left to determine whether and how to collect community integration and recovery information. Elwyn partnered with researchers to develop an instrument that was easy to implement and guided recovery planning with clients in the CIRC and other recovery-oriented programs. Elwyn's administrative adoption of this evolving community integration measure allowed collection of client- and agency-specific data as part of the recovery planning process.

Sample Recruitment and Size

At the time of the study, Elwyn's nonresidential behavioral health programs with CPS services included the Philadelphia-based CIRC, freestanding peer support, and the Delaware County Clubhouse in Upper Darby. These three programs served roughly 500 people annually with an average daily census of 110- 150 collectively. All individuals receiving services within these three programs were eligible for study, and these programs provided de-identified survey and utilization data to the researcher from

participants who completed service plan updates in July 2016 and July 2018. A sample size of 74 was identified as necessary for the power to detect a mediated effect of recovery in the relationship between CPS services and community integration. This sample exceeded minimal requirements for adequate power and was comprised of 104 de-identified data and survey sets Elwyn made available to the researcher.

Eligible Programs

The sections that follow describe the eligible programs delivering CPS services in greater detail.

CIRC Program. The CIRC programs that replaced Philadelphia’s traditional site-based clinical day programs emphasized both community and recovery. CIRC programs were dually licensed as psychiatric rehabilitation and clinical outpatient services and were staffed with CPSs, psychiatric rehabilitation service providers, therapists, and psychiatrists. The program offered individual, group, home, telephonic, embedded, and community CPS services.

Clubhouse. Based on the Fountain House model, clubhouses are democratic, peer-run environments operating with the aim of creating intentional community—in which the program environment itself mitigates stigma and stress that are uncontrollable in community interactions. The Elwyn clubhouse in this study—in Upper Darby, funded by Delaware County—was licensed under psychiatric rehabilitation clubhouse regulations and employed CPSs and psychiatric rehabilitation services staff. CPS services at the clubhouse were embedded.

Freestanding Peer Support. The Elwyn program following a freestanding model was staffed only by CPSs who provided individual community-based support. This program served all of Philadelphia and was unique in that it was not attached to any other clinical or psychiatric rehabilitation services. The freestanding program provided community, home, and telephonic CPS services.

Sample Inclusion Criteria

All individuals receiving services from the three programs were eligible for participation. Program eligibility ensured that every participant was over 18 years of age and met the criteria for receiving psychiatric rehabilitation services under Section 5230 of the Pennsylvania Code by possessing a functional impairment that interfered with or limited performance in a life domain (living, learning, working, or socializing) and resulted from a severe mental illness. The criteria were assessed for the sample as follows:

- Each participant had a primary mental health diagnosis of severe mental illness: schizophrenia or other psychotic disorder (e.g., psychotic disorder not otherwise specified, schizoaffective disorder, or delusional disorder), major mood disorder (e.g., major depressive disorder or bipolar disorder), anxiety disorder (e.g., generalized anxiety disorder, panic disorder, or social anxiety disorder), posttraumatic stress disorder, or borderline personality disorder.
- Each participant was offered an opportunity to add a co-morbid diagnosis, which could be any of above diagnoses listed for the primary mental health diagnosis as well as intellectual disability, learning disability, autism spectrum disorder, and addiction.

- Each participant's age in years was listed as 18 or above at the time of the survey.

Data Collection

This longitudinal correlational study relied on existing agency data. A convenience sample from surveys containing recovery and community integration measures completed in July 2016 and July 2018 was collected from participants updating their service plans that month. Each survey was administered by either a primary recovery coach, a therapist, or a CPS. The surveys were administered at scheduled monthly recovery plan update meetings. A total of 104 surveys were collected, exceeding the 74 determined necessary for power. After collecting the surveys, the agency

- assigned a unique identifier to each survey for study purposes,
- compiled and deidentified utilization data from the month before each survey to correspond with the survey identifiers, and
- provided the deidentified survey data and the utilization data file to the researcher.

Measures

Independent Variables—CPS Services. CPS services were tracked through service utilization data that provided monthly hours and minutes for the month before the date of completion of the survey. Total CPS service hours were further categorized based on type (telephonic or in-person), modality (individual or group), and location (agency site, home, or community). Overall, the seven CPS service variables were telephonic

hours, embedded clubhouse hours, embedded CIRC hours, home hours, community hours, CPS group hours, and total CPS hours:

- Telephonic CPS support could occur in any of the three programs and was capped by billing requirements at 25% of the total services provided to a recipient. As a result, this could never be the primary source of CPS service for members of the sample.
- Embedded clubhouse support occurred in the clubhouse setting, where CPSs were embedded alongside participants and other staff. A clubhouse environment is intentionally democratic and designed to prevent hierarchy formation. Staff members and CPSs were supposed to be indistinguishable in their task and roles in embedded environments.
- Embedded CIRC support occurred in the CIRC, a safe, structured community in which daily activities and interactions were the means of intervention. The data collection distinguished between hours of service received from embedded CPSs in the CIRC milieu and hours of service received in the CIRC from CPSs individually or in group sessions.
- Home hours accounted for CPS services delivered in participants' homes. All three programs allowed for such services.
- Community hours accounted for CPS services that occurred in any community setting and excluded services received at an agency, in a formal program, or in participants' homes. All three programs allowed for such CPS services. Examples included shopping, travel training, job searching, visiting a gym or

other recreation, and eating in restaurants. Data tracked total hours in any community setting and did not track hours for specific activities. This was the predominant mechanism by which participants received services in the freestanding peer support program.

- CPSs led structured groups. Examples included Illness Management and Recovery groups, Wellness Recovery Action Plan groups, and self-help groups (for addiction, women, men, etc.). Utilization data tracked total hours in CPS groups and did not track hours in specific groups. These groups occurred in the CIRC and clubhouse programs.
- Total CPS hours were the cumulative total hours of CPS services received across all service types and modalities.

Dependent Variable—Community Integration. Community integration was measured using the 50-item version of the CCES (Petros et al. 2020). The scale, conceptually based on Wong and Solomon’s (2002) theoretical framework and capabilities approach (Petros et al. 2020), was developed and tested in partnership with Elwyn mental health staff members, CPS staff members, and mental health consumers and uses subjective, objective, and relative questioning. Each response is scored and tracked by its domain:

- The physical domain corresponds to the variety and frequency of activities in which a person engages. Examples of corresponding questions from the scale are “Compared to other people: How often do you do activities outside of your home / the place you’re staying?” (5-anchor Likert scale ranging from *a lot less* to *a lot more*) and “How often do you: Participate in a hobby or

recreational activity?” (5-anchor Likert scale ranging from *about daily* to *almost never*).

- The social domain corresponds to a person’s interactions with others and the quality of the person’s social network. Examples of corresponding questions from the scale are “How satisfied are you with: The amount of time you spend with other people?” (5-anchor Likert scale ranging from *very satisfied* to *very dissatisfied*) and “How often do you talk with friends?” (Compared to others, 5-anchor Likert scale ranging from *a lot less* to *a lot more*).
- The psychological domain encompasses a person’s sense of belonging, identity, and contribution within a self-defined community. Examples of corresponding items from the scale are “The people I care about come to me for help” and “The people in my life love and accept me for who I am” (5-anchor Likert scales ranging from *almost never* to *almost always*).
- The capabilities and volition domain corresponds to choice, having access to opportunities, and exercising self-determination when engaging with society. Examples of corresponding questions from the scale are “How satisfied are you with your opportunities to live somewhere safe, decent and affordable?” (5-anchor Likert scale ranging from *a lot less* to *a lot more*) and “Compared to other people: How much freedom do you have to choose the activities you like to do in your free time?” (5-anchor Likert scale ranging from *a lot less* to *a lot more*).

Petros et al. (2020) reported test–retest reliability of .90 for the CCES along with Cronbach’s alpha values of .89 for the overall scale and .76–.86 for the subscales as they

correlate with each domain. For the sample in this study, Cronbach's alpha for overall scale was .95.

Mediating Variable—Recovery. Each participant's self-reported degree of recovery was captured with the Recovery Assessment Scale—Short Form (RAS Short) as a single numerical total score. The RAS Short is a 20-item measure developed as a shortened version of the 43-item RAS, the most widely used measure of recovery with good psychometric properties (Salzer & Brusilovskiy, 2014). Although the RAS Short form was part of initial data collection in Elwyn's CIRC, specific scores were not made available to the program as the funder collected and scored the data across all five programs. Because of the measure's familiarity and reported ease of use, Elwyn adopted use of the RAS Short form throughout adult behavioral health as part of the partnership developing the CCES. Through a voluntary self-reflective assessment used to measure perceptions of individual recovery, the RAS Short assesses aspects of recovery with a special focus on hope and self-determination, internal processes believed to be critical in the actualization of community integration. Examples of items are "I have a desire to succeed," "Coping with my mental illness is no longer the main focus in my life," and "Something good will eventually happen." Respondents answer on 5-point Likert scales that range from *strongly disagree* to *strongly agree*. The lower the overall score is, the higher the reported degree of recovery is. Cronbach's alpha for the sample in this study was .94.

Control Variables. The researcher controlled for personal characteristics. Demographic information—including gender, race, and living arrangements—were gathered along with data used to assess the inclusion criteria on a self-report cover sheet

provided with the CCES. When participants omitted information, program staff members filled in the gaps from personal records. Any variable that included an “other” category also allowed for further explanation to be written in. The gender, race, and living arrangements variables were collected as follows:

- Race/ethnicity was captured through selection of one of five choices: White, African American/Black, Asian/Pacific Islander, Native American, and other. Ethnic identity for Latino(a)/Hispanic was captured through a yes/no response. These responses were converted to the binary people of color (POC) variable.
- Gender was captured through selection of one of four choices: male, female, transgender, and other. Responses enabled this category to be coded in binary form.
- Short answer responses regarding living arrangements were converted to either independent or supervised living based on the ability of individuals to come and go freely. Responses categorized as independent included: “live alone/independent,” “live with family,” and “boarding home.” Responses categorized as supervised included “group home,” “CRR [community residential rehabilitation],” “nursing home,” “shelter,” “supervised living,” “LTSR [long-term structured residence]” (a locked facility).
- Age was reported in number of years.

Protection of Human Subjects

The University of Pennsylvania Institutional Review Board deemed this study exempt because it relied on deidentified data to the researcher from available agency administrative and clinical records. After matching corresponding data across data sets with unique identifiers, the agency provided deidentified surveys that the researcher turned into an electronic database. The agency also separately extracted corresponding utilization data from the reporting month before each survey and made a deidentified service record file available to the researcher using the corresponding identified number for the survey data. Each of the Microsoft Excel files (one with utilization data and one with survey data) was stored electronically in and protected by a password known only to the researcher. Upon receiving approval from the Institutional Review Board, the researcher merged the survey data and utilization data into one file. Elwyn, Elwyn employees, and Elwyn funding and research partners did not and will not have access to any of the combined research data on individuals; they can access only aggregate data and results as needed for evaluation of program success and future program development. As a result, although there were no anticipated risks from this study for individuals served or agency employees, the researcher hoped that there would be indirect benefits to these groups because the study could guide development of future practice.

Data Analysis

Data Preparation

In preparation for data analysis, three series of tests were conducted: skew diagnostics, multicollinearity diagnostics, and model specification using multiple regression models with all independent variables and covariates.

Skew. To test the assumption that every independent variable was normally distributed, skew diagnostics were conducted. Four variables were found to be highly skewed (skewness in excess of ± 1.00), including agency hours (skewness 3.05), telephonic hours (skewness 8.26), home hours (skewness 5.85), and total hours (skewness 2.61). Histograms were used to identify the source of skew. For three of the variables, skew was due to the majority of participants reporting 0 hr: 60% of participants reported 0 hr of agency CPS support, 68% of participants reported 0 hr of telephonic CPS support, and 92% of participants reported 0 hr of home CPS support. Because of the degree and cause of skewness, these three variables were omitted from further analysis.

The histogram for total hours suggested skewness due to outliers. To normalize the distribution, the five outliers (119, 120, 186, 246, and 252 hr) were Winsorized to the value at the 95th percentile (118 hr). This process reduced the skew for total hours to an acceptable level (1.31).

Multicollinearity. To identify multicollinearity among the independent variables, a regression model was tested that included embedded clubhouse hours, CPS group hours, embedded CIRC hours, community hours, and total hours (Winsorized) along with the hypothesized mediator (recovery) and the dependent variable (community

integration). For Model 1, values of the variance inflation factor for four of the five independent variables—embedded hours (18.54), CPS group hours (5.11), embedded CIRC hours (5.29), and total hours (12.76)—suggested multicollinearity. The variance inflation factor for recovery was 1.12, suggesting no collinearity between recovery and any of the independent variables. Correlation coefficients were also checked, and the highest correlation coefficient between recovery and any independent variable was .24 (between recovery and embedded clubhouse hours), which also suggested no collinearity.

To avoid biased estimates in the tests for model specification, each independent variable was included in a separate model that contained all covariates, recovery, and community integration as the dependent variable.

Model Specification. The ultimate goal of hypothesis testing for this study was to test recovery as a mediator of the relationship between CPS services and community integration. Before conducting mediation analysis, five regression models were tested to identify the measures of CPS service provision and hypothesized covariates that significantly predicted increases in community integration. Only independent variables and covariates identified as significant in these models were included in mediation analyses. This process was conducted to avoid testing 15 models, which would have been necessary for mediation analysis of each of the five independent variables separately. Conducting that many tests would have unnecessarily increased the likelihood a Type I error. Reducing the number of tests by first assessing the significance of the independent variables and separating out those that were not significant thus helped to protect against Type I errors. Covariates were also tested to identify the most parsimonious model for mediation analysis.

Each of the five models had community integration as the dependent variable. As shown in Table 1, each of the five models included recovery, age, gender, the binary person of color variable, and the binary living arrangements variable as predictor variables. Model 1 included embedded clubhouse hours as a predictor variable. Age, gender, race, and living arrangements were not significant predictors of community integration in this model. Model 2 included embedded CIRC hours as a predictor variable. Embedded CIRC hours, age, gender, race, and living arrangement were not significant predictors of community integration in this model. Model 3 included community hours as a predictor variable. Gender, race, and living arrangements were not significant predictors of community integration in this model. Model 4 included CPS group hours as a predictor variable. CPS group hours, gender, race, and living arrangements were not significant predictors of community integration in this model. Model 5 included total hours (Winsorized) as a predictor variable. Age, gender, race, and living arrangements were not significant predictors of community integration in this model.

Table 1

Five Models Predicting Community Integration for Full Sample

Variable	Model 1		Model 2		Model 3		Model 4		Model 5	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Constant	105.27	22.20	110.72	22.66	130.61	22.21	115.16	22.75	100.35	22.07
Emb. clubhouse	0.29**	0.10								
Emb. CIRC			0.66	0.39						
Community					-2.04**	0.56				

Variable	Model 1		Model 2		Model 3		Model 4		Model 5	
	$R^2 = .27$		$R^2 = .23$		$R^2 = .30$		$R^2 = .23$		$R^2 = .29$	
	$F(6, 96) = 5.78^{**}$		$F(6, 96) = 4.73^{**}$		$F(6, 96) = 6.95^{**}$		$F(6, 96) = 4.82^{**}$		$F(6, 96) = 6.28^{**}$	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
CPS group							0.87	0.47		
Total CPS									0.41 ^{**}	0.12
Recovery	0.77 ^{**}	0.22	0.86 ^{**}	0.22	0.87 ^{**}	0.21	0.83 ^{**}	0.22	0.69 ^{**}	0.22
POC	7.30	7.34	-4.60	7.52	4.28	6.79	-5.01	7.53	4.19	6.99
Gender	2.02	6.45	6.44	6.42	3.68	6.15	6.06	6.41	-0.69	6.53
Age	-0.34	0.22	-0.42	0.22	-0.52 [*]	0.21	-0.46 [*]	0.22	-0.26	0.22
Living arr.	10.85	6.60	8.12	6.89	4.50	6.63	7.90	6.89	8.20	6.63

Note. The emb. clubhouse, emb. CIRC, community, CPS group, and total CPS variables correspond to hours of CPS services received. Emb. = embedded; CIRC = community integrated recovery center; CPS = certified peer specialist; POC = person of color; arr. = arrangements.

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

Analysis of Independent Variables, Covariates, and Community Integration

Based on these results, three independent variables (embedded clubhouse hours, community hours, and total hours) were included in hypothesis testing of mediation effects. Age was included as a covariate in the mediation models testing community hours.

Data Analysis Strategy

Descriptive statistics were used to characterize the sample as a whole. Frequency distributions were created for categorical variables, including gender, race/ethnicity, diagnosis, and living arrangements. Means, standard deviations, minimum, maximum, and correlations were calculated for continuous variables, including age, community

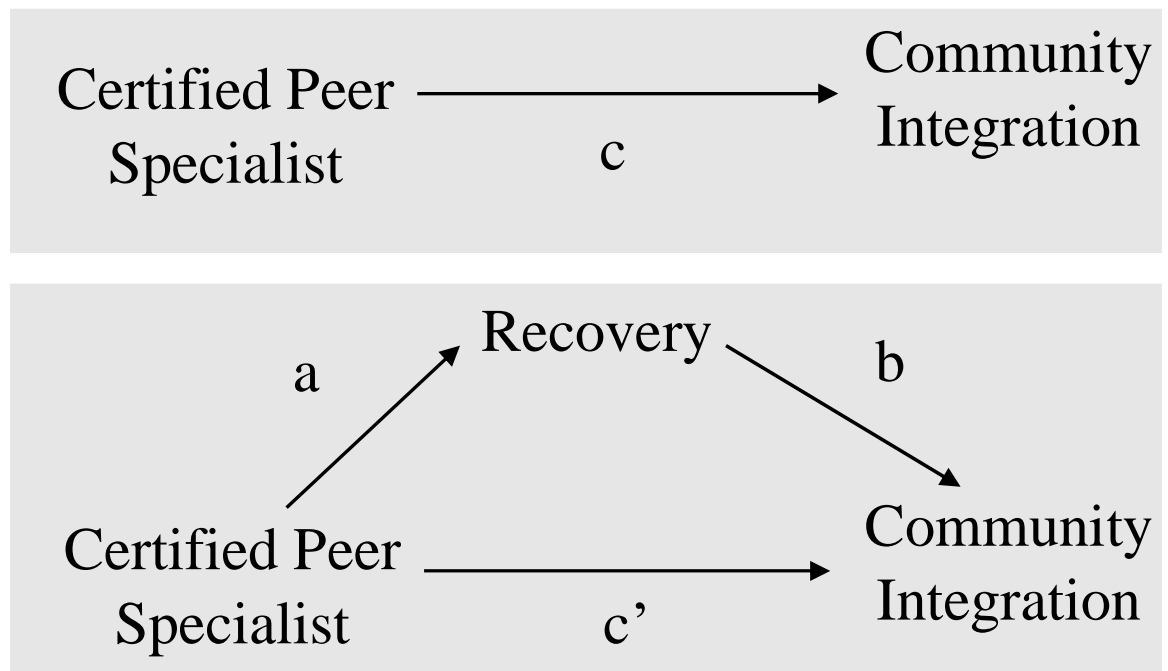
integration, recovery, and the number of hours of CPS services received in total and via telephone, at home, in a CPS group, in the community, in an embedded CIRC setting, and in an embedded clubhouse setting.

Hypothesis Testing

Figure 1 illustrates the model schema used to test all models for mediation.

Figure 1

Model Schema



Indirect effect: $a*b$

Each of the three independent variables representing CPS services (embedded clubhouse hours, community hours, and total hours) was included in a separate mediation

analysis. Each analysis included three models. Model 1 tested the *c*-path, the effect of CPS (embedded clubhouse hours, community hours, or total hours [*x*]) on community integration (*y*). Model 2 tested the *a*-path, the effect of CPS services (*x*) on recovery (*m*). Model 3 tested the *b*-path, the effect of CPS services (*x*) on community integration (*y*) while controlling for recovery (*m*).

Unstandardized regression coefficients (*B*-values) were used to establish whether recovery completely or partially mediated the relationship between community integration and CPS services by comparing estimates for CPS services (*x*) in Models 1 and 3. Reduction of *B* for CPS services in Model 3 would suggest at least partial mediation. Reduction of *B* for CPS services to 0 in Model 3 would suggest complete mediation. The degree of mediation, or the indirect effect, was calculated by multiplying *a* by *b*, using the *B*-value for CPS services (*x*) in Model 2 (the *a*-path) and the *B*-value for recovery (*m*) in Model 3 (the *b*-path). The standard errors for the indirect effect were estimated using a Monte Carlo simulation in which *a* and *b* were used to create a distribution of *ab*-values with which confidence intervals could be created and corresponding *p*-values inferred (MacKinnon, 2004). Selig and Preacher's (2008) online simulator was utilized for the Monte Carlo simulation.

Power Analysis

A mediation analysis tested recovery as a mediator in the relationship between CPS and community integration. The effect size of each of the three relationships being tested was identified based on previous research and used together in Fritz and MacKinnon's (2007) power table to identify the sample size needed to detect a mediated

effect. A medium to large effect size for Certified Peer Specialists on community integration was applied for *path* τ (Klein, Cnaan, & Whitecraft, 1998), a medium effect size of CPS on recovery was applied for *path* *a* (Davidson, Bellamy, Guy, & Miller, 2012; Fuhr et al., 2014) and a medium effect size of recovery on Community Integration was applied for *path* *b* (Davis, Townley, & Kloos, 2013). Taken together, a sample size of $N=74$ was identified as necessary for the power to detect a mediated effect of recovery in the relationship between CPS and community integration.

Chapter 3: Results

Records from a total of 104 people using CPS services participated in the study. The sample consisted of 51 men (49%) and 53 women (51%). Almost two thirds of participants identified as African American ($n = 64$, 61.5%), and the rest identified as Latinx ($n = 5$, 4.8%) or White ($n = 35$, 34%). Participants ranged in age from 22 to 75 years ($M = 50.21$, $SD = 14.71$) suggesting those in the population may have had long treatment histories. As Table 2 indicates, more than half of the sample reported completing high school or obtaining a general equivalency diploma ($n = 56$), and the next largest group reported having some high school ($n = 19$). Relatively few participants reported living independently ($n = 16$, 15%). Most reported living arrangements supervised by staff ($n = 55$), which included locked facilities ($n = 11$, 10.6%), group homes ($n = 19$), community residential rehabilitation ($n = 5$), supervised apartments, supported apartments, and nursing homes. Family living was the single most frequently reported category of living arrangements ($n = 33$, 31.7%). Boarding home ($n = 8$, 7.7%) and shelter living ($n = 3$, 2.9%) accounted for living supervised by staff not specifically trained for mental health needs.

The sample derived from three agency programs: the CIRC, the clubhouse, and freestanding peer support. Participants from the CIRC made up the largest group ($n = 43$, 41.3%), followed by those from the clubhouse ($n = 33$, 31.7%) and freestanding peer support ($n = 27$, 26%). All participants met criteria for severe mental illness and as Table 3 indicates, psychotic disorders accounted for the overwhelming majority of primary mental health diagnoses: schizophrenia ($n = 63$, 63.6%) and schizoaffective disorder

($n = 3$, 1.9%). Major mood disorders were the next largest category: bipolar ($n = 19$, 18.3%) and major depressive disorder ($n = 9$, 2.9%).

Together, data for diagnosis, age, and living arrangement suggest this sample represents a small sub population of behavioral health recipients. Although schizophrenia represents over 60 % of the diagnosis in this study, it is generally thought to affect roughly 1% of the general population. While mental health challenges impact about 18% of the US population annually, only 22% of that group meet criteria for severe mental illness (SMI) (Pew Research Center, 2015). Schizophrenia is an even smaller sub population, representing about half of the total annual inpatient psychiatric hospitalizations for those with SMI (Pew Research Center, 2015). Further, given the range to age 75 and mean age of 50, it is likely this sample also represented a population with longer treatment histories in restrictive settings. While generalizability of these study results is likely limited to this sub population, their challenge in the achievement of community integration outcomes and disproportionate associated treatment costs are of pressing concern for the entire behavioral health system.

Table 2

Educational Attainment and Living Environment

Characteristic	<i>f</i>	%
Education		
Eighth grade or lower	10	9.6
Some high school	19	18.3
High school diploma/general equivalency diploma	56	53.8
Some college	15	14.4
Bachelor’s degree	2	1.9

Master's degree	1	1.0
Living arrangements		
Assisted living	2	1.9
Boarding home	8	7.7
Community residential rehabilitation	5	4.8
Family	33	31.7
Group home	19	18.3
Independent	16	15.4
Long-term structured residence	11	10.6
Nursing home	2	1.9
Shelter	3	2.9
Supported apartment	4	3.8
Supervised	1	1.0

The remaining 10.6% had diagnoses of anxiety ($n = 7$, 6.7%) and posttraumatic stress disorder ($n = 3$, 2.9%). Most participants reported no additional diagnoses. The majority of the 33 additional reports were unrelated to severe mental illness: intellectual disability accounted for 7.7% ($n = 8$), and autism spectrum disorder accounted for 6.7% ($n = 7$), with participants reporting both autism ($n = 5$) and Asperger's syndrome ($n = 2$), even though both have now been absorbed into the diagnosis of autism spectrum disorder.

Table 3

Primary and Comorbid Diagnoses

Characteristic	<i>f</i>	%
Primary mental health diagnosis		
Anxiety	7	6.7
Bipolar	19	18.3
Borderline	1	1.0

Major depressive disorder	9	8.7
Posttraumatic stress disorder	3	2.9
Schizoaffective	2	1.9
Schizophrenia	63	60.6
Comorbid Diagnosis		
Autism	5	4.8
Asperger's syndrome	2	1.9
Addiction	3	2.9
Bipolar	4	3.8
Intellectual disability	8	7.7
Major depressive disorder	2	1.9
Psychotic disorder	1	1.0
Posttraumatic stress disorder	5	4.8
Schizoaffective	1	1.0
Schizophrenia	2	1.9

Addiction also accounted for three of the additional diagnoses. A few participants reported additional mental health diagnoses that would on their own have met agency criteria for program inclusion: posttraumatic stress disorder ($n = 5$), bipolar ($n = 4$), major depressive disorder ($n = 2$), schizophrenia ($n = 2$), psychotic disorder ($n = 1$), and schizoaffective disorder ($n = 1$).

As Table 4 indicates, participants received the most CPS services in the embedded clubhouse setting ($M = 20.11$, $SD = 34.63$) and the least in the agency setting ($M = 0.62$, $SD = 1.06$). Every category except total hours indicated zero hours for some of the respondents. Variety of services further appears to correspond with the program of origin, as free-standing peer support primarily reported hours in community, CIRC reported group hours and embedded CIRC hours, while Clubhouse respondents report

primarily embedded clubhouse hours. Telephonic hours, home hours, and agency hours all reported significantly lower hours of services delivered.

Table 4

CPS Service Hours

Variable	<i>M</i>	<i>SD</i>	Minimum	Maximum
Telephonic hours	1.17	8.01	0	75
Home hours	6.50	37.30	0	240
Embedded clubhouse hours	20.11	34.63	0	120
Embedded CIRC hours	7.07	9.15	0	28
Agency hours	0.62	1.06	0	6
Community hours	6.59	5.68	0	28
CPS group hours	5.59	7.43	0	24
Total CPS hours	47.65	42.55	4	252

Note. CIRC = community integrated recovery center; CPS = certified peer specialist.

Table 5 indicates recovery and community integration data after scoring surveys for the entire sample.

Table 5

Survey Scores

Survey	<i>M</i>	<i>SD</i>	Minimum	Maximum
Community integration	162.38	35.21	67	248
Recovery	74.27	14.70	21	100

Hypothesis Testing

Mediation analyses were conducted for three measures of CPS services: embedded clubhouse hours, community hours, and total hours.

Hours of Embedded Clubhouse CPS Services

The results of the mediation analysis for embedded clubhouse hours appear in Table 6. Model 1, which tested the effect of embedded clubhouse hours on community integration, accounted for 11% of the variance in community integration, $R^2 = .11$, $F(1, 102) = 12.11$, $p < .01$. Embedded clubhouse hours significantly predicted increases in community integration, with a 3-point increase in community integration for each additional 1 hr of embedded clubhouse CPS services ($B = 0.33$, $p < .01$). Model 2, which tested the effect of embedded clubhouse hours on recovery, accounted for 6% of the variance in recovery, $R^2 = .06$, $F(1, 102) = 6.21$, $p < .05$. Embedded clubhouse hours significantly predicted increases in recovery, with an approximate 6-point increase in recovery associated with each additional 1 hour of embedded clubhouse CPS services ($B = 0.10$, $p < .05$). Model 3, which tested the effect of embedded clubhouse hours on community integration while controlling for recovery, accounted for 19% of the variance in community integration, $R^2 = .19$, $F(1, 101) = 11.96$, $p < .01$. Both embedded clubhouse hours and recovery significantly predicted increases in community integration, with a 4-point increase in community integration for each additional 1 hr of embedded clubhouse CPS services ($B = 0.26$, $p < .05$) and an approximate 1-point increase in community integration associated with each additional 1 point of recovery ($B = 0.76$, $p < .01$).

Table 6*Mediation Analysis of Embedded Clubhouse Hours, Community Integration, and**Recovery*

Variable	Model 1 Community integration $R^2 = .11$ $F(1, 102) = 12.11^{**}$			Model 2 Recovery $R^2 = .06$ $F(1, 102) = 6.21^*$			Model 3 Community integration $R^2 = .19$ $F(1, 101) = 11.96^{**}$		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
Constant	155.71	3.80		72.23	1.63		103.66	16.35	
Embedded clubhouse	0.33 ^{**}	0.10	.33	0.10 [*]	0.04	.24	0.26 [*]	0.09	.25
Recovery							0.72 ^{**}	0.22	.30

Note. The embedded clubhouse variable corresponds to certified peer specialist services received in the embedded clubhouse setting.

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

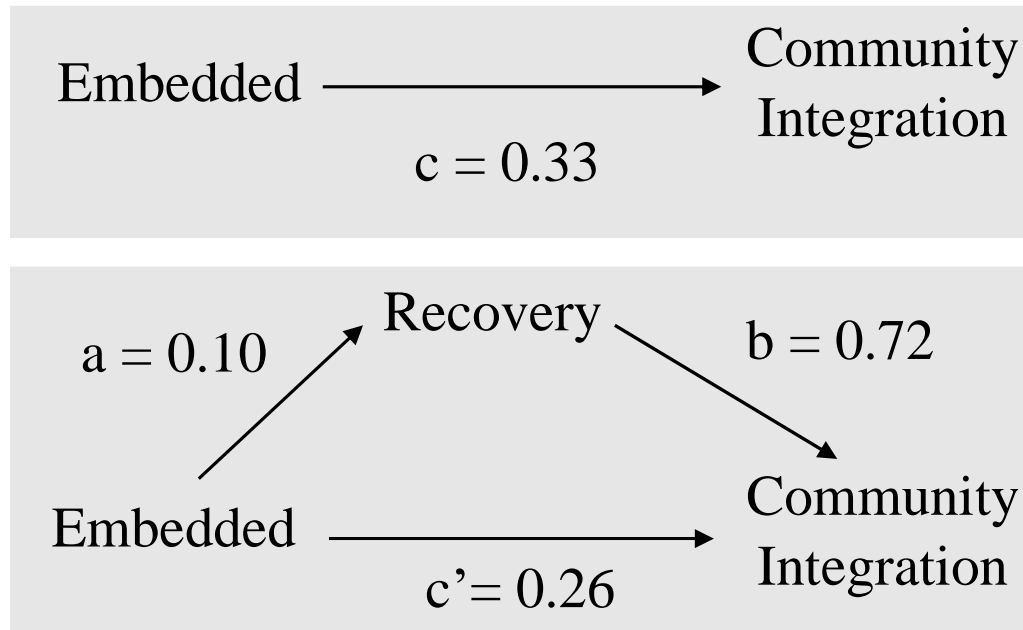
Figure 2 illustrates that the effect of embedded clubhouse hours on community integration was larger in Model 1 ($c = 0.33$) than in Model 3, when recovery was added to the model ($c' = 0.26$). The indirect effect, determined by either $c - c'$ ($0.33 - 0.26 = 0.07$) or $a \times b$ ($0.10 \times 0.72 = 0.07$), was significant, $p < .05$, 95% CI [0.01, 0.15].

Together, these findings support the hypothesis that the relationship between CPS services and community integration is partially mediated by recovery when CPS services are measured using hours of embedded clubhouse CPS services.

Figure 2

Mediation by Recovery of the Effect of Embedded Clubhouse Hours on Community

Integration



Indirect effect: $a*b = 0.07, p < 0.05$

Note. The embedded variable corresponds to hours of certified peer specialist services received in the embedded clubhouse setting.

Hours of Community CPS Services

Table 7 summarizes the results of mediation analysis for community hours. Model 1, which tested the effect of community hours on community integration, accounted for 15% of the variance in community integration, $R^2 = .15, F(2, 100) = 8.53, p < .01$.

Community hours significantly predicted decreases in community integration, with an approximate 1-point decrease in community integration associated with every additional 2 hour of community CPS services ($B = -2.15, p < .01$) when controlling for age. Model

2, which tested the effect of community hours on recovery was not significant and accounted for less than 1% of the variance in recovery, $R^2 = .001$, $F(3, 100) = 0.34$, $p < .05$. Community hours also did not significantly predict recovery ($B = -0.02$, $p > .01$). Model 3, which tested the effect of community hours on community integration while controlling for recovery and age, accounted for less than 30% of the variance in recovery, $R^2 = .30$, $F(3, 99) = 13.56$, $p < .01$. Both community hours and recovery significantly predicted increases in community integration, with an approximate 1-point decrease in community integration associated with each additional 2 hour of community CPS services ($B = -2.14$, $p < .01$) and an approximate 1-point increase in community integration associated with each additional 1 point of recovery ($B = 0.84$, $p < .01$). Although these findings do not support recovery as a mediator of the relationship between community hours and community integration, the significant regression coefficients in Model 3 suggest that the two variables together are important contributors to variance in community integration.

Table 7

Mediation Analysis of Community Hours, Community Integration, Recovery, and Age

Variable	Model 1 Community integration $R^2 = .15$ $F(2, 100) = 8.53^{**}$			Model 2 Recovery $R^2 = .001$ $F(2, 100) = 0.34$			Model 3 Community integration $R^2 = .30$ $F(3, 99) = 13.56^{**}$		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
Constant	206.57	12.36		75.69	5.65		143.05	19.23	
Community hours	-2.15 ^{**}	0.57	-.35	-0.02	0.26	-.01	-2.14 ^{**}	0.53	-.35
Recovery							0.84 ^{**}	0.20	.35
Age	-0.60 ^{**}	0.22	-.25	-0.03	0.10	-.03	-0.58 ^{**}	0.20	-.24

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

Total Hours of CPS Services

Table 8 summarizes the mediation analysis for total CPS hours. Model 1, which tested the effect of total CPS hours on community integration, accounted for 19% of the variance in community integration, $R^2 = .19$, $F(1, 99) = 22.43$, $p < .01$. Total hours significantly predicted community integration, with an approximate 2-point increase in community integration associated with each 1 hr of additional CPS services ($B = 0.53$, $p < .01$). Model 2, which tested the effect of total hours on recovery, accounted for 8% of the variance in recovery, $R^2 = .08$, $F(1, 102) = 6.21$, $p < .05$. Total hours significantly predicted recovery, with a 6-point increase in recovery associated with each 1 hr of additional CPS services ($B = 0.15$, $p < .01$). Model 3, which tested the effect of total CPS hours on community integration while controlling for recovery, accounted for 25% of the variance in community integration, $R^2 = .25$, $F(2, 98) = 11.96$, $p < .01$. Both total hours and recovery score significantly predicted increases in community integration, with an approximate 2-point increase in community integration associated with each 1 hr of additional CPS services ($B = 0.43$, $p < .01$) and an approximate 1.5-point increase for each additional point of recovery ($B = 0.64$, $p < .01$).

Table 8*Mediation Analysis of Total CPS Hours, Community Integration, and Recovery*

Variable	Model 1 Community integration $R^2 = .19$ $F(1, 99) = 22.43^{**}$			Model 2 Recovery $R^2 = .08$ $F(1, 102) = 8.62^*$			Model 3 Community integration $R^2 = .25$ $F(2, 98) = 16.47^{**}$		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
Constant	141.08	5.67		68.02	2.55		97.71	15.64	
Total CPS	0.53 ^{**}	0.11	.43	0.15 ^{**}	0.05	.28	0.43 ^{**}	0.11	.35
Recovery							0.64 ^{**}	0.22	.27

Note. The total CPS variable corresponds to all hours of CPS services received. CPS = certified peer specialist.

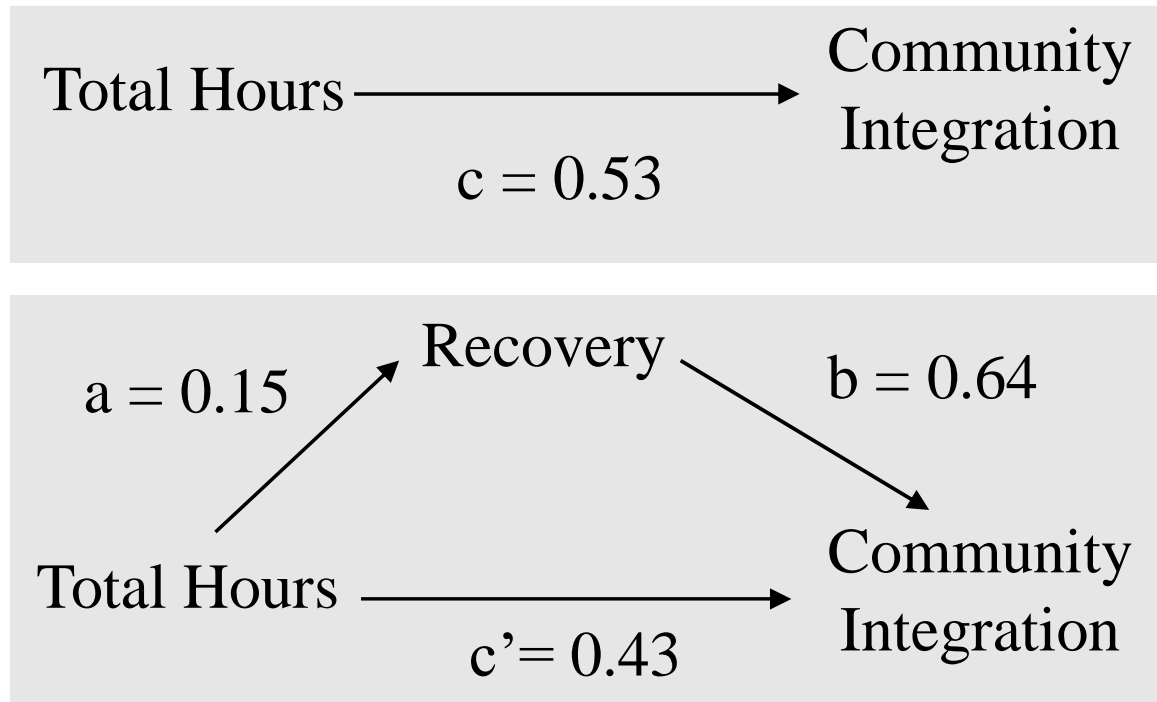
* $p < .05$. ** $p < .01$.

Figure 3 illustrates that the effect of total hours on community integration was larger in Model 1 ($c = 0.53$) than in Model 3, when recovery was added to the model ($c' = 0.43$). The indirect effect, determined by either $c - c'$ ($0.53 - 0.43 = 0.10$) or $a \times b$ ($0.15 \times 0.64 = 0.10$), was significant, $p < .05$, 95% CI [0.02, 0.20]. Together, these findings support the hypothesis that the relationship between CPS services and community integration is partially mediated by recovery when CPS services are measured using total hours of CPS services.

Figure 3

Mediation by Recovery of the Effect of Total Certified Peer Specialist Hours on

Community Integration



Indirect effect: $a*b = 0.10, p < 0.05$

Post Hoc Analysis of Nonclubhouse Participants

The differences in findings between participants from the clubhouse and participants from other programs seemed to highlight the recovery orientation inherent in the clubhouse model. The researcher was thus concerned that the clubhouse subsample might have biased the data for overall CPS hours and decided to run the analyses again without the clubhouse subsample.

Power Analysis

A second power analysis was conducted to determine the sample size needed to test mediation effects with the smaller post hoc sample of nonclubhouse participants. Based on the results of hypothesis testing with the full sample, considered in the context of existing research, a large effect size was assumed for the relationship between CPS services and community integration (*c*-path; Klein et al., 1998), a medium effect size was assumed for the relationship between CPS services and recovery (*a*-path; Davidson et al., 2012; Fuhr et al., 2014), and a large effect size was assumed for the relationship between recovery and community integration (*b*-path; Davis et al., 2013). Fritz and MacKinnon's (2007) power table indicated that a sample size of 59 was necessary to detect mediation by recovery of the relationship between CPS services and community integration. The adjusted sample for post hoc analysis included 71 participants, so the new sample was large enough to allow detection of mediation.

Model Specification

Several regression models were again tested to identify the independent variables that significantly predicted community integration in the post hoc sample; these variables were then included in mediation analyses with recovery and community integration. As before, control variables were also included to identify the most parsimonious models. Each of the five models had community integration as the dependent variable. As shown in Table 9, each of the five models included recovery, age, gender, the binary person of color variable, and the binary living arrangements variable as predictor variables. Model 1 included embedded clubhouse hours as a predictor variable.

Table 9*Five Models Predicting Community Integration for Post Hoc Sample*

Variable	Model 1		Model 2		Model 3		Model 4		Model 5	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Constant	54.44	29.65	53.96	53.96	75.01	29.84	69.86	27.31	46.63	28.47
Emb. clubhouse	-0.43	1.42								
Emb. CIRC			1.51**	1.51						
Community					-1.63*	0.70				
CPS group							1.78**	0.49		
Total CPS									0.70**	0.25
Recovery	1.43**	0.38	1.30**	0.34	1.45**	0.36	1.18**	0.35	1.37**	0.37
POC	-1.74	9.59	-9.18	8.83	-1.38	9.19	-8.88	8.92	-9.63	9.84
Gender	4.77	7.87	1.69	7.13	2.01	7.65	0.49	7.25	0.11	7.80
Age	-0.31	0.27	-0.20	0.24	-0.43	0.26	-0.31	0.24	-0.24	0.26
Living arr.	21.34**	7.95	13.69	7.39	17.55*	7.74	13.76	7.48	13.53	8.06

Note. The emb. clubhouse, emb. CIRC, community, CPS group, and total CPS variables correspond to hours of CPS services received. Emb. = embedded; CIRC = community integrated recovery center; CPS = certified peer specialist; POC = person of color; arr. = arrangements.

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

Embedded clubhouse hours, age, gender, and race were not significant predictors of community integration in this model. Model 2 included embedded CIRC hours as a predictor variable. Age, gender, race, and living arrangements were not significant predictors of community integration in this model. Model 3 included community hours as a predictor variable. Gender, race, and living arrangements were not significant predictors of community integration in this model. Model 4 included CPS group hours as a predictor

variable. Age, gender, race, and living arrangements were not significant predictors of community integration in this model. Model 5 included total CPS hours (Winsorized) as a predictor variable. Age, gender, race, and living arrangements were not significant predictors of community integration in this model.

Based on these results, four independent variables (embedded CIRC hours, community hours, CPS group hours, and total CPS hours) were included in hypothesis testing of mediation effects. The living arrangements variable was included as a covariate in the mediation models testing community hours.

Hours of Embedded CIRC CPS Services

Table 10 displays the analysis of recovery as a mediator of the relationship between embedded CIRC hours and community integration. Model 1, which tested the effect of embedded CIRC hours on community integration, accounted for 27% of the variance in community integration, $R^2 = .27$, $F(1, 69) = 24.93$, $p < .001$. Embedded CIRC hours significantly predicted increases in community integration, with an approximate 1-point increase in community integration for each 2 hr of additional embedded CIRC services ($B = 1.90$, $p < .01$). Model 2, which tested the effect of embedded CIRC hours on recovery, accounted for 1% of the variance in recovery, $R^2 = .01$, $F(1, 69) = 0.91$, $p > .05$, and was not significant. Embedded CIRC hours did not significantly predict changes in recovery ($B = 0.12$, $p > .05$). Model 3, which tested the effect of embedded CIRC hours on community integration while controlling for recovery, accounted for 39% of the variance in community integration, $R^2 = .39$, $F(2, 68) = 22.10$, $p < .001$. Both embedded CIRC hours and recovery significantly predicted increases in community integration, with a 1-point increase in community integration associated with each

additional 1.75 hr of embedded CIRC services ($B = 1.75, p < .001$) and a 1-point increase in community integration associated with each additional 1.75 points of recovery ($B = 1.22, p < .001$). Although these findings do not support recovery as a mediator of the relationship between embedded CIRC hours and community integration, the increase in R^2 between Model 1 and Model 2, and the significant regression coefficients suggest that the two variables together are important contributors to variance in community integration.

Table 10

Post Hoc Mediation Analysis of Embedded CIRC Hours, Community Integration, and Recovery

Variable	Model 1 Community integration $R^2 = .27$ $F(1, 69) = 24.93^{***}$			Model 2 Recovery $R^2 = .01$ $F(1, 69) = 0.91$			Model 3 Community integration $R^2 = .39$ $F(2, 68) = 22.10^{***}$		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
Constant	135.59	5.30		71.47	1.82		48.21	23.51	
Embedded CIRC	1.90 ^{***}	0.38	.52	0.12	0.13	.11	1.75 ^{***}	0.35	.47
Recovery							1.22 ^{***}	0.32	.36

Note. The embedded CIRC variable corresponds to certified peer specialist services received in the embedded CIRC setting. CIRC = community integrated recovery center.

^{***} $p < .001$

Hours of Community CPS Services

Table 11 displays the analysis of recovery as a mediator of the relationship between community hours and community integration. Model 1, which tested the effect

of community hours on community integration while controlling for living arrangements, accounted for 16% of the variance in community integration, $R^2 = .16$, $F(2, 68) = 6.65$, $p < .01$. Community hours significantly predicted decreases in community integration, with an approximate 1-point decrease in community integration for each additional 1.5 hr of community CPS services ($B = 1.63$, $p < .05$). Model 2, which tested the effect of community hours on recovery while controlling for living situation, accounted for 0.2% of the variance in recovery, $R^2 = .002$, $F(2, 68) = 0.08$, $p > .05$, and was not significant. Neither community hours ($B = -0.10$, $p > .05$) nor living arrangements ($B = -0.35$, $p > .05$) significantly predicted changes in recovery. Model 3, which tested the effect of community hours on community integration while controlling for recovery and living arrangements, accounted for 33% of the variance in community integration, $R^2 = .33$, $F(3, 67) = 10.97$, $p < .01$. Community hours and recovery both significantly predicted changes in community integration, with an approximate 1-point decrease in community integration associated with each additional 1.5 hr of community CPS services ($B = -1.49$, $p < .01$) and a 1-point increase in community integration associated with each additional 1.5 points of recovery ($B = 1.38$, $p < .01$). Although these findings do not support recovery as a mediator of the relationship between community hours and community integration, the increase in R^2 between Model 1 and Model 2 and the significant regression coefficients suggest that the two variables together are important contributors to variance in community integration.

Hours of Group CPS Services

Table 12 displays the analysis of recovery as a mediator of the relationship between CPS group hours and community integration. Model 1, which tested the effect of

CPS group hours on community integration, accounted for 28% of the variance in community integration, $R^2 = .28$, $F(1, 69) = 27.36$, $p < .01$.

Table 11

Post Hoc Mediation Analysis of Community Hours, Community Integration, and Recovery

Variable	Model 1 Community integration $R^2 = .16$ $F(2, 68) = 6.65^{**}$			Model 2 Recovery $R^2 = .002$ $F(2, 68) = 0.08$			Model 3 Community integration $R^2 = .33$ $F(3, 67) = 10.97^{**}$		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
Constant	157.11	8.90		73.74	2.87		55.31	26.28	
Community hours	-1.63*	0.75	-.24	-0.10	0.24	-.05	-1.49*	0.68	-.22
Recovery							1.38**	0.34	.41
Living	20.06*	7.80	.29	-0.35	2.51	-.02	20.55**	7.04	.30

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

CPS group hours significantly predicted increases in community integration, with an approximate 1-point increase in community integration for each additional 2.5 hr of CPS group services ($B = 2.40$, $p < .01$). Model 2, which tested the effect of CPS group hours on recovery, accounted for 6% of the variance in recovery, $R^2 = .06$, $F(1, 69) = 4.17$, $p < .05$ and significantly predicted increases in recovery, with an approximate 3-point increase in recovery for every additional 1 hr of CPS group services ($B = 0.32$, $p < .05$). Model 3, which tested the effect of CPS group hours on community integration while controlling for recovery, accounted for 37% of the variance in community integration, $R^2 = .37$, $F(2, 68) = 20.13$, $p < .01$. Both CPS group hours and recovery significantly predicted increases in community integration, with an approximate 1-point increase in

community integration associated with each 2 hr of additional CPS group services ($B = 2.07, p < .01$) and a 1-point increase in community integration associated with each additional point of recovery ($B = 1.03, p < .01$).

Table 12

Post Hoc Mediation Analysis of CPS Group Hours, Community Integration, and Recovery

Variable	Model 1 Community integration $R^2 = .28$ $F(1, 69) = 27.36^{**}$			Model 2 Recovery $R^2 = .06$ $F(1, 69) = 4.17^*$			Model 3 Community integration $R^2 = .37$ $F(2, 68) = 20.13^{**}$		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
Constant	135.62	5.14		70.17	1.74		63.07	24.02	
CPS group	2.40 ^{**}	0.46	.53	0.32 [*]	0.16	.24	2.07 ^{**}	0.45	.46
Recovery							1.03 ^{**}	0.34	.31

Note. The CPS group variable corresponds to CPS services received in a group setting.

CPS = certified peer specialist.

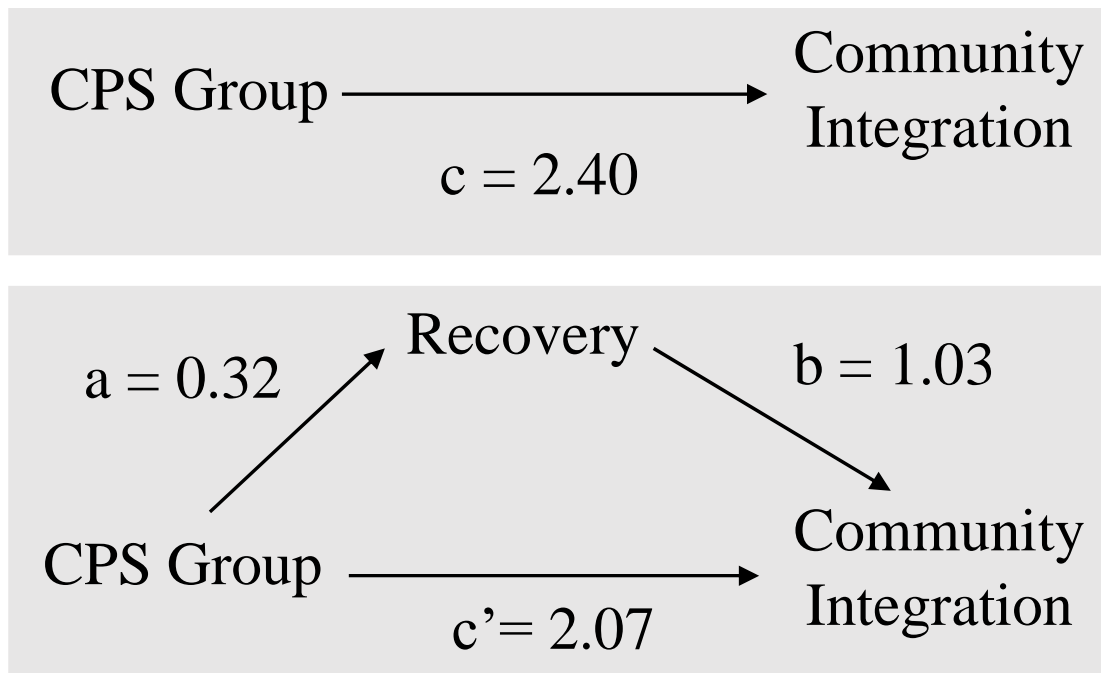
* $p < .05$. ** $p < .01$.

Figure 4 illustrates that the effect of CPS group hours on community integration was larger in Model 1 ($c = 2.40$) than in Model 3, when recovery was added to the model ($c' = 2.07$). However, the indirect effect, determined by either $c - c'$ ($2.40 - 2.07 = 0.33$) or $a \times b$ ($0.32 \times 1.03 = 0.33$), was not significant at the $p < .05$ level, 95% CI $[-0.02, 0.08]$. Although these findings do not support recovery as a mediator of the relationship between CPS group hours and community integration, the increase in R^2

between Model 1 and Model 2 and the significant regression coefficients suggest that the two variables together are important contributors to variance in community integration.

Figure 4

Post Hoc Mediation by Recovery of the Effect of CPS Group Hours on Community Integration



Indirect effect: $a*b = 0.33, p > 0.05$

Note. CPS = certified peer specialist.

Total Hours of CPS Services

Table 13 displays the analysis of recovery as a mediator of the relationship between total CPS service hours and community integration. Model 1, which tested the effect of total CPS service hours on community integration, accounted for 20% of the variance in community integration, $R^2 = .20, F(1, 66) = 16.55, p < .001$.

Table 13*Post Hoc Mediation Analysis of Total Certified Peer Specialist Hours, Community**Integration, and Recovery*

Variable	Model 1 Community integration $R^2 = .20$ $F(1, 66) = 16.55^{***}$			Model 2 Recovery $R^2 = .02$ $F(1, 66) = 1.22$			Model 3 Community integration $R^2 = .34$ $F(2, 65) = 16.77^{**}$		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
Constant	127.95	7.94		70.05	2.62		39.14	25.00	
Total hours	0.92 ^{**}	0.23	.45	0.08	0.08	.14	0.82 ^{**}	0.21	.40
Recovery							1.27 ^{**}	0.34	.38

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

Total CPS service hours significantly predicted increases in community integration, with an approximate 1-point increase in community integration for each additional 1 hr of CPS services ($B = 0.92, p < .01$). Model 2, which tested the effect of total service hours on recovery, accounted for 2% of the variance in recovery, $R^2 = .02, F(1, 66) = 1.22, p > .05$, and was not significant. Total CPS service hours did not significantly predict increases in recovery ($B = 0.08, p > .05$). Model 3, which tested the effect of total service hours on community integration while controlling for recovery, accounted for 34% of the variance in community integration, $R^2 = .34, F(2, 65) = 16.77, p < .01$. Both total CPS service hours and recovery score significantly predicted increases in community integration, with an approximate 1-point increase in community integration associated with each 1 hr of additional CPS services ($B = 0.82, p < .01$) and a 1-point increase in community integration associated with each additional 1.25 points of recovery ($B = 1.27, p < .01$). Although these findings do not support recovery as a mediator of the relationship

between total CPS service hours and community integration, the increase in R^2 between Model 1 and Model 2 and the significant regression coefficients suggest that the two variables together are important contributors to variance in community integration.

Comparison of Full and Post Hoc Samples

Table 14 displays the significance values and regression coefficients (slopes) for the independent variables (type of CPS service), the hypothesized mediator (recovery), and the control variables (race, gender, age, and living arrangements) for both the original and post hoc samples. For standard errors, see Tables 1 (full sample) and 9 (post hoc sample).

In the full sample, two of the four types of CPS service significantly predicted changes in community integration (embedded clubhouse and community); in the post hoc sample, three of the four types of CPS service significantly predicted changes in community integration (embedded CIRC, community, and CPS group). Comparing the rates of change across the two samples reveals that the number of hours that predicted an increase in community integration for embedded clubhouse CPS services, embedded CIRC CPS services, and total CPS services was smaller for the full sample than for the post hoc sample. And the number of hours that predicted decreases in community integration for community CPS services was larger for the full sample than for the post hoc sample.

Recovery score also significantly predicted increases in community integration across all types of CPS service in both samples; although, again, a smaller increase in recovery predicted an increase in community integration in the full sample relative to the post hoc sample.

Table 14*Comparison of the Regression Coefficients in the Full and Post Hoc Samples*

Variable	<i>B</i>				
	Model 1	Model 2	Model 3	Model 4	Model 5
Full sample					
Constant	105.27	110.72	130.61	115.16	100.35
Embedded clubhouse	0.29**				
Embedded CIRC		0.66			
Community			-2.04**		
CPS group				0.87	
Total hours					0.41**
Recovery	0.77**	0.86**	0.87**	0.83**	0.69**
POC	7.30	-4.60	4.28	-5.01	4.19
Gender	2.02	6.44	3.68	6.06	-0.69
Age	-0.34	-0.42	-0.52*	-0.46*	-0.26
Living arrangements	10.85	8.12	4.50	7.90	8.20
No clubhouse					
Constant	54.44	53.96	75.01	69.86	46.63
Embedded clubhouse	-0.43				
Embedded CIRC		1.51**			
Community			-1.63*		
CPS group				1.78**	
Total CPS					0.70**
Recovery	1.43**	1.30**	1.45**	1.18**	1.37**
POC	-1.74	-9.18	-1.38	-8.88	-9.63
Gender	4.77	1.69	2.01	0.49	0.11
Age	-0.31	-0.20	-0.43	-0.31	-0.24
Living arrangements	21.34**	13.69	17.55*	13.76	13.53

Note. The embedded clubhouse, embedded CIRC, community, CPS group, and total CPS variables correspond to hours of CPS services received. CIRC = community integrated recovery center; CPS = certified peer specialist; POC = person of color.

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

The results for living arrangements suggest that those in the post hoc sample who lived independently or with family had community integration scores higher than those with supervised living arrangements when they received embedded clubhouse CPS services (20-point difference) or community CPS services (17-point difference). This relationship was not apparent for any type of CPS service in the full sample. Age as a predictor of community integration also differed between the samples; there were negative correlations between age and community integration for those receiving community CPS services and CPS group services in the full sample but not in the post hoc sample.

Table 15 summarizes the results of mediation analysis for the full and post hoc samples. In both samples, the direct effect of CPS hours on community integration differed by type of CPS service, with more consistency across service types in the post hoc sample (three of four service types) than in full sample (two of four service types). The effect of CPS service hours on recovery also differed by setting and sample, with positive correlations for two of the four service types in the full sample but only one of the four service types in the post hoc sample. The direct effect of total CPS service hours on community integration was significant in both samples.

Recovery as a mediator of the relationship between CPS services and community integration also differed by sample. Evidence for mediation was stronger in the full sample: For embedded clubhouse hours and total CPS hours, increased hours predicted increased recovery, increased recovery predicted increased community integration, and the interaction between the two paths was significant. Evidence for mediation was weak in the post hoc sample: Increased hours only significantly predicted increased recovery for CPS group hours, and although increased recovery significantly predicted increased

community integration for CPS group hours, the interaction of the two paths was not significant.

Table 15

Comparison of the Mediation Relationship Among Variables in the Full and Post Hoc Samples

Variable	Total effect <i>c</i>	Direct effect <i>c'</i>	<i>a</i>	<i>b</i>	Indirect effect <i>a × b</i>
Full sample					
Embedded clubhouse	0.33**	0.26*	0.10*	0.72**	0.07*
Community	-2.15**	-2.14**	-0.02	0.84**	0.02
Total CPS	0.53**	0.43**	0.15**	0.64**	0.01*
No clubhouse					
Embedded CIRC	1.90*	1.75*	0.12	1.22*	0.15
Community	-1.63*	-1.49*	-0.10	1.38**	0.14
CPS group	2.40**	2.07**	0.32*	1.03**	0.33
Total CPS	0.92**	0.82*	0.08	1.27**	0.10

Note. The embedded clubhouse, community, total CPS, embedded CIRC, and CPS group variables correspond to hours of CPS services received. Variable *a* corresponds to the relationship between CPS services and recovery, variable *b* corresponds to the relationship between recovery and community integration, and variables *c* and *c'* correspond to the relationship between CPS services and community integration. CIRC = community integrated recovery center; CPS = certified peer specialist.

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

Chapter 4: Discussion and Conclusions

Despite the widespread belief that recovery ought to be the goal of mental health services, how to provide mental health services that truly facilitate fuller life in the community has remained elusive. CPS roles have continued to expand as services have shifted away from agencies and clinical environments to further align with recovery. As an embodiment of recovery, CPSs act as translational practitioners—translating recovery concepts from theory into actual practice. The purpose of this study was to link CPS services to community integration outcomes through recovery by the employment of a retrospective point in time correlational study using regression and mediation analysis to examine these relationships. Although the study findings support the notion that CPSs are important to recovery, the results suggest that merely moving services into the community is insufficient. Overall, findings showed partial mediation. In a first run of data the results indicated that total CPS service hours and embedded clubhouse service hours predicted community integration and were partially mediated by recovery. Post hoc analysis removing the clubhouse subsample showed similar trends, although it did not support mediation for overall increased CPS hours. CPS services received in the community, however, were significantly negatively correlated with community integration in analysis of both data sets.

This sample represents a small sub population of behavioral health recipients. Although schizophrenia represents over 60 % of the diagnosis in this study, it is generally thought to affect roughly 1% of the general population. While mental health challenges impact about 18% of the US population annually, only 22% of that group meet criteria for SMI (Pew Research Center, 2015). Schizophrenia is an even smaller sub population,

representing about half of the total annual inpatient psychiatric hospitalizations for those with SMI (Pew Research Center, 2015). Further, given the range to age 75 and mean age of 50, it is likely this sample also represented a population with longer treatment histories in restrictive settings. While generalizability of these study results is likely limited to this sub population, their challenges in the achievement of community integration outcomes and disproportionate associated treatment costs are a pressing concern for the entire behavioral health system.

To the researcher's knowledge, this is the first study to connect specific CPS services (based on modality, type, and quantity) to community integration outcome. Most researchers have focused on physical integration by tallying participation in community activities. In so doing they have missed the dynamic interaction between the physical, psychological, social, and capabilities domains of community integration examined in this study. This more nuanced approach to community integration measurement yielded a positive endorsement of CPS services, new insights about site-based CPS services as a means of possibly mitigating community stress and stigma, and questions current emphasis to in-community delivery of CPS services to achieve community integration with this sample sub population. Significant findings for clubhouse participants also reinforced the inclusion of capabilities as a separate community integration domain and suggest the clubhouse model may be particularly suited to further assess community integration subscales in future research. Finally, consideration of ideal service locations and roles may lead to more intentional use of CPSs to achieve community integration outcomes through recovery. Amid efforts to create a national system of CPS certification, these findings may be helpful to inform the process to formalize the CPS roles. Further

discussion of findings for total CPS service hours, agency-based CPS service hours and embedded clubhouse CPS services follows and the chapter concludes with strengths and limitations of the study as well as recommendations and implications for future research and practice.

Total CPS Service Hours

Initially increased total CPS service hours predicted higher reported recovery and greater community integration, furthering the findings of other researchers who have linked CPSs with positive program and clinical outcomes (Chinman et al., 2001; Fuhr et al., 2014). Although there were differences among specific types of CPS services with regard to prediction of community integration, total CPS service hours predicted community integration regardless of the specific CPS services received. In short, more was better. Given the strength of mediation in the clubhouse subsample however, there was particular concern that the finding for mediation in total CPS hours was influenced by the clubhouse. While post hoc analysis removing the clubhouse did not hold for mediation, there was an indication that the two variables together are important contributors to explaining variance in community integration.

Although these findings might begin to offer empirical evidence in support of CPS expansion, the sample did not offer enough evidence to confirm or refute this hypothesis for greater variety of CPS services. Concrete thinking associated with severe mental illness, particularly those with schizophrenia, can make it difficult for people with severe mental illness to apply experiences from one environment to another. In theory, when such people receive CPS services through participating in peer groups, community tasks, recreation and hobby cultivation, and independent living, they can experience

recovery in multiple environments, avoid having to extrapolate meaning from one environment to another, and better internalize the core messages translated through varied CPS service types. Although this study included a range of CPS activities, settings, and modalities, there was tremendous disparity in the hours of services received in discrete CPS service types. Many respondents reported no home or telephonic services, for example, and thus those service types were left out of mediation testing. This made it difficult to attribute outcomes to CPS service types and account for the full variety of services offered; questions regarding the role of the variety of CPS services remain for future research.

In the full sample, two of four types of CPS service significantly predicted changes in community integration, but the post hoc sample indicated three of the four types significantly predicted changes in community integration. This is particularly promising in the context of the sample's demographic and clinical profile. The sample included individuals with histories in restrictive treatment environments: The mean and maximum ages were 50.2 and 75 years, respectively; schizophrenia and schizoaffective disorder were the leading diagnoses (62.5%), and the sample included individuals with intellectual disabilities and autism spectrum disorder (14.4%). For people who were institutionalized most of their lives, the recovery approach is still novel. Elwyn itself began as a self-sustaining farming community that separated individuals from the larger community outside Elwyn. Although Elwyn's leaders have shifted the agency to provision of services that do not foster dependence, they must also accommodate the needs of people previously harmed through institutionalization. It is feasible that several individuals included in the sample have been with the agency since childhood, which

could be well over 50 years in some cases. Greater dosing of CPS services is likely compensatory for this group.

The participants in this study self-defined their community integration through the CCES. Other researchers have narrowly defined and measured community integration as a count of neighborhood exchanges. Outcomes of deinstitutionalization in housing indicate that people can be in the community but not feel of the community. Although community presence alone provides an incomplete picture, participants may well have used services themselves as their point of reference for community and belonging, which likely limited expanded CPS approaches. Rather than simply dismissing this subjective experience as dependence, however, the researcher introduced the mediating role of recovery to permit a more nuanced interpretation. According to the results, recovery increased with increased quantity of CPS services and partially explained increased community integration. Self-defined community integration and recovery illuminated the interaction between personal agency and physical, social, and psychological integration in the achievement of full community integration. Exploring recovery as a constituent of community integration revealed connections among CPS services, recovery, and community integration. Recovery score also significantly predicted increases in community integration across all types of CPS service in both the full and sub samples- although a smaller increase in recovery predicted an increase in community integration in the full sample relative to the post hoc subsample. The favorable results associated with increased CPS services bode well for the continued expansion of CPS services and further justify use of a recovery framework to assess their impact.

Agency- Based CPS Services

Given the current push to provide mental health services in natural settings, it was particularly striking that in this study the most pronounced correlations were between community integration and site-based embedded clubhouse CPS services. Salzer et al. (2013) reported that CPSs spent almost twice as much time delivering services at their agency sites and were evenly divided among working with individuals and groups. This distribution of CPS services has likely remained unchanged with continued expansion of CPS services. However, the results for clubhouse embedded CPS services indicate profound differences between site-based program environments. The clubhouse model, structured around a work-ordered day, likely provided an opportunity to explore the capabilities domain of community integration. At the same time, the disparity in favor of embedded clubhouse CPS services over embedded CIRC CPS services was significant enough to make the researcher question whether the findings are more an endorsement of the clubhouse model than they are an endorsement of embedded CPS services. Post hoc analysis however allowed agency-based CPS group hours to emerge showing they too significantly predict an increase in community integration, although to a lesser extent than embedded clubhouse services.

Embedded CPS Services

The intentional community found in both the clubhouse and CIRC models allows for environments associated with these models in which CPSs can live recovery values. The researcher expected stronger recovery and community integration outcomes associated with CPS services in both these environments and was surprised by the pronounced disparity between them. The clubhouse and CIRC both used CPSs in an embedded way so that their

role was indistinguishable from that of other staff members or members. Both programs were rooted in the recovery orientation and had similar member demographics and utilization. Upon entering either program, visitors were welcomed by a peer reception desk, establishing the lack of hierarchy and setting the tone for mutual support. Participants identify as “members” rather than “clients” and held important roles in shared governance. Both the clubhouse and CIRC formed a sense of community through nonhierarchical structures emphasizing choice, self-determination, and hope, which are well-suited for CPS work facilitating recovery through the core values of self-determination, person-centrism, person-involvement, and hope (Farkas, 2007). In fact, Philadelphia’s transformation toward recovery began with reintroduction as CIRC in lieu of what had traditionally been site-based clinical day programs; this reintroduction emphasized both community and recovery (Evans et al., 2012). The CIRC in this study was rooted in an embedded drop-in milieu that provided access to additional clinical services, community services, and psychiatric rehabilitation groups. The availability of traditional psychiatric rehabilitation services from the CIRC drop-in was a key difference between the CIRC and the clubhouse. The clubhouse was also self-sustaining, enabling members to contribute to daily operations through chosen workstations. Shared responsibility for daily operations—or shared work—was the intervention at the clubhouse (Fekete et al., 2021). Although the work-ordered day logically maps onto the capabilities domain in community integration, the work-ordered day may also render the clubhouse model too different from other programs to allow easy comparisons of CPS services between them. Although embedded CPS services are essential to the clubhouse model, which grew from the peer-run Fountainhouse (Fekete et al., 2021), the model likely belongs in a category by itself.

Moreover, almost one-third of the full sample for this study came from the clubhouse, which complicated interpretation of the results. On one hand, inclusion of the clubhouse participants highlighted the importance of recovery-promoting environments in the relationship between CPS services and community integration. On the other hand, the disparity in the results between clubhouse participants and others risked biasing the conclusions of the study, and post hoc analysis meant a much smaller number receiving embedded services when the clubhouse subsample was removed. Future researchers should investigate data that allow more meaningful comparison of CPS services in clubhouse programs with those in other programs.

Capabilities and Embedded Clubhouse CPS Services. Researchers have linked clubhouses to recovery through the work-ordered day that structures clubhouses and the community support found in clubhouse members (Chen & Oh, 2019; Fekete et al., 2021; Tanaka & Davidson, 2018). Community integration for clubhouse members appears to tie directly to those same mechanisms triggering recovery through a sense of efficacy and possibility, indicating the existence of a direct path from recovery to community integration. Members of clubhouses may experience them as enclaves or chosen communities, possibly mitigating stress and stigma associated with community life while affirming a shared identity (Mandiberg, 2010). As discussed above, the sample in this study likely included individuals with longer than average treatment histories in restrictive settings. The sample was almost evenly split between those living in supervised environments and those living independently. Only 15.4% of participants, however, reported living fully independent lives, and 10.6% reported living in locked facilities. The intentional community of the clubhouse or CIRC likely provided the

greatest novelty to those participants living in restrictive environments and those whose treatment histories included confinement; for some, such an intentional community may have been their first experience of themselves in a community where they contribute and make choices. Moreover, individuals may prefer clubhouse or CIRC program membership in much the same way that members of any nondominant group maintain an identity community. Some individuals with severe mental illness may prefer inclusion in a larger community, and others may prefer a smaller enclave community (Mandiberg, 2010) of the kind found in clubhouses and CIRC. Discussion above regarding self-definition of community in community integration measurement introduced the potential difficulties of allowing respondents to use services themselves as points of reference. The ongoing realignment and reprioritization of services in the community has devalued on-site services because they are supposed to foster dependence. In this study, however, measurements of community integration and recovery for recipients of site-based embedded clubhouse CPS services indicated that on-site services play an important role in the community integration of many individuals with severe mental illness. For such individuals, CPS services really are part of their community integration. This is most pronounced in the clubhouse model, in which the work-ordered day provides new opportunities for meaningful contributions by participants. In this context, the CPS role holds more importance than in other contexts for the actualization of social and psychological integration (Wong & Solomon, 2002). The opportunity to belong and interact with peers without stigma is fundamental to social integration (Wong & Solomon, 2002), and embedded CPSs can aid psychological integration (Wong & Solomon, 2002) by negotiating between the broader community and the identity

community (Mandiberg, 2010). The disruption of the dichotomy between service program and life that active participation in a clubhouse allows underscores the inclusion of capabilities as an essential component of community integration.

Negative Correlation of Community CPS Services and Community Integration: The negative findings for community CPS hours were surprising. The researcher expected recovery, actualized through the CPS relationship, to enhance in vivo community learning. Instead, increased community hours significantly predicted decreased community integration, with a 2-point decrease in community integration associated with every 1 hour of additional community CPS services. Further, the effect of community hours on recovery was not significant and accounted for less than 1% of the variance in recovery; there was no significant correlation between recovery and the number of hours of CPS services received in the community. Post hoc analysis results were consistent with the full sample. Mediation testing was therefore impossible because of both the negative correlation with community integration and the lack of significant correlation with recovery in both analyses.

These results are concerning given the ongoing reallocation of funding and services away from agency-based services to community-based programs. Not only are the results surprising, they contrast with recommendations for best practice and policy trends toward providing services in the community. There is a worrying possibility that well-meaning realignment of services may be hurting overall community integration for individuals with histories in more restrictive settings as represented in this study, much as deinstitutionalization led to new forms of isolation within the community (Geller, 2000; Wong & Solomon, 2002). Housing and service provision policies can bring individuals

into communities, but they may not feel a sense of belonging and agency once there. The consensus in favor of organizing further residential changes around values reflecting choice, control, and empowerment (Parkinson et al., 1999; Wong & Solomon, 2002) also apply to other changes targeting the provision of community-based services. The effects of CPS services in this study were amplified in recovery-promoting environments. The intentional community of a clubhouse, shaped around values, controls challenges often encountered in the larger community outside the clubhouse. For CPS services offered in the larger community, however, simply navigating the community itself becomes a shared focus of those services. Individuals cannot expect reciprocity, choice, control, and empowerment from their wider environments, and they may at times even be undermined in community interactions.

Centering values where they are not externally mirrored is an implementation challenge that may help to explain the negative finding for community CPS services. Community runs both ways: If a community environment increases individuals' stress or exposes them to stigma, community presence of services may, even in the context of a reciprocal CPS relationship, exacerbate the individuals' sense of disconnection. The reception or perceived reception of individuals as they negotiate community is important. Legislation and publicity campaigns targeting stigma have had only a moderate impact on community attitudes. Among those with severe mental illness, unemployment has remained disproportionately high, and educational attainment has remained disproportionately low. The world has remained largely unwelcoming for individuals with severe mental illness, yet they have had to take on the burden of integration.

People experience reciprocity and mutuality outside micro-level interactions. Although interpersonal experiences of reciprocity in CPS relationships can be enormously powerful, they occur in the context of a larger world. Early in the Philadelphia recovery transformation, for example, providers had trouble with CIRC participation in late afternoons. The policy and funding shift that required individuals to travel independently to programs resulted in stress, stigma, and, at times, outright harassment for service recipients when their travel on public transportation coincided with school and work dismissal. Providers initially addressed the issue individually with service recipients, unaware that this was a systemic problem. It is therefore important to explore ways that CPS services occurring in the community can create barriers for participants. Failure of providers to acknowledge difficulties of community participation indicates naïveté, which can inadvertently lead to setbacks to achievement of community integration outcomes. Providers of community CPS services cannot wait for the world to change, but they can be mindful of welcoming environments, individual engagement when navigating in the community, and ongoing preparedness to achieve readiness for community entry.

In this study, community CPS service hours made up a relatively small fraction of total CPS service hours; participants received 4 times as many hours of embedded CPS services as they did of community CPS services. Perhaps, then, those receiving community CPS services simply did not receive enough services. That may have been the case for some. Given the context of community stress and stigma, perhaps participants needed more services or a different balance of CPS and other services to offset their negative experiences and the possible microaggressions they may have encountered.

Unfortunately, the limited data available make it difficult to draw conclusions about the right number or mix of community services and compensatory services needed; those questions thus remain for future research.

The disparity itself invites further questions about choice and implementation: When and why were participants offered community CPS services? Did all participants have equal access to community CPS services? Amid the clear prioritization in policy of community services, why did the disparity appear at all? Funding constraints and staffing issues are likely contributing factors because there has been a clear push to reduce per capita cost, while improving care experiences and enhancing population health (Berwick et al., 2008). It also costs more to provide individual services. Early attempts to bridge programs with communities often increased stigma. Large groups directed by staff members were conspicuous and traveling in agency-identified vehicles or wearing agency IDs in the community, thus, inadvertently undermined confidentiality and instigated stigma. Many mental health workers referred to such attempts at community integration “partials in the park.” Licensing and funding changes have reduced such practices, but payment mechanisms have lagged behind.

Fee-for-service payment models have continued to encourage service providers to serve more individuals despite the capping of hours in the community. This has meant CPSs have had to prioritize for themselves with whom to provide individual services, instead of responding to interests and requests generated from service participants. This approach is reminiscent of the top-down clinical model. In short, payment deficiencies have limited choice, a fundamental recovery concept. Further, CPSs have often targeted individuals having difficulty engaging with other members in their milieu or group,

which inadvertently creates a hierarchy for community services based on symptom acuity. This phenomenon might explain why participants in this study who resided in long-term structured residences and locked facilities received more of their CPS services in the community than other participants did.

If an individual's experience of community is stressful, it is not likely to empower the individual. This is particularly true for individuals living in locked residential environments who cannot access the community without staff accompaniment. Visiting an otherwise unavailable world can heighten their sense of disconnection and feelings of hopelessness. In the context of the positive results for total CPS services and embedded CPS services, a better approach might be to prioritize those most likely to be receptive to and desirous of community CPS services. Program structures and implementations that mirror the CPS values of mutuality, choice, and empowerment found in the interpersonal CPS relationship may enhance personal recovery for community members. If the goal of CPSs is to help individuals lead fuller lives in the community, the results of this study suggest that CPSs promote recovery best when and where they can actualize and live recovery values.

Strengths and Limitations

The longitudinal design was a strength of this study in that it allowed for analysis of outcomes associated with CPS services by type, modality, and frequency. Further, the design ensured directionality from the predictor variables to the outcomes. Other researchers have examined at the level of clinical outcomes or program outcomes of having CPSs on teams without exploring the actual services delivered (Chinman et al., 2001; Davidson, 2003; Mead & MacNeil, 2006). The CPS services examined in this study,

having occurred during the month before the surveys, predicted recovery and community integration outcomes through a direct service path. A caveat is that 1 month was a relatively short period of time for participants who, in many cases, had been receiving services for many years. Future researchers should consider studying service receipt over longer spans of time.

Studying recovery as a mediator added to the credible evidence in support of personal recovery and highlighted the importance of subjective experience. As an outcome measure, recovery has received criticism for being nebulous (Slade & Heyward, 2007); however, the design of this study permitted demonstration of a path from personal recovery to community integration outcome. Use of the RAS Short as a measure was consistent with the conceptual link foundational to this study. The RAS Short was also familiar to members of the sample and formed part of their ongoing assessment within their programs.

Although no standard definition of community integration exists, the researcher embraced the updated version of Wong and Solomon's (2002) theoretical framework and used the 50-item version of the CCES to measure community integration, which extends the conceptualization of community integration beyond physical integration, on which other researchers have relied (Bond et al., 2004; Petros et al., 2020; Torrey, 2001).

Although the 50-item scale was compatible with theoretical underpinnings of this study, the scale is still in development. While the 50-item version showed good preliminary psychometrics, and Cronbach's alpha for the sample in this study was quite high, a shorter version of the scale has appeared since collection of data for this study. Although the shorter version retains the four major domains (physical, psychological, social, and

capabilities), it omits some of the questions from the older version. The validity of any scale depends on the ability of respondents to understand and accurately interpret its questions. It is likely that questions eliminated from the version used in this study were ambiguous or misinterpreted. Use of the longer scale likely also compromised results. For the shorter version of the scale, Petros et al. (2020) reported test–retest reliability of .90 and Cronbach’s alpha values of .89 for the overall scale and .76–.86 for the subscales. The researcher recommends further study with the shorter version.

The sample size was moderate, but the sample was homogenous- representing a small subpopulation of behavioral health recipients. Although the sample size exceeded the minimum requirements needed for statistical power, the sample was limited to one agency capturing services from only 10 CPS providers. The SMI diagnoses of those in the sample were varied but more than half were diagnosed with schizophrenia. Furthermore, the three programs from which the sample was drawn provided a range of CPS service activities, modalities and types. The proportion of on-site services and the mix between group and individual work was consistent with published reports of CPS services (Salzer et al., 2010). Apart from telephonic CPS services, all types of CPS service were represented well enough for analysis.

Limitation of the study to one agency serving a homogenous sub population was a weakness. Although the researcher hopes the results provide insights to guide further research and CPS program expansion, generalizability of the results is limited. The programs in the study, especially the clubhouse, lent themselves to implementation of CPS services and embraced the recovery orientation. Although it is useful to understand impact of CPS services in this context, CPS services are expanding in many

environments that are not aligned with a recovery orientation. SAMHSA has been promoting inclusion of CPS services as an evidence-based practice, and providers have been adding CPS services in attempts to align with recovery. The findings of this study unfortunately offer more questions than answers with regard to outcomes of CPS services in environments inhospitable to recovery. As CPS services expand into clinical environments and the criminal justice system, further exploration of these issues will be needed.

Most individuals with severe mental illness in the public mental health system receive services through more than one agency or at more than one place. For example, a person may belong to a residential program that offers interventions to facilitate independent living, but they may receive clinical services through a medical provider unrelated to psychiatric rehabilitation. Medical services, behavioral health, and housing generally have separate funding streams, and without central oversight it can be challenging to account for all the services an individual receives. This study focused on only one set of services and 1 month in time; the researcher could not control for any other services received by the participants. Future studies may consider controlling for other services received.

In addition to design limitations, the study had a contingent limitation: Data for the study were collected before the COVID-19 pandemic and its associated restrictions, which further complicates generalizability of the results. The world has changed. At the time of data collection, for example, telephonic support was relatively uncommon despite being an independent billable service. Telephonic support was capped at a maximum of 25% of all CPS services billed, so that it could provide only a supplement to some other

primary CPS service. Data collected today would likely provide a very different picture. The rapid shift to telephonic and video services during the pandemic has likely hastened comfort with technology that before the pandemic had yet to be widely embraced or adopted by agencies and individuals. Although the origins of telephonic CPS services lie in peer warm lines aimed at preventing crises and countering isolation outside the operating hours of in-person service providers, such services now allow remaining connected through technology to be a primary means of support. Consumers are also more likely than before to form connections through social media because they have incorporated technology into their lives as a result of the pandemic. The CCES used for data collection lacks items measuring connection through social media, and future researchers will need to find ways to assess these relationships as technology continues to shape communities. The researcher anticipates that changes implemented during pandemic-related lockdowns have permanently altered the social landscape. Although it is likely that these changes will support the expanded conceptualization of community integration embraced in this study, the primary emphasis was on in-person services during data collection. Generalizability of the results is therefore complicated. However, the changes brought about by the pandemic also likely make the conceptual link foundational to this study between CPS services, recovery, and community integration even more resonant now than when the data were collected.

Implications for Practice

The results highlight the need to let peers be peers amid the current explosion of CPS services, nationalization of CPS training and certification standards, and policy push for services to occur in the community. In the past, CPSs were largely left to explain their

work and role to non-CPS providers (Salzer et al., 2010). Caution that professionalization of the CPS role could undermine the unique contribution of CPSs (Solomon, 2004) coupled with reports of increased focus on documentation tasks (Gill et al., 2009) are cause for concern with increased formalization. The results also suggest a need to assess CPS service outcomes in the context of service environment. Following the template of social work's person-in-environment perspective, a CPS-in-service-environment framework would help to explain the results of this study—in particular, the success of CPS services in recovery-promoting sites and the challenges faced by CPS services in the community. Reframing tasks, job descriptions, and work environments to better align with recovery should thus be an important practice consideration. Alignment with the recovery values discussed above includes an emphasis on the recovery and personal narratives of CPSs. As providers expand to embrace CPS services, centering the CPS role as an embodiment of recovery will be key to successful growth.

Contextualization of the larger community also applies to implementation of CPS services. Despite the clear push for community mental health services, the results of this study indicate much greater success for services that highlight recovery values. The clubhouse model was particularly noteworthy in this respect and warrants additional exploration. Although further investigation is needed to support conclusions about the effectiveness of community CPS services, the results of this study imply that stress and stigma from the community need greater consideration. At a direct practice level this includes development of intentional strategies to guide when, how, why, and with whom services should take place in the community. Prioritizing those having difficulty with engagement may be misguided, because community services were negatively correlated

with recovery and community integration in this study. Instead, it may be more effective to target individuals who show social and psychological proclivities for community CPS services. As programs continue to realign with policy and funding changes, integration of ongoing assessment can also provide feedback to help redirect interventions when warranted.

Social workers can help shift the responsibility for community integration from individuals with mental illness through a greater emphasis on community development. The importance of person–environment fit underscores the role social work can play in promoting community inclusion (Soresi et al., 2011). Despite the modest success of anti-stigma policies and campaigns, the steps needed to cultivate welcoming communities remain important meso and macro tasks. Further, intentional communities such as those formed through the clubhouse model may provide particularly important opportunities for social and psychological integration for those who have long treatment histories or have had negative treatment experiences. The clubhouse findings underscored the importance of the capabilities domain within community integration. During the period of data collection for this study, Philadelphia closed their West Philadelphia clubhouse (the Upper Darby location of the clubhouse studies remains open). Social workers can advocate for the preservation of the clubhouse model on the spectrum of services, while exploring sustainability of the model (Mandiberg, 2010) through private partnerships. The clubhouse model supports transitional employment by allowing employers to hire a clubhouse rather than its members directly; enclave communities can work similarly toward self-sufficiency through large scale partnerships. Community services, however, suit the kind of physical integration that some individuals with severe mental illness may

prefer. A comprehensive understanding of the suitability of various CPS services requires consideration of personal agency and social and psychological integration. This in turn requires adopting a broad and varied approach toward community integration despite the current push away from site-based services.

Recommendations for Future Research

Further study of CPS services in other settings is urgently needed. CPS services are expanding rapidly. Although the setting investigated in this study provided insight into CPS services in a recovery context, it is important to explore clinical, residential, and correctional environments as CPS are moving into these service environments as well. Assessing CPS services delivered with more diverse populations is also critical. Although the sub population represented in this sample highlights challenges for those living in more restrictive settings with accompanying characteristics, representation across broader diagnostic, housing and age categories would offer greater generalizability. The conceptual link between CPS services, recovery, and community integration outcomes offers a framework for exploration across environments that is more flexible than other researchers' use of clinical or programmatic benchmarks to assess CPS effectiveness (Chinman et al., 2001; Davidson, 2003; Mead & MacNeil, 2006).

A much larger sample of recipients of community CPS services is needed to draw conclusions about the success of this mode of CPS service delivery to achieving community integration. Amid the shift toward community provision of services, it is worth exploring community CPS services separately, in addition to the recommended separate study of clubhouse CPS services. Also, as mentioned above, one month is a very

short study window in the lives of individuals with extensive service histories; a much longer time period of study is thus needed.

As a final recommendation, the notion of CPSs as translational practitioners who embody recovery and translate recovery concepts for service recipients invites qualitative exploration of the experiences of CPSs across environments, tasks, modes, and roles. Although this study enabled assessment of a path among CPS services, recovery, and community integration outcomes, incorporating CPS and client experiences would provide additional depth when paired with service participants' outcomes.

Conclusion

Given the expansion of CPS services amid a process to formalize the role through national certification and training standards, the results of this study endorse continued expansion of both CPS services generally and embedded clubhouse CPS services in particular, which are partially mediated by recovery. While relatively few CPS services in the study occurred in the community, negative findings for these services raise questions about continued prioritization of physical integration and existing implementation practices associated with community CPS services. The framework of the study, which conceptually links CPS services with recovery and community integration outcomes, highlights the unique role of CPSs as embodiments of recovery, while showing how recovery can support community integration. Others can use this framework in future CPS studies and across settings. As CPSs continue to expand into environments that are not oriented toward recovery, it will be important to assess the impact of CPSs on both their service environments and their ability to support recovery in achievement of community integration outcomes for individuals with severe mental illness.

Appendix

Instrument

**BEHAVIORAL HEALTH SERVICES
June Service Record**

Unique Client Identifier_____

Length of Service (15 minutes = 1 unit)

of Units

Type of Service

-In Person Units

-Telephonic Units

Units by Location of Service

Residence

Program

Community

Demographic Information

Gender: Male Female Transgender

Other: _____

/Ethnicity:

White African American / BlackAfrican Latino(a) / Hispanic Asian / Pacific Islander Native American

Other: _____

Age (as of last birthday): _____

Highest level of education completed:

8th grade or lower

Some high school

High school diploma / GED

Some college or Associate's degree

Bachelor's degree

Master's degree

PhD or Doctoral degree

Mental health diagnosis (circle all that apply):

Schizophrenia

Schizoaffective Disorder

Bipolar Disorder

Major Depressive Disorder

PTSD (Post Traumatic Stress Disorder)

Other: _____

How old were you when you were first diagnosed?

Recovery Assessment Scale (short)

Below is a list of statements that describe how people sometimes feel about themselves and their lives. Please read each one carefully and indicate the response that best describes the extent to which you agree or disagree with the statement. Please **circle** the number that best represents whether you **strongly disagree (1), disagree (2), not sure (3), agree (4), or strongly agree (5)** with these statements.

<i>Circle the number of the response that most closely reflects your opinion.</i>	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
RA1. I have a desire to succeed.	1	2	3	4	5
RA2. I have my own plan for how to stay or become well.	1	2	3	4	5
RA3. I have goals in life that I want to reach.	1	2	3	4	5
RA4. I believe I can meet my current personal goals.	1	2	3	4	5
RA5. I have a purpose in life.	1	2	3	4	5
RA6. Even when I don't care about myself, other people do.	1	2	3	4	5
RA7. I can handle what happens in my life.	1	2	3	4	5
RA8. I like myself.	1	2	3	4	5
RA9. If people really knew me, they would like me.	1	2	3	4	5
RA10. Something good will eventually happen.	1	2	3	4	5

RA11. I'm hopeful about my future.	1	2	3	4	5
RA12. Coping with my mental illness is no longer the main focus of my life.	1	2	3	4	5
<i>Circle the number of the response that most closely reflects your opinion.</i>	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
RA13. My symptoms interfere less and less with my life.	1	2	3	4	5
RA14. My symptoms seem to be a problem for shorter periods of time each time they occur.	1	2	3	4	5
RA15. I know when to ask for help.	1	2	3	4	5
RA16. I am willing to ask for help.	1	2	3	4	5
RA17. I ask for help, when I need it.	1	2	3	4	5
RA18. I have people I can count on.	1	2	3	4	5
RA19. Even when I don't believe in myself, other people do.	1	2	3	4	5
RA20. It is important to have a variety of friends.	1	2	3	4	5

Community Connections and Engagement Scale: Reimagining Community Integration

Directions: During the survey, I will ask you to respond to questions and statements by choosing the best option from the choices given. Some of the questions ask about your neighbors and your neighborhood. When I say the word neighbors, please think of anyone whom you consider your neighbor, which could include people who live nearby, people who live on your block, or people within your building. When I say the word neighborhood, please think about the area around where you live, which could be a few city blocks, a small town, or a residential community.

For the first set of questions, I’m going to ask about how often you do certain things, and you can respond by selecting from the following choices: about daily, about weekly, about every other week, about monthly, or almost never.

	How often do you:	About Daily	About Weekly	About Every Other Week	About Monthly	Almost Never
1	Do activities with people other than your family members?	About Daily	About Weekly	About Every Other Week	About Monthly	Almost Never
2	Do activities you enjoy with people other than staff / service providers?	About Daily	About Weekly	About Every Other Week	About Monthly	Almost Never
3	Participate in a hobby or recreational activity?	About Daily	About Weekly	About Every Other Week	About Monthly	Almost Never
4	Work (in competitive employment or non-paid volunteer)?	About Daily	About Weekly	About Every Other Week	About Monthly	Almost Never
5	Spend time with family members?	About Daily	About Weekly	About Every Other Week	About Monthly	Almost Never

Now I’m going to ask you to compare yourself to other people. To begin this section, I’ll ask you to tell me how often you do certain things compared to others. You can choose from the following options: a lot less, a little less, about the same, a little more, or a lot more.

	Compared to other people:	A lot less	A little less	About the same	A little more	A lot more
6	How often do you do activities outside of your home / the place you're staying?	A lot less	A little less	About the same	A little more	A lot more
7	How often do you do activities with people other than your family members?	A lot less	A little less	About the same	A little more	A lot more
8	How often do you do activities you enjoy with people other than staff / service providers?	A lot less	A little less	About the same	A little more	A lot more
	Compared to other people:	A lot less	A little less	About the same	A little more	A lot more
9	How often do you work (either in competitive employment or non-paid volunteer)?	A lot less	A little less	About the same	A little more	A lot more
10	How many supportive people are in your life?	A lot less	A little less	About the same	A little more	A lot more
11	How many family members are in your life?	A lot less	A little less	About the same	A little more	A lot more
12	How many friends are in your life?	A lot less	A little less	About the same	A little more	A lot more
13	How often do you spend time with people (other than staff / service providers)?	A lot less	A little less	About the same	A little more	A lot more
14	How much time do you spend socializing with people who care about you?	A lot less	A little less	About the same	A little more	A lot more
15	How much freedom do you have to choose the activities you like to do in your free time?	A lot less	A little less	About the same	A little more	A lot more

16	How often do you initiate recreational activities?	A lot less	A little less	About the same	A little more	A lot more
17	How much choice do you have in choosing your own friends?	A lot less	A little less	About the same	A little more	A lot more
18	How much access do you have to social media?	A lot less	A little less	About the same	A little more	A lot more
19	How often do you have the resources you need to reach your goals?	A lot less	A little less	About the same	A little more	A lot more
20	How much opportunity do you have to work in competitive employment?	A lot less	A little less	About the same	A little more	A lot more

Now I'm going to ask you some questions about how satisfied or dissatisfied you are with various things. You can choose from the following options: very satisfied, mostly satisfied, neutral (which means "in the middle"), mostly dissatisfied, or very dissatisfied.

	How satisfied are you with:	Very Satisfied	Mostly Satisfied	Neutral	Mostly Dissatisfied	Very Dissatisfied
21	The way you spend your spare time?	Very Satisfied	Mostly Satisfied	Neutral	Mostly Dissatisfied	Very Dissatisfied
22	The amount of fun you have?	Very Satisfied	Mostly Satisfied	Neutral	Mostly Dissatisfied	Very Dissatisfied

23	The variety of activities you do?	Very Satisfied	Mostly Satisfied	Neutral	Mostly Dissatisfied	Very Dissatisfied
24	The people you see socially?	Very Satisfied	Mostly Satisfied	Neutral	Mostly Dissatisfied	Very Dissatisfied
25	The amount of time you spend with other people?	Very Satisfied	Mostly Satisfied	Neutral	Mostly Dissatisfied	Very Dissatisfied
26	The activities you do with other people?	Very Satisfied	Mostly Satisfied	Neutral	Mostly Dissatisfied	Very Dissatisfied
27	The amount of time you spend with a significant other (like a boyfriend, girlfriend, or spouse)?	Very Satisfied	Mostly Satisfied	Neutral	Mostly Dissatisfied	Very Dissatisfied
28	The number of family members in your life?	Very Satisfied	Mostly Satisfied	Neutral	Mostly Dissatisfied	Very Dissatisfied
	How satisfied are you with:	Very Satisfied	Mostly Satisfied	Neutral	Mostly Dissatisfied	Very Dissatisfied
29	The number of friends in your life?	Very Satisfied	Mostly Satisfied	Neutral	Mostly Dissatisfied	Very Dissatisfied
30	The number of relationships you maintain through social media?	Very Satisfied	Mostly Satisfied	Neutral	Mostly Dissatisfied	Very Dissatisfied

31	The amount of time you spend communicating with people through electronic devices (like your computer or phone)?	Very Satisfied	Mostly Satisfied	Neutral	Mostly Dissatisfied	Very Dissatisfied
32	Your access to social media?	Very Satisfied	Mostly Satisfied	Neutral	Mostly Dissatisfied	Very Dissatisfied
33	Your opportunities to live in a place of your choosing?	Very Satisfied	Mostly Satisfied	Neutral	Mostly Dissatisfied	Very Dissatisfied
34	Your ability to participate in activities in your neighborhood?	Very Satisfied	Mostly Satisfied	Neutral	Mostly Dissatisfied	Very Dissatisfied
35	Your opportunities to carry on a conversation with someone in your neighborhood you have never met before?	Very Satisfied	Mostly Satisfied	Neutral	Mostly Dissatisfied	Very Dissatisfied
36	Your opportunities to make new friends?	Very Satisfied	Mostly Satisfied	Neutral	Mostly Dissatisfied	Very Dissatisfied
37	Your financial abilities to participate in social and recreational activities?	Very Satisfied	Mostly Satisfied	Neutral	Mostly Dissatisfied	Very Dissatisfied
	How satisfied are you with:	Very Satisfied	Mostly Satisfied	Neutral	Mostly Dissatisfied	Very Dissatisfied

38	Your opportunities to work (for pay or volunteer)?	Very Satisfied	Mostly Satisfied	Neutral	Mostly Dissatisfied	Very Dissatisfied
39	Your opportunities to go to school?	Very Satisfied	Mostly Satisfied	Neutral	Mostly Dissatisfied	Very Dissatisfied

We're almost finished. For the next set of items, I am going to read a statement, and then I'll ask you to tell me how often you feel the way described in that statement. You can choose from the following options: almost never, rarely, sometimes, often, or almost always. [After each statement ask, "How often do you feel that way?]

	Please indicate how often you feel the way described in the following items:	Almost Never	Rarely	Sometimes	Often	Almost Always
40	Other people are concerned I spend too much time watching TV or surfing the internet.	Almost Never	Rarely	Sometimes	Often	Almost Always
41	People in my life reach out to me when I am in need.	Almost Never	Rarely	Sometimes	Often	Almost Always
42	When attending activities / events, I feel like I belong.	Almost Never	Rarely	Sometimes	Often	Almost Always
43	When attending activities / events, I feel like I have a lot in common with others present.	Almost Never	Rarely	Sometimes	Often	Almost Always
44	When I compare myself to others, I feel bad about myself.	Almost Never	Rarely	Sometimes	Often	Almost Always
45	I am upset by the way people treat me.	Almost Never	Rarely	Sometimes	Often	Almost Always
46	The people I care about come to me for help.	Almost Never	Rarely	Sometimes	Often	Almost Always

47	People talk down to me.	Almost Never	Rarely	Sometimes	Often	Almost Always
48	People discriminate against me.	Almost Never	Rarely	Sometimes	Often	Almost Always

These are the last two items. I am going to read a statement and ask you to tell me how much you agree or disagree with that statement. You can choose from the following options: completely agree, mostly agree, neutral (which means “in the middle”), mostly disagree, or completely disagree.

	Please indicate how much you agree or disagree with the following statements:	Completely Agree	Mostly Agree	Neutral	Mostly Disagree	Completely Disagree
49	I feel at home in my neighborhood / the area where I live.	Completely Agree	Mostly Agree	Neutral	Mostly Disagree	Completely Disagree
50	People in my neighborhood can be trusted.	Completely Agree	Mostly Agree	Neutral	Mostly Disagree	Completely Disagree

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