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TRANSDISCIPLINARY PERSPECTIVES ON PATHWAYS TO CITIZENSHIP BEHAVIORS
IN MUTUAL-HELP ADDICTION RECOVERY HOUSING

A Dissertation

Presented in Partial Fulfillment of the
Requirements for the Degree of
Doctor of Philosophy

BY

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September 3, 2013

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DEDICATION

I dedicate this dissertation to my father Robert Michael Beasley who supported and encouraged me more than any other person in my life. He passed away earlier this year and, unfortunately, will not witness my receipt of a doctoral degree. However, I know he was proud of my accomplishments and already saw me as a doctor anyway.

ACKNOWLEDGMENTS

Looking back over the past two years, I recognize this dissertation has been a long and arduous task but one equally filled with newfound skills, insights, and personal growth. In the end, it is a task for which I feel grateful and proud. Throughout this process, I have been fortunate to have had preparation and support from a number of individuals. First and foremost, I would like to thank Susan Polgar, my first psychology instructor in community college who ignited a passion for psychology that continues to burn to this day. Without her inspiration and guidance, I certainly wouldn't be here today. I would also like to thank Dr. Lara LaCaille, Dr. Susan Torres-Harding, Dr. Leonard Jason, and Dr. LaVome Robinson who continued to stoke this passion over the years. Without them, I certainly would not have realized my own potential or that of the community psychology field.

I would also like to acknowledge my dissertation committee members, who have generously dedicated their time and knowledge to supporting this work. In particular, I appreciate the assistance and mentoring from my advisor and chair Dr. Leonard Jason. I am also grateful for the guidance and feedback from my departmental readers Dr. Nathan Todd and Dr. Doug Cellar as well as my outside readers Dr. Christopher Einolf and Dr. Grace Budrys.

Furthermore, I would like to recognize the financial support from the DePaul University College of Science and Health and the National Institutes of Health. Research reported in this dissertation was supported by the National Institute on Drug Abuse under Award Number DA032195. The content is solely the responsibility of the author and does not necessarily represent the official views of the National Institutes of Health.

Last but certainly not least, I would like to express my gratitude to the Oxford House organization and residents for their continued support of recovery research. Without such support, the scientific, treatment, and recovery communities would have little insight into the

processes of mutual-help recovery housing. Few other settings show not only support but also genuine interest and enthusiasm for research.

Although the aforementioned have provided support and guidance for this research, I take full and sole responsibility for any errors.

VITA

The author was born in Charleston, Illinois, November 11, 1976. He graduated from Casey-Westfield High School, received an Associate of Science and Arts in Psychology degree from Lincoln Trail College in 2004, a Bachelor of Arts and Sciences in Psychology degree from the University of Minnesota, Duluth in 2007, and a Master of Arts in Clinical Psychology from Roosevelt University in 2010. Christopher received his first research grant from the Society for the Psychological Study of Social Issues in 2008 for the creation and investigation of a computerized method for implementing LGBT speaker panel interventions and his first NIH grant for an NRSA predoctoral fellowship that funded this dissertation. He has professional experience in addiction-related service provision as well as research. The author's primary line of current research examines organizational aspects of peer support programs such as person-environment fit, involvement, and citizenship behavior.

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CHAPTER I

INTRODUCTION

SAMHSA (2010) estimates that 22.2 million (8.9%) Americans meet diagnostic criteria for substance dependence. Such use of drugs and alcohol leads to numerous health problems, loss of jobs, and disruptive family relations (Craig, 2004; Inaba et al., 2007; Kinney, 2006). In addition to these costs of heavy substance use for individual users, such use is also costly for society. For example, illicit drug use cost U.S. society an estimated \$180.9 billion in 2002, with an average increase of 5.3% per year from 1992 to 2002 (ONDCP, 2004). The economic costs of alcohol abuse were estimated to be 184.6 billion dollars in 1998 (Harwood, 2000).

A wide range of services have been developed to address the problem of substance dependence, including inpatient services, outpatient services, and recovery housing (Jason, Olson, & Foli, 2008). However, only about 11% of those with substance addictions reach any type of substance abuse treatment (SAMHSA, 2010), and those that are treated evidence high rates of substance use recidivism (Dutra et al., 2008). Dutra et al. (2008) conducted a meta-analysis of psychosocial treatments for substance use disorder and found that although treatment generally resulted in some positive short-term abstinence outcomes, 35% of participants dropped out before the completion of treatment, and only about 31% of participants remained abstinent. These findings indicate that new strategies may be needed to sustain longer-term recovery outcomes and additional research is needed on mechanisms by which supportive systems help individuals in recovery maintain commitment to these supports and abstinence from substance use.

Literature Review

Oxford House

Because substance abuse and addiction are influenced by a complex interaction of behavioral, psychosocial, and environmental factors, effective community-based aftercare following treatment may be critical (Jason, Davis, Ferrari, & Bishop, 2001). These community-based supports include mutual-help recovery homes such as Oxford House, a network of over 1400 mutual-help democratically-run addiction recovery homes (Oxford House, 2008). There are over 10,000 people living in Oxford House, making the system the largest residential recovery program in the U.S. (Jason, Davis, Ferrari, & Anderson, 2007). The network covers a wide array of diverse geographic areas including both urban and rural locations in every state of the U.S. as well as locations in Australia, Canada, and Uganda. Oxford House also has manualized operating procedures. The recovery homes are self-sufficient but receive support from state and regional chapters and from Oxford House, Inc., a 501 (c)(3) non-profit corporation through which they are chartered. Oxford House, Inc. provides guidelines and traditions that individual houses must follow (Oxford House Inc., 2008). Examples of such guidelines include governing and membership procedures such as election guidelines, leadership roles, financial operations, prospective member interviewing processes, basic rules for behavior, and procedures for resolving problems (Jason et al., 2008). These guidelines provide for resident responsibility for all management and housekeeping tasks, including imposing rules and sanctions for infractions. (Oxford House, 2008). Although Oxford House guideline mandate some rules such as abstinence from recreational substance use, payment of weekly rent, and completion of assigned house chores, others are determined by state chapters and individual houses. Rules such as these are enforced during weekly business meetings, during which personal and household issues are also addressed. This system of recovery homes is an ideal setting for addiction recovery research,

because it is large, geographically diverse, manualized, and has demonstrated evidence for promoting sobriety.

Such research has demonstrated effectiveness for the Oxford House model (Jason, Olson, Ferrari, & Lo Sasso, 2006; Jason et al., 2007) and shown that the demographics of Oxford House are similar to those in other addiction recovery settings (Jason et al., 2001). A nationwide longitudinal survey of Oxford House examined 897 residents' abstinence, social support networks, self-efficacy, employment, criminal behavior, use of medical care services, and psychological health. The authors interviewed participants at baseline and at three 4-month intervals following this baseline assessment. The authors found that abstinence was related to a social network that supported abstinence, self-efficacy with regards to abstinence, and a length of stay in Oxford House of at least six months. Rates of incarceration ranged from 7.5% at baseline to 4.8% at the 1-year follow-up; while, employment rates for residents at the time of this study ranged from 81.5% at baseline to 79.5% at this follow-up assessment. Residents' use of medical services remained consistent over the 1-year period, while psychological health improved.

Longitudinal experimental research further supports the Oxford House model. For example, in one longitudinal study (Jason et al., 2006), 150 individuals who completed addiction treatment in the Chicago area were randomly assigned to either live in Oxford House or receive typical supports from the community without researcher manipulation. After two years, the researchers found lower risk for substance use among the Oxford House residents as compared to the usual care group (i.e. 69% of Oxford House participants remained abstinent from all substances for two years compared to 35% of usual aftercare participants). Additionally, the Oxford House residents were showed more favorable employment outcomes at the two-year follow-up (i.e. 76% of Oxford House participants were employed versus 49% of usual aftercare

participants). Lastly, Oxford House residents reported half as many average days of illegal activity (1 day versus 2) at the two-year follow-up compared to the usual aftercare group.

Other preliminary study suggests that there may be a link between person-environment interactions and substance use and organizational attitudes in Oxford House. In one preliminary study I, along with Jason, Miller, Stevens, and Ferrari (2011) examined sobriety in experienced houses (average length of residency > 6 months) compared to less experienced houses (average length of residency \leq 6 months) in relation to individual resident characteristics (age, length of residence in an Oxford House, referral from the criminal justice system). This secondary analysis included 641 participants living in 94 Oxford Houses. Using *multilevel modeling*, findings indicated that older residents living in an experienced Oxford Houses were more likely to remain abstinent over time than those in inexperienced homes. Additionally, for inexperienced houses, residents who had been in the Oxford House for a longer period had a higher the probability of abstinence than those that had been in the house for a shorter period of time. Lastly, legal referral was related to a lower probability of 1-year abstinence but only for those in experienced homes. These types of person environment interactions point to the need for more research to better understand how person variables interact with environmental variables in the processes of recovery and adaptation to settings, as well as for treatment professionals' consideration of both person and environment when making recovery home referrals.

Voluntary Helping & Recovery

Given the low rates of addiction treatment seeking, high recidivism rates, frequent choice of mutual-help for recovery support, findings of effectiveness for these groups, and low cost to taxpayers, it is important to understand what mechanisms of these systems that are effective and how to enhance these mechanisms. For example, research suggests that mutual-help group

member recovery is enhanced by volunteer service (Crape et al., 2002; Magura et al., 2003; Pagano et al., 2004; Zenmore et al., 2004). Crape et al. (2002) conducted a 1-year longitudinal study of 503 participants of a psychosocial treatment for injection drug users to examine sponsorship in mutual-help recovery groups and its relationship to abstinence. They found that although having a sponsor was not related to abstinence, being a sponsor to others was related to sustained abstinence for the sponsor.

In a similar study, Pagano et al. (2004) examined longitudinal data using data from Project MATCH, a national longitudinal investigation of treatments for alcohol abuse and dependence to assess the relationship between sponsoring others and abstinence. The authors found that for the 1726 participants in their study, having a sponsor was not associated with more positive abstinence rates, but sponsoring others and involvement in community activities were related to more positive abstinence rates. This effect persisted even while controlling for the number of AA meetings attended.

Other AA research has examined helping behavior beyond sponsorship. For example, Magura et al. (2003) conducted a 1-year longitudinal study to examine the influence of various components of mutual-help groups for 300 individuals diagnosed with both substance dependence and mental health disorders. They found that helping reciprocal learning behaviors such as assisting, advising, and supporting others were associated with greater abstinence outcomes a year later. These results suggest that helping beyond sponsorship could be helpful for abstinence.

Zenmore et al. (2004) conducted a 6-month longitudinal study of helping behaviors in an ethnically diverse sample of 279 individuals with substance dependence. They found that those who helped others by sharing experiences, explaining how to get addiction recovery assistance,

and giving employment and housing advice demonstrated lower probability of binge drinking 6 months later. Again, this research suggests that voluntary helping behavior is important for individuals, with such important helping behavior expanding beyond recovery-specific helping. Although Magura et al. (2003) and Zenmore et al. (2004) expanded somewhat beyond the sponsor helping role to examine other voluntary behaviors, more research is needed to explore ways in which members of mutual-help settings voluntarily support one-another and their groups.

In addition to individual outcomes in mutual-help groups, it is also important for science to better understand mechanisms through which members of mutual-help systems such as Oxford House and AA voluntarily support their organizations. Mutual-help systems are typically run by volunteers and funded mostly by members with relatively little taxpayer financing needed to support or maintain the organizations (McCrary & Miller, 1993; Olson et al., 2006). As voluntary organizations yet, members are generally not financially compensated for their work, so employment factors are not a motivation for these helping other members. Therefore, members likely rely on other motivators. Yet, there is sparse empirical knowledge about mechanisms for these voluntary helping behaviors.

Research has shown, however, that motivated volunteerism may be a critical aspect of the survival of these groups. For example, committed leaders and helping behaviors have been found to be essential to the continuance and success of mutual-help groups (King et al., 2000; Wituk et al., 2002). King et al. (2000) examined organizational characteristics that influenced the maintenance of mutual-help groups for parents of children with special needs. Their qualitative findings indicated that successful groups encouraged voluntary behaviors such as active leadership, recruitment of new members, and fundraising.

Similarly, Wituk et al. (2002) found that voluntary behavior was related to mutual-help group sustainability. These authors interviewed members of 245 active mutual-help groups and 94 groups that had recently disbanded to compare characteristics of surviving groups to those that disbanded and found that new attendees of meetings, average meeting attendance, leadership diversification, recruitment of new members were among the primary factors discriminating between the active and disbanded groups. These are all voluntary behaviors that help sustain the group. The King et al. (2000) and Wituk et al. (2002) studies suggest that voluntary helping behaviors are important for the sustainability of mutual-help groups but do not provide a framework for understanding the mechanisms of such behavior and other community and addiction research does not adequately address these mechanisms from theoretical perspective.

Industrial/Organizational Perspectives

However, little is known about what these other motivations are in these settings. However, a multidisciplinary perspective can be employed to draw on theoretical and empirical literature from domains other than communities and mutual-help groups. One sub discipline of psychology that has examined voluntary behaviors that support fellow setting members and the setting itself is industrial/organizational (I/O) psychology. Goldstein, Reagles, and Amann (1990) suggest that theory and research in areas such as substance use would benefit from greater diversity in scientific perspectives. There is a rich body of theoretical and empirical literature concerning helping behavior in the field of industrial/organizational (I/O) psychology (LePine, Erez, & Johnson, 2002; Podsakoff, MacKenzie, Paine, & Bachrach, 2000; Organ & Ryan, 1995). Theories developed in other disciplines such as I/O psychology can potentially make unique and important contributions to understanding motivators for helping behaviors in addiction recovery settings.

Citizenship behaviors. One I/O construct that has important potential for mutual-help group research is organizational citizenship behavior (OCB), voluntary behavior that members of a setting engage in to support other members as well as the setting (Organ, Podsakoff, & MacKenzie, 2006). While interpersonal helping behavior is important implications for individuals and groups, citizenship behavior is a broader construct that assesses behavior directed toward both individuals and settings but with the purpose of supporting the setting. The concept of citizenship behavior originated with Katz's (1964) proposal that organizations were successful in types of activities, (1) hiring and retaining employees, (2) encouraging dependable performance of activities specifically relevant to one's role in the organization, and (3) encouraging employees to act in ways that exceed their formal roles. He called the last of these as extra-role behaviors (ERB).

Organ and colleagues (Smith, Organ, & Near, 1983) expanded on the concept of ERB in their conceptualization of organizational citizenship behavior. They proposed that OCB was comprised not only of extra-role behaviors but also of a willingness to cooperate for the good of the organization, a concept first offered by Barnard (1938). More recently, Organ and colleagues (2006, pg. 3) defined OCB as,

Individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and in the aggregate promotes the efficient and effective functioning of the organization.

Organ and colleagues (2006) authors have proposed that OCB is comprised of several components such as helping, compliance, sportsmanship, courtesy, cheerleading, peacekeeping, loyalty, self-development, and protection. Helping is behavior targeted toward other people to aid in organizational tasks. Compliance is the general adherence to both the spirit and letter of

organizational rules and norms and goes beyond route obedience. Sportsmanship is tolerating a frustrating organizational climate and refraining from disparaging comments or behaviors regarding the frustration. Courtesy is similar to helping in that the agent enacts behavior for the benefit of others but differs in that this behavior is more general and is intended to prevent obstacles to productivity rather than assist in production-related tasks. Cheerleading is the celebration of other members' accomplishments. Peacekeeping is intervening to resolve conflict. Loyalty is consistently representing the organization in a positive manner and defending the organization in the face of disparagement. Self-development is self-initiated acquisition of knowledge and skills related to organization needs. Protection is self-initiated actions to investigate and resolve potential harms to the organization. Although these are all potential elements of OCB, a meta-analysis on the dimensionality of OCB suggested that OCB components are essentially equivalent to one another and indicative of a common factor+. These authors suggested that measurement of OCB should, therefore, include an aggregation of items that are commensurate with the definition.

The concept of ERB was again expanded by Van Dyne, Cummings, and Parks (1995), who proposed a framework for ways in which extra-role behavior could be manifested. This framework included OCB, prosocial organizational behavior (PSOB), whistle blowing (WB), and principled organizational dissent (POD). PSOB is a broad construct that includes any prosocial behavior targeted toward another member of an organization or toward others that one is engaging with when conducting organizational tasks. The authors considered PSOB to be a first-order construct under which other ERB's were subsumed. They proposed that OCB, WB, and POD were among those second-order constructs. WB is the disclosure of unethical behaviors of others (Near & Miceli, 1985), and POD is any action that challenges the status quo

of an organization because of principled objections to organizational practices and/or policies (Graham, 1986).

In particular, the OCB component appears to be important for organizational effectiveness (Podsakoff, Aherne, & MacKenzie, 1997). Organ and colleagues (2006) noted that research and theory suggested multiple mechanisms through which these OCBs may enhance organizational effectiveness. These include, (1) increasing coworker and manager productivity (MacKenzie, Podsakoff, & Fetter, 1991, 1993; Podsakoff & Mackenzie, 1994), (2) liberating resources for production (Borman & Motowidlo, 1993; MacKenzie et al., 1991; 1993; Podsakoff, MacKenzie, & Hui, 1993), (3) reducing the need for group maintenance-related resources (Organ, 1988), (4) providing a means coordination between members and groups (Karambayya, 1990; Smith et al., 1983), (5) enhancing employee attraction and retention through an attractive work climate (George & Bettenhausen, 1990), (6) improving consistency in productivity, (7) increasing the adaptability of the organization, and (8) creating social capital such as network ties, trust, shared language, and shared knowledge (Bolino, Turnley, & Bloodgood, 2002).

Similarly, the aforementioned mutual-help research suggests that such supportive behavior should be not only related to individual outcomes as helping is, but also related to the sustainability and effectiveness of mutual-help settings. In fact OCBs may be even more essential to mutual-help organizations. These settings are entirely voluntary and, as such, are maintained solely by citizenship behaviors. If this behavior is not present in a mutual-help group, there are no paid staff to accomplish tasks, so the group would dissipate. Some examples of citizenship behavior in workplace settings include selfless helping of other setting members, volunteering to do tasks without potential reward, orienting new members to the setting, helping

others with their tasks, suggesting ways to enhance the setting, and attending events where such attendance is not required (Smith, Organ, & Near, (1983).

Satisfaction. Two constructs consistently shown to be related to OCB in employment settings are job satisfaction with and organizational commitment to organizations (LePine et al., 2002; Organ & Ryan, 1995; Schappe, 1998; Whitman et al., 2010; Zeinabadi, 2010). The Merriam-Webster online dictionary defines satisfaction as a state of being satisfied (satisfaction, n.d.) and commitment as being a state of obligation and emotional connection to a target (commitment, n.d.). The measure consists of three components— affective, continuance, and normative commitment (Meyer & Allen, 1997). The affective commitment component is strength with which individuals feel emotionally attached to their organization. The continuance commitment component is the degree to which individuals perceive external pressures that attach them to their organization. The normative commitment component is a set of norms and values that attach individuals to their organization.

In I/O research, these attitudes are generally targeted at jobs and organizations respectively, with both constructs frequently examined together. For example, Organ and Ryan (1995) conducted a meta-analysis of 55 studies that examined the relationship between job attitudes and organizational behaviors. They found OCBs were related to both job satisfaction and organizational commitment in addition to perceived fairness of the workplace and supportive leadership. Furthermore, they found that dispositional characteristics were poor predictors of OCB, with the exception of conscientiousness.

Whitman et al. (2010) conducted a meta-analytic review of 73 studies to examine the relationship between satisfaction and performance and similarly found similar patterns. The authors found that the aggregate satisfaction of organizational units was related to the

performance levels of those units. They further found that OCB moderated the relationship between satisfaction and performance, suggesting that OCB is related to satisfaction for the aggregate as it is for the individual.

LePine, Erezand, and Johnson (2002) conducted a meta-analysis of 76 studies on OCB to examine the structure of that construct. As part of their analyses, they examined the relationship between the construct and other employment-setting factors. They found that both satisfaction and commitment were consistently related to OCB; however, the effect sizes were not consistent across studies and suggested that this may indicate potential moderators such as situational influences.

In addition to the direct relationships between satisfaction, commitment, and OCB, further research has examined path models for these constructs that include mediational components. For example, Zeinabadi (2010) examined a model for the relationship between 652 teachers' and 131 principals' job satisfaction and their OCB, with organizational commitment proposed as a mediator. As hypothesized, he found a causal link between satisfaction and OCB as well as a between commitment and helping behaviors. He further found that was commitment was a partial mediator to the relationship between satisfaction and helping behaviors. Thus, I/O research suggests that both satisfaction with and commitment to organizations are related to OCB, with commitment potentially serving as a partial mediator of the relationship between satisfaction and OCB. These findings suggest that, if social scientists wish to understand mechanisms that facilitate OCB, they must also understand satisfaction and commitment as well as mechanisms that facilitate these attitudes.

Person-Environment Fit

Other I/O research has found that one of the potential mechanisms through which satisfaction and commitment are produced is person-environment fit (P-E fit), the congruence between persons and their environments (Walsh, 2009). It appears that such fit may be related to satisfaction with and commitment to settings and organizations (Beasley, Jason, & Miller, 2012; Varquer et al., 2003), as well as citizenship behaviors these settings (Hoffman & Woehr, 2006; Varquer et al., 2003). The majority of this PE fit theory and empirical work has been conducted by I/O researchers (Ostroff & Judge, 2007); however, community researchers (Pargament, 1986; Moos, 1987) were also early contributors to the theoretical development of P-E fit. Community research has found the construct to be related to various outcomes in residential, mutual-help, and addiction recovery settings such as college residence halls (Tracey, Sherry, & Keitel, 1986), elderly living environments (Buffum, 1988; O'Connor & Vallerand, 1994), residential mental health care settings (Lehmann, Mitchell, and Cohen, 1978; Timko & Moos, 1998; Segal, Silverman, & Baumohl, 1989), residential addiction recovery settings (Beasley et al., 2012; Timko & Moos, 1998), and mutual support recovery groups (Humphreys & Woods, 1993; Luke, Roberts, & Rappaport, 1993; Mankowski, Humphreys, & Moos, 2001; Morgenstern, Kahler, & Epstein, 1998; Ouimette et al., 2001). In these community settings, PE fit has been found to be related to social integration (Segal et al., 1989), satisfaction with settings (Beasley et al., 2012), and intent to stay in a setting (Verquer et al., 2003), as well as attendance at support group meetings (Humphreys & Woods, 1993; Luke et al., 1993) and 12-step group involvement (Mankowski et al., 2001).

Global P-E fit and organizational attitudes and behavior. Global P-E fit has also been shown to be related to citizenship behavior (Hoffman & Woehr, 2006) as well as commitment

and satisfaction (Varquer et al., 2003). Verquer et al. (2003) conducted a meta-analytical study of the relationship of P-E fit to satisfaction with and commitment to employment settings for 21 prior studies that investigated these constructs. They also examined type of measure, method of calculating fit, types of fit, and the use of the Organizational Culture Profile (OCP) as potential moderators. The authors found that P-E fit was related to both satisfaction and commitment. They also found that effect sizes were greater for studies that used the OCP and those that assessed fit using participants subjective assessment of the construct.

Hoffman and Woehr (2006) conducted a meta-analysis of 121 studies that examined the relationship of P-E fit to various job-related variables in employment settings. Among the employment variables were satisfaction, commitment, and OCB. As with Varquer et al.'s (2003) research, these authors found that P-E fit was related to OCB. However, there was considerable variation across studies. The authors found that these relationships were moderated by the type of fit measure used, with perceived and objective measures of fit having a moderate relationship to behavioral measures and subjective assessments of fit having only weak relationships. These measurement-related differences in effect size were less apparent with for OCB compared to in-role behaviors though.

In addition to research examining the direct relationship between P-E fit and work-related attitudes and behavior, others have assessed potential mediators of direct relationships (Peng & Chiu, 2010). For example, Peng and Chiu (2010) recently examined a model for the relationship between supervisor feedback environments and OCB. Part of their hypothesized model included an indirect path between P-E fit and OCB that was fully mediated by organizational commitment. As hypothesized, the authors found that such a mediated path fit the data. Thus, it

appears that P-E fit is related to OCB in employment settings, with commitment potentially serving as a mediator for that relationship.

P-E fit components and organizational attitudes and behavior. In addition to a global conceptualization of P-E fit, Chatman (1989) has suggested three ways of conceptualizing components of fit in employment settings. These include: (1) value congruence, (2) environmental supply of individuals' needs, and (3) individuals' ability to meet the demands of the environment. The first of value congruence is the similarity between individual and environment values. The second component of P-E fit is the environmental supply of an individual's needs. Needs-supplies fit is a result of an environment adequately meeting an individual's physical and psychological needs, such as when an introverted individual is in an environment that provides sufficient interpersonal space (Caplan, 1987). The third component of P-E fit involves the individuals' ability to meet the demands of the environment. Demands-abilities fit is determined by an individuals' ability to meet the demands of their environment, such as when people have the knowledge required to complete tasks required of them in a given environment (Caplan, 1987). Although not traditionally assessed in employment settings, perceived interpersonal similarity with other members of a setting has been examined as a potentially important component of P-E fit in community settings (Beasley et al., 2012)

For value the value congruence component of P-E fit, I/O research suggests that the construct is related to OCB (Cable & DeRue, 2002; Hoffman & Woehr, 2006), satisfaction (Boxx, Odom, & Dunn, 1991; Cable & DeRue, 2002; Hinkle & Choi, 2009; Resick, Baltes, & Shantz, 2007; Verquer et al., 2003), and commitment (Boxx et al., 1991; Greguras & Diefendorff, 2009; Ostroff et al., 2005; Verquer et al., 2003). For example, Cable and DeRue (2002) examined the convergent and discriminant validity of P-E fit perceptions for value

congruence, needs-supplies fit, and demands-abilities fit in a sample of 215 employees of a small telecommunications company. Their criterion variables included measures of OCB, job satisfaction, and occupational commitment. The authors found value congruence to be related to OCB. Additionally, Chien-Chen and Su-Fen (2008) assessed a structural equation model for the relationship between supervisor support and OCB, which included a path between value congruence and OCB, and found this path to be significant. Furthermore, in the aforementioned Hoffman and Woehr (2006) meta-analysis, the value congruence component of fit was found to have the largest effect on collapsed outcomes, which included OCB, employee turnover, and in-role task performance. Thus, it appears that value congruence is related to OCB in employment settings.

Cable and DeRue (2002) also found value congruence to be related to job satisfaction. Similarly, Hinkle and Choi (2009) examined the factor structure and validity of Cable and DeRue's (2002) multidimensional measure of P-E fit in a sample of 317 Certified Public Accountants and found that value congruence significantly predicted job satisfaction. Resick et al. (2007) also examined the relationship between multiple components of fit and satisfaction. For their sample of 974 interns at a large manufacturing company, the authors found that value congruence was related to job satisfaction. Furthermore, Boxx et al. (1991) examined the relationship between value congruence and workplace attitudes in a sample of 387 employees of non-profit organizations. They found that organizational satisfaction was higher in organizations that had values congruent with their employees'. Moreover, Verquer et al.'s (2003) meta-analysis found that value congruence was not only related to job satisfaction, but of the P-E fit components they assessed, value congruence was the predictor of this organizational attitude criterion. Thus, it appears that value congruence is related to job satisfaction.

Although Cable and DeRue (2002) did not find value congruence to be related to commitment, the target of the commitment (occupation) was not commensurate with the target of the value congruence (organization). However, Ostroff et al. (2005) conducted a study with 1544 employees of 183 banks and found that the congruence between organization and employee values was related to commitment to the organization. Additionally, Greguras and Diefendorff (2009) examined the relationship between the three components of fit in a sample of 163 employees and found that value congruence was directly related to organizational commitment. Furthermore, Boxx et al. (1991) found that, as with satisfaction, organizational commitment was higher in non-profit organizations that had values congruent with their employees'. Moreover, Verquer et al.'s (2003) found that similar to the satisfaction criterion, value congruence was not only related to organizational commitment but was the strongest predictor of the P-E fit components examined in their meta-analysis. Thus, it appears that value congruence is related to organizational commitment in employment settings.

For the needs-supplies component of P-E fit, I/O research suggests that the construct is related to satisfaction (Cable & DeRue, 2002; Hinkle & Choi, 2009; Resick et al., 2007) and commitment (Cable & DeRue, 2002; Greguras & Diefendorff, 2009), but the its relationship with OCB is unclear. Cable and DeRue's (2002) research failed to find a direct relationship between needs-supplies fit and OCB. Unfortunately, little research has been conducted on this relationship, so the relationship between needs-supplies fit and OCB in employment settings is not certain.

Cable and DeRue (2002) did find a relationship of needs-supplies fit to job satisfaction. Additionally, similar to findings regarding value congruence, Hinkle and Choi (2009) found a relationship between needs-supplies fit and satisfaction. In fact, they found that needs-supplies fit

had a stronger relationship to job satisfaction than any other component of fit in their study. Resick et al. (2007) also found needs-supplies fit to not only be related to satisfaction but more so than other components of P-E fit. Thus, it appears that needs-supplies fit is related to job satisfaction.

Cable and DeRue (2002) did find a relationship between needs-supplies fit and commitment. Similarly, Greguras and Diefendorff (2009) similarly found that the satisfaction of employee needs was directly related to affective organizational commitment. Thus, it appears that needs-supplies fit is also related to organizational commitment.

For the demands-abilities component of P-E fit, I/O research suggests that the construct's relationships to OCB, organizational commitment, and job satisfaction are unclear. Although Edwards (2007) suggests that demands-abilities fit should theoretically be linked to OCB, Cable and DeRue's (2002) research also failed to find a direct relationship between demands-abilities fit and OCB. Unfortunately, little research has been conducted on this relationship to either confirm or disconfirm the Cable and DeRue (2002) findings though. One study that did find a relationship between demands-abilities fit and OCB was Shin and Choi's (2010) study of group-level characteristics for 43 teams that predicted group-level OCB. However, any attempt to generalize these findings to individuals risks committing an ecological fallacy. Thus, the relationship between demands-abilities fit and OCB in employment settings is unclear.

Neither Cable and DeRue (2002) nor Hinkle and Choi (2009) found a relationship between demands-abilities fit and job satisfaction. Although Resick et al. (2007) did find a relationship between these constructs, this component had a weaker relationship with satisfaction than the value congruence and needs-supplies fit. Thus, the relationship between demands-abilities fit and job satisfaction is unclear.

As with satisfaction, Cable and DeRue (2002) did not find a relationship between demands-abilities fit and commitment. However, the commitment criterion was again not commensurate with the P-E fit component in that demands-abilities fit had a target of job; whereas, the commitment criterion had a target of occupation. Greguras and Diefendorff (2009) did that the employees' ability to meet the demands of their workplace was directly related to organizational commitment though. Thus, the relationship between demands-abilities fit and organizational commitment in employment settings is unclear.

For the interpersonal similarity component of P-E fit, there is little empirical I/O literature to make an assessment about the component's relationship to OCB, satisfaction, and commitment. Recent research on identification with the workplace does offer some insights into these relationships though. For example, Dick, Knippenberg, Kerschreiter, Hertel, and Wieseke (2008) examined employee identification with both the workplace and the workgroup for 358 bank and 308 travel agency employees. They found that although each shared identity was related to satisfaction and extra-role behaviors, there was a synergistic effect in that strongly identifying with both a workplace and a workgroup was more strongly related to these outcomes than either alone. Additionally, the social psychology literature suggests a potential link between interpersonal similarity and these constructs. For example, recent research (Levine, Prosser, Evans, & Reicher, 2005) suggests the people are more likely to help in emergencies if there is a salient identity in the interaction and the actor shares such an identity with the target. Such a pattern could conceivably generalize beyond emergency situations to routine helping in workplace or intimate living settings. A shared identity and resulting perception of interpersonal similarity are similarly likely to lead to commitment to a group of people. For example,

individuals who identify more strongly with a group are more committed to the group (Ellemers, Spears, & Doosje, 1997).

Findings from preliminary research. In a preliminary study (Beasley et al., 2012), we examined the relationship between of value congruence, needs-supplies, demands-abilities, and interpersonal similarity components of P-E fit to resident satisfaction with recovery homes for 246 attendees of a convention for residents and alumni of Oxford Houses. In this study, value congruence and demands-abilities fit were not found to be related to resident satisfaction with their Oxford House when controlling for other components of fit. However, needs-supplies fit and interpersonal similarity were found to predict resident satisfaction, with needs-supplies fit having the strongest relationship. Therefore, although value congruence may be related to satisfaction in employment settings, it does not appear to have the same relationship in mutual-help recovery settings. Also, the relationship between demands-abilities fit to show a similar pattern of disassociation with satisfaction and needs-supplies fit appears to be similarly associated with this satisfaction. Lastly, although the relationship between interpersonal similarity and satisfaction with employment settings is unclear, it appears that interpersonal similarity is related to satisfaction with mutual-help recovery housing.

Social Desirability

All constructs mentioned thus far are potentially susceptible to biased response patterns, particularly given the nature of the setting from which the sample. Anecdotal conversations with Oxford House residents suggests that the close interpersonal living quarters that Oxford House residents live in combined with the collaborative leadership structure and shared experience of recovery from alcohol and drug addictions likely to create a sense of shared identity and positive view of the target for that identity—Oxford House. Given these close bonds, Oxford House

residents may be cautious about communicating about the recovery homes in an unfavorable manner. This could positively bias the participants' ratings on commitment and satisfaction. Also, an instrumental part of the 12-step recovery process and collaborative living arrangements of Oxford House is helping others. Participants may be tempted to exaggerate their self-ratings of helping out Oxford House and fellow residents to appear as more successful in recovery and a contributor to their recovery housing. This response pattern, known as social desirability (Holden, 2009), may be more prominent in some participants than it is in others and would bias all of the measures in similar directions, so it is important to assess and control for the construct to limit the potential for Type I error.

Rationale

In summary, substance use and abuse continue to be a costly health problem in the U.S. (Harwood, 2000; ONDCP, 2004; SAMHSA, 2010), and existing treatments and supports do not sufficiently address the problem (Dutra et al., 2008). Treatment systems and outcomes can be supported by community recovery supports such as mutual-help recovery housing systems (Jason et al., 2001), but little is known about these systems compared to professional treatment. What is known is that these systems can enhance abstinence outcomes for those in recovery (Jason et al., 2006; Jason et al., 2007). However, the mechanisms for these improved outcomes and for the sustainability of these volunteer mutual-help networks are not well understood. Findings from both addiction recovery (Crape et al., 2002; King et al., 2000; Magura et al., 2003; Pagano et al., 2004; Wituk et al., 2002; Zenmore et al., 2004) and industrial/organizational (I/O) psychology literature suggest that citizenship behaviors may be important for both individual and setting outcomes (Karambayya, 1990; Podsakoff, Aherne, & MacKenzie, 1997). I/O findings further suggest that, if social scientists wish to understand mechanisms that facilitate OCB, they

must also understand satisfaction and commitment (LePine, Erezand & Johnson, 2002; Organ & Ryan, 1995; Schappe, 1998; Whitman et al. 2010; Zeinabadi, 2010) as well as mechanisms that facilitate these attitudes.

One prominent OCB mechanism in the I/O literature is person-environment fit (P-E fit; Hoffman & Woehr, 2006; Varquer et al., 2003), with commitment potentially serving as a mediator for that relationship (Peng & Chiu, 2010). P-E fit is comprised of 4 components—value congruence, needs-supplies fit, demands-abilities fit, and interpersonal similarity (Beasley et al., 2012; Chatman, 1989). The value congruence component is seemingly important for OCB in employment settings (Cable & DeRue, 2002; Hoffman & Woehr, 2006), as well as job satisfaction (Boxx, Odom, & Dunn, 1991; Cable & DeRue, 2002; Hinkle & Choi, 2009; Resick, Baltes, & Shantz, 2007; Verquer et al., 2003) and organizational commitment (Boxx et al., 1991; Greguras & Diefendorff, 2009; Ostroff et al., 2005; Verquer et al., 2003). However, it appears that either value congruence does not have the have the same relationship in mutual-help recovery settings or a more important factor of interpersonal similarity may have been overlooked in I/O assessments of the relationship between P-E fit and organizational attitudes and behavior (Beasley et al., 2012). Also, demands-abilities fit appears to show a similar lack of association with satisfaction (Beasley et al., 2012; Cable & DeRue, 2002), and needs-supplies fit may be similarly associated with this satisfaction (Beasley et al., 2012; Cable & DeRue, 2002; Hinkle & Choi, 2009; Resick et al., 2007). Lastly, although the relationship between interpersonal similarity and satisfaction with employment settings is unclear, identification literature from both I/O and social psychology support such a relationship (Dick et al., 2008; Ellemers et al., 1997; Levine et al., 2005), and it appears that interpersonal similarity is related to satisfaction with mutual-help recovery housing (Beasley et al., 2012).

The relationship between needs-supplies fit and these outcomes appears to be less conclusive, but preliminary community research (Beasley et al., 2012) supports I/O literature that suggests it also may be related to organizational outcomes. The most under examined P-E fit component in employment settings is demands-abilities fit. It is unclear what its relationship to these three organizational outcomes is. Although the relationship of P-E fit to commitment and satisfaction and the relationship of these constructs to OCB have been demonstrated in the workplace, little is known about these associations in aftercare recovery settings. Given the importance of helping behaviors for both addiction recovery group sustainability and individual member recovery, it is important to understand these relationships in these settings. The modeling of these variables to explain helping behaviors in recovery housing is unique innovation for addiction recovery research.

Statement of Hypotheses

Hypothesis I. The proposed model for the relationship between P-E fit components and citizenship, as mediated by satisfaction and commitment (Figure 1), would demonstrate adequate fit with the data.

Hypothesis II. Greater value congruence would significantly predict greater resident commitment to their Oxford House.

Hypothesis III. Greater needs-supplies fit would significantly predict greater resident commitment to their Oxford House, with satisfaction partially mediating that relationship.

Hypothesis IV. Greater interpersonal similarity would significantly predict greater resident commitment to their Oxford House, with satisfaction partially mediating that relationship.

Hypothesis V. Greater needs-supplies fit would significantly predict greater resident satisfaction with their Oxford House.

Hypothesis VI. Greater interpersonal similarity would significantly predict greater resident satisfaction with their Oxford House.

Hypothesis VII. Greater resident satisfaction with their Oxford House would significantly predict greater commitment to their Oxford House.

Hypothesis VIII. Greater resident satisfaction with their Oxford House would significantly predict greater levels of citizenship behavior, with commitment to their Oxford House partially mediating that relationship.

Hypothesis IX. Greater value congruence would significantly predict greater levels of citizenship behavior, with commitment mediating that relationship.

Hypothesis X. Greater interpersonal similarity would significantly predict greater levels of citizenship behavior, with commitment and satisfaction mediating that relationship.

Research Questions

Question I. Did satisfaction partially mediate the relationship between value congruence and commitment.

Question II. Was needs-supplies fit significantly related to levels of citizenship behavior, with commitment and satisfaction mediating that relationship?

Question III. Did demands-abilities fit significantly predict greater levels of citizenship behavior, with commitment and satisfaction mediating that relationship?

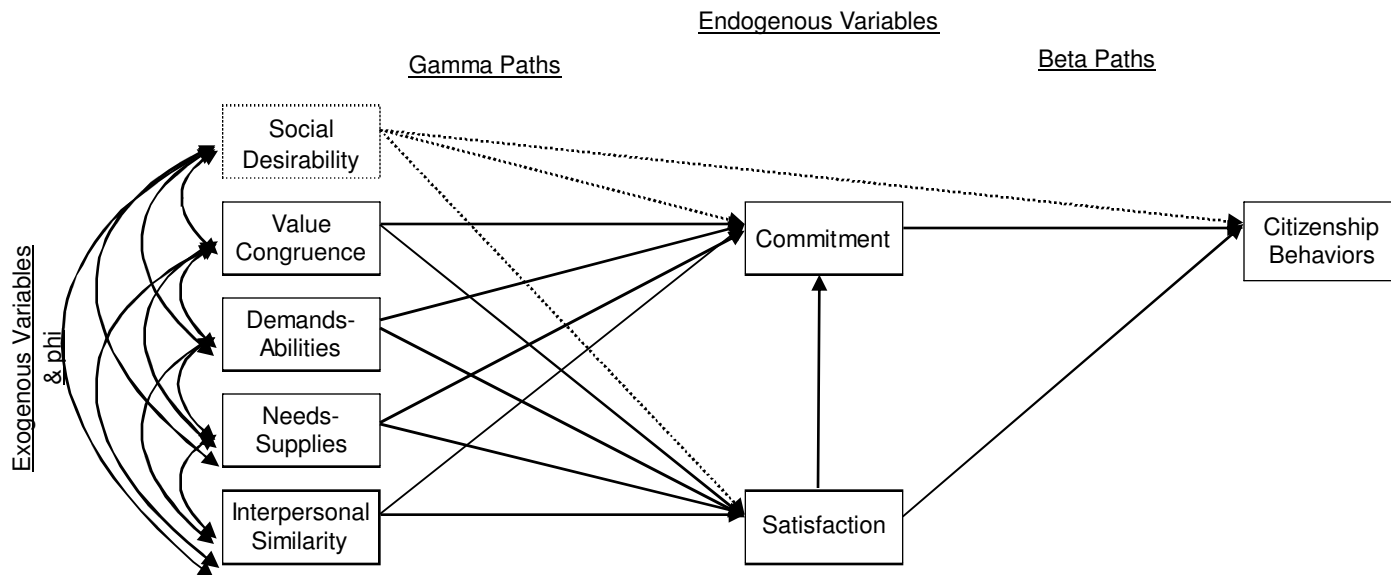


Figure 1: Proposed Model. Proposed model for the relationship between components of P-E fit and helping behaviors including all hypothesized and questioned paths. *Note:* Socially desirability was used to predict all endogenous variables to control for socially desirable response patterns.

CHAPTER II

METHOD

Following these hypotheses, the proposed study tested the model in Figure 1, with value congruence, demands-abilities fit, and needs-supplies fit all hypothesized to be predictive of OCB in mutual-help recovery homes and with commitment mediating the relationship of P-E fit components to OCB and satisfaction mediating the relationship of needs-supplies fit and interpersonal helping to OCB. The study collected cross-sectional data from a national sample of 306 residents of Oxford House recovery homes to test this model. Variables examined included demographics, P-E fit components, resident satisfaction with their recovery home, resident commitment to their recovery home, and engagement in OCB within this setting.

Research Participants

Given that there are 23 parameters in the model described later in this proposal (see Figure 1), I recruited 306 participants for this study, which comfortably exceeded the 10 participants per parameter sample size recommended by Kline (2004) and allowed for the exclusion of unusable data. After exclusion of unusable data, 296 participants from 83 houses remained in the study. The average cluster size for the final model was 3.56 residents per house. Participants were treated according to APA recommendations for the responsible conduct of research. Participation was completely voluntary, with names omitted from survey response packets to ensure participant anonymity.

The ethnic composition of the sample included 59% ($n = 174$) males and 41% ($n = 121$) females; 74.7% ($n = 219$) European-American, 17.1% ($n = 50$) African-Americans, 3.8% ($n = 11$) Latinos, and 4.4% ($n = 13$) participants of other ethnicities. The employment status composition included 39.2% ($n = 116$) employed full-time, 23.3% ($n = 69$) employed part-time,

19.6% ($n = 58$) unemployed, 10.8% ($n = 32$) disabled, 4.1% ($n = 12$) students, and 2% ($n = 6$) retired. The marital status composition included 54.1% ($n = 159$) single, 27.6% ($n = 81$) divorced, 12.6% ($n = 37$) separated, and 5.8% ($n = 17$) married. Only adults 18 years and over were included in this study, because the vast majority of Oxford Houses only accept adult residents, and youths that are accepted are children of parents who are in recovery and living there. On average, the participants were 39.69 (Range = 19 to 67; $SD = 11.81$) years of age, had been sober for 17.39 (Range = 0 to 90; $SD = 19.34$) months, lived in Oxford House for 13.01 (Range = 0 to 120; $SD = 18.13$) months, and attended 3.78 (Range = 0 to 12; $SD = 3.78$) meetings each week.

I conducted representativeness checks comparing these demographics to data available from Oxford House, Inc. such as the annual report of their demographics (Oxford House, 2012) and their database of house characteristics (Oxford House, 2011) using one-sample t-test and chi-square difference tests. There was a greater proportion of women (41%) participants than is found in Oxford House data (25%). There was also a greater proportion of White participants (74.5%) than is found in Oxford House data (56%), $\chi^2(1) = 26.72$, $p < 0.001$. Additionally, there was also a greater proportion of unemployed participants (10.8%) than is found in Oxford House data (8%). Furthermore, there were a greater proportion of single (54.1%) and married (5.8%) participants but lesser proportion of separated (12.6%) and divorced (27.6%) participants than is found in Oxford House data (45%, 4%, 18%, and 33%). Although the average age of participants was similar to that found in national Oxford House data ($t(285) = 1.71$, $p = 0.09$), participants had been in recovery longer ($t(284) = 2.52$, $p = 0.01$), lived in Oxford House longer ($t(288) = 2.73$, $p = 0.01$), and attended fewer meetings per week ($t(278) = -10.49$, $p < 0.001$) than is found in Oxford House data.

I also assessed representativeness using house-level data to compare sampled houses to population data. These house-level data indicated a potential reason for the overrepresentation of women in the sample. Even though there was no gender difference in likelihood of houses being selected for the study ($\chi^2(1) = 0.50, p = 0.48$), women's houses were more likely to have returned surveys ($\chi^2(1) = 8.69, p = 0.003$). The house-level data also indicated the sample of Oxford Houses were in regions similar to that of the population of Oxford Houses in the U.S. ($\chi^2(3) = 5.10, p = 0.17$) as were those that returned surveys ($\chi^2(3) = 2.79, p = 0.43$). The final sample of houses included 47% of homes from the South U.S., 30% from the West, 12% from the Northeast, and 11% from the Midwest compared to a national distribution of 40% in the South, 33% in the West, 12% in the Northeast, and 15% in the Midwest.

Procedure

The study was designed as a cross-sectional postal-mail survey. This survey included both measures for this dissertation (Appendix A) and measures for other research. Appendix B is the battery of measures for all research being conducted and is provided for context about the total scope of the data collection effort. The distribution of the questionnaire (see Appendix A) and information sheets (see Appendix C) took place in two phases. For the first phase, I selected these 75 Oxford Houses randomly from the Center for Community Research's national database of Oxford House contact information. Then, our research team called each house to verify a working number and address as well as inquire into who to speak with about the study. Two of the houses had incorrect contact information and six were no longer operational. Some of the initial contacts were able to either accept or decline the surveys while others deferred to another house contact. For the latter, we followed-up the initial call with a call to the suggested contact person. Two houses declined to participate, and one was ineligible because of participation in

another study. I excluded any house that does not wish to participate and replaced these houses with another randomly selected house. After I secured a working relationship with 45 Oxford Houses, I mailed an average of 6.72 questionnaires to each home, for a total of 302 questionnaires sent out. Each of these questionnaires included a unique identification code.

We mailed out postcard reminders of the research to participants one week, two weeks, and one month after the survey packets are mailed. We also called house leaders at these intervals to remind residents about the study. To maintain participant response confidentiality, we asked participants to call a toll-free number and leave a voicemail with their identification codes, names and contact information. Once we received the questionnaire associated with the identification code, we confirmed receipt with the participant and mailed the compensation in the form of a check. Our research team manually entered data from questionnaires as they were received and sent money orders as the voicemails are received.

Strategies for enhancing compliance included solicitation of support from key stakeholders, making follow-up phone calls to houses, mailing postcard reminders to the homes, and compensating each participant with a \$15 money order for their expected 45 minutes of total participation in the research. The response rate for this first phase of data collection was 42%-- below the 50% target rate but above those found in Kaplowitz et al.'s (2004) comparison of postal and internet survey methods (32% postal mail response rate).

The second phase of data collection followed similar procedures, with the number of houses and questionnaires being determined by the number of participants still needed after the first phase. We continued to send out a number of questionnaires that is equivalent to the number of participants still needed for the study. However, we employed additional strategies to enhance response rates. The most prominent change was the use of Oxford House stakeholders. We began

contacting Oxford House staff, volunteer recruiters, and chapter presidents to secure support for the research before contacting the houses. These stakeholders then contacted the houses to inform them about the research. We also began to address the questionnaire packets to a specific person in the house rather than the name of the home. Lastly, we began processing and mailing out payments after we received a confirmation voicemail but before we received the completed surveys in the mail. The response rate for this first phase of data collection was 53%. In total, we mailed 641 questionnaires and received 306 usable surveys giving the study a 48% response rate.

Measures

The questionnaire comprised of a demographics section and a battery of empirically validated scales to assess the constructs related to our hypotheses. This battery also included demographics and scales to assess constructs for other hypotheses that were not related to the proposed research. These unrelated scales and demographics questions are included in the appendix to provide context about the scope of the research but are not described in this proposal.

Demographics. The battery of measures included a section on participant demographics, including gender, date-of-birth, ethnicity, marital status, level of education, employment status, length of substance use, length of sobriety, length of residency in Oxford House, and other demographics for research not related to this dissertation.

Person-environment fit. PE fit has been measured either directly by explicitly asking individuals how well they fit with an environment or indirectly by measuring both the individual and the environment (Kristof, 1996). Some examples of indirect fit include the assessment of the values of the individual and the environment, the needs of the individual and supply of those needs by the environment, and the demands of the environment and the abilities of the

individual. Past research has found that objective fit only has an influence on individuals if they perceive that fit or lack thereof exists and that direct measures of fit are most strongly related to outcomes (Arthur et al., 2006; Kristof-Brown et al., 2005; Verquer et al., 2003), so direct measurement of fit perceptions are recommended for P-E fit research, and this approach was used in the proposed research.

Cable and DeRue (2002) introduced a multidimensional measure of fit that is the most widely used assessment of P-E fit in employment settings. The Cable and DeRue (2002) measure of P-E fit will be used in the proposed study to assess all components of fit except for interpersonal similarity, which the measure is not designed to assess. This 9-item, 7-point Likert-type (1 = strongly disagree to 7 = strongly agree) self-report scale measures the perceived congruence between employees and the organization they work for (value congruence), individuals' ability to meet the demands of their job (demands-abilities fit), and the sufficiency of a job in meeting the needs of individuals (needs-supplies fit). The measure is scored by summing the three items in each subscale, with higher scores indicating a greater degree of fit with regard to the component assessed by that particular subscale. These authors introduced this multidimensional measure of fit and evaluated the discriminant validity of these dimensions by examining their relationship to job-related variables in a sample of 215 employees of a telecommunications company. The measure is reliable ($\alpha = .84$ to $.93$) and has been validated by both the authors (Cable & DeRue, 2002) and others (Hinkle & Namok, 2009). The language used in this measure is specific to employment settings, so it will be modified by replacing "job" and "organization" with "Oxford House" and work-related actions with recovery home-related actions, such as by replacing "work" with "live." We found the measure to be reliable in the

current study for both the individual and house-level components of Value Congruence (See Table 1 for reliability of within and between components).

The Cable and DeRue (2002) measure of P-E fit does not include a subscale for interpersonal similarity though, so the Interpersonal Similarity subscale from the General Environment Fit Scale (GEFS; Beasley et al., 2012) was used to assess another component of person-environment fit—the degree to which individuals see themselves as similar to other members of a setting. The GEFS was originally developed as a 15-item, 4-point Likert-type measure of P-E fit; however, the authors recommended using the measure using a 5-point Likert-type response option in the future. The measure is scored by summing the 3 items in each subscale, with higher scores indicating a greater degree of fit with regard to that particular component of fit. The GEFS was intended as a measure of P-E fit for use in a variety of settings but was developed using an Oxford House resident and alumni population. The Interpersonal Similarity subscale demonstrated acceptable reliability ($\alpha = .78$) and concurrent construct validity. Interpersonal Similarity significantly predicted 33% of the variance in resident satisfaction with their recovery home and 4% of the variance in how long residents expected to stay in the home. Although the GEFS also contains subscales for value congruence, needs-supplies fit, and demands-abilities fit, the Cable and DeRue (2002) subscales was used to assess these constructs because of its acceptance in scientific literature and superior internal consistency. We found the measure to be reliable in the current study for both the individual and house-level components of all subscales (See Table 1 for reliability of within and between components).

Satisfaction. Resident satisfaction with their recovery home was assessed using a slightly modified version of Cammann, Fichman, Jenkins, and Klesh's (1983) job satisfaction subscale

from the Michigan Organizational Assessment Questionnaire. This 3-item 7-point Likert-type (1 = strongly disagree to 7 = strongly agree) self-report subscale assesses of employees' global satisfaction with their job. The measure is scored by summing the total of the three items, with higher scores indicating greater satisfaction with the target. It has been shown to be both reliable ($\alpha = .67$ to $.95$; Hochwarter, Perrew, Igalens, & Roussel, 1999; McFarlin & Rice, 1992; McLain, 1995; Pearson, 1991; Sanchez & Brock, 1996; Siegall, & McDonald, 1995). As expected, the measure has been shown to be correlated with measures of commitment and job involvement, which demonstrate concurrent construct validity. The measure of job satisfaction has also been shown to be distinct from other organizational constructs (Sanchez, Kraus, White, & Williams, 1999), which demonstrates divergent construct validity. This measure of satisfaction was modified by replacing "job" with "Oxford House," as it was in preliminary research conducted by the trainee (Beasley et al., 2012). We found the measure to be reliable in the current study for both the individual and house-level components of satisfaction (See Table 1 for reliability of within and between components).

Commitment. Resident commitment to their recovery home was assessed using a slightly modified version of the affective commitment subscale from Meyer and Allen's (1997) 18-item 7-point Likert-type (1= strongly disagree to 7 =strongly agree) self-report measure of employee commitment to the workplace. The measure consists of three subscales—affective, continuance, and normative commitment. The affective commitment subscale measures the strength with which individuals feel emotionally attached to their organization. The subscale is scored by summing the 8 items, with higher scores indicating greater affective commitment to the target organization. The continuance commitment subscale measures external pressures that attach individuals to their organization. The normative commitment subscale measures norms and

values that attach individuals to their organization. Because the continuance and normative commitment subscales refer to external influences on commitment rather than emotional attachment, only the affective commitment subscale was used in the current study.

Organizational research has previously used only this subscale alone (Cable & DeRue, 2002). The measure is widely used in organizational literature and has been shown to be reliable and valid ($\alpha = .85$; Meyer and Allen, 1997; Cohen, 1996, 1999). This measure was modified by replacing the work-related actions with recovery home-related actions and changing the organization targets to Oxford House. We found the measure to be reliable in the current study for both the individual and house-level components of affective commitment (See Table 1 for reliability of within and between components).

Citizenship behavior. Resident citizenship behaviors in their recovery home was assessed using a slightly modified version of Van Dyne and LePine's (1998) 13-item 7-point Likert-type (1 = strongly disagree to 7 = strongly agree) multiple rater measure of extra-roles behavior in the workplace. The measure consists of two subscales. The helping subscale measures small acts of consideration toward others and has been shown to be highly reliable ($\alpha = .89$). The measure is scored by summing the items of each subscale, with higher scores indicating a greater tendency to engage in that particular component of citizenship behavior. The voice subscale measures constructive criticisms of an organization that help to strengthen it, has also been shown to be highly reliable ($\alpha = .89$). The measure was modified by replacing the work-related actions with recovery home-related actions and changing workplace targets to Oxford House. This citizenship behavior measure is more informative than traditional helping instruments, because it assesses behaviors that help the setting in addition to those that help other members. As indicated, both types of helping behaviors are important for mutual-help settings and their members. We found

the measure to be reliable in the current study for both the individual and house-level components of citizenship behavior (See Table 1 for reliability of within and between components).

Socially desirable responding. To measure socially desirable response styles, this study administered Version C of the Marlowe-Crowne Social Desirability Scale (MCSDS-C; Reynolds, 1982). The MCSD-C is a 13-item True-False self-report measure of social desirability. The measure is scored by summing all of the items in the instrument, with higher scores indicating a greater tendency to respond in a socially desirable manner. It has been shown to be related to valid, reliable ($\alpha = .89$; Fisher & Fick, 1993), and highly correlated with the full MCSDS ($r = .93$; Reynolds, 1982). We found the measure to be reliable in the current study for both the individual and house-level components of social desirability (See Table 1 for reliability of within and between components).

Table 1
Descriptive Statistics, ICC, & Reliability

Observed Variables	<i>n</i>	Min	Max	Mean	<i>SD</i>	<i>SE</i>	ICC	ω_w	ω_b
Social Desirability	292	0	13	6.67	3.23	0.19	0.08	0.88	0.96
Citizenship Behavior	291	2	7	5.86	0.96	0.06	0.02	0.74	0.97
Commitment	292	2	7	5.26	1.10	0.06	0.05	0.91	0.99
Satisfaction	293	2	7	6.14	1.01	0.06	0.04	0.77	0.92
Interpersonal Similarity	291	1	5	3.42	0.96	0.06	0.07	0.79	0.98
Value Congruence	291	1	5	3.88	0.76	0.04	0.00 ¹	0.90	0.93
Demands-Abilities	293	1	5	3.96	0.80	0.05	0.07	0.78	0.97
Needs-Supplies Fit	293	1	5	4.01	0.70	0.04	0.01	0.79	0.92

Notes. ¹Value Congruence was restricted to a within-only variable, so the ICC for this observed variable is 0.00.

CHAPTER III

RESULTS AND ANALYSIS

Primary Analyses

Descriptive

Only 1.2% of total observations were missing. Given that there was less than 5% missingness, methods of redressing this issue were unlikely to bias statistical analyses (Tabachnick & Fidell, 2006). Data from participants who complete at least 3/4 of each measure in the battery were used for the proposed study. After creating these summary scores, 2.1% of the data were missing. This missing data for those that completed at least 3/4 of the instrument was estimated using the Full Information Maximum Likelihood (FIML) feature in Mplus 7.1 (Muthén & Muthén, 2011). Cases that were univariate outliers based on standardized scores in excess of 3.29 were also excluded from the analyses (Tabachnick & Fidell, 2006). Ten such cases were removed from the study. Skewness and kurtosis were assessed by dividing the associated statistics by their standard error to standardize them (see Table 2). Those exceeding an absolute value of 3.29 were considered a violation of the normality assumption for regression-based analyses. Thus, citizenship behavior and satisfaction were deemed to violate the assumption of normality, so subsequent analyses used robust estimators to account for biases in standard errors that result from such violations. Lastly, the variability for social desirability was considerably larger than that of the other variables, so this was rescaled by dividing the variable by three during modeling (see Table 1 for standard deviation of variables).

Table 2
Skew & Kurtosis

Observed Variables	Skew	SE Skew	Standardized Skew	Kurtosis	SE Kurtosis	Standardized Kurtosis
Social Desirability	0.12	0.14	0.86	-0.82	0.28	-2.93
Citizenship Behavior	-0.77	0.14	-5.50	0.27	0.29	0.93
Commitment	-0.34	0.14	-2.43	-0.34	0.28	-1.21
Satisfaction	-1.39	0.14	-9.93	1.64	0.28	5.86
Interpersonal Similarity	-0.13	0.14	-0.93	-0.59	0.29	-2.03
Value Congruence	-0.25	0.14	-1.79	-0.33	0.29	-1.14
Demands-Abilities	-0.63	0.14	-4.50	0.32	0.28	1.14
Needs-Supplies Fit	-0.32	0.14	-2.29	-0.03	0.28	-0.11

Notes.

Following editing, file building, and cleaning of data, statistical analyses were performed in two stages. In the first stage, descriptive analyses were conducted to provide information on the sample and general pattern of relationships between variables. Initial within-group correlations ranged from 0.14 to 0.69, indicating sufficient but not extreme collinearity (see Table 1 for initial within-group correlations). However, the between-group components for some variables were correlated above 0.90, which indicated potential multicollinearity (Cohen & Cohen, 1984), so one value congruence, a variable from the highest correlated pair, was restricted to only a within-level variable. A reexamination of correlations for within and between components after this modification indicated sufficient but not extreme collinearity with correlations ranging from 0.09 to 0.86 (see Tables 5-6 for final within and between-group correlations).

No variables had an interclass correlation (ICC) above 0.10, which indicated less than 10% of the variance was attributable to a clustering effect (see Table 1 for ICCs), however four variables had an ICC above 0.05. Thus, there is likely to be some dependency in the error terms but not enough for stable estimates of between-group models (Preacher, Zhang, & Zyphur, 2011). Such dependency can occur when participants are recruited in clusters of recruitment sites such as group living quarters. Residents living together may be more similar to one another than they are to others. To account for the dependency without causing instability in models, I estimated level the means to partition off the between-group variance components of all variables except value congruence, but did not model relationships between those components.

Table 3
Initial Correlations for Within-Group Components of Variables

Latent Components	SD	CB	Com	Sat	IS	VC	DA	NS
Social Desirability	1							
Citizenship Behavior	0.27	1						
Commitment	0.22	0.43	1					
Satisfaction	0.28	0.41	0.67	1				
Interpersonal Similarity	0.16	0.31	0.36	0.36	1			
Value Congruence	0.16	0.36	0.58	0.56	0.46	1		
Demands-Abilities	0.18	0.42	0.58	0.60	0.40	0.66	1	
Needs-Supplies Fit	0.14	0.42	0.53	0.53	0.45	0.64	0.69	1

Notes.

Table 4

Initial correlations for between-group components of variables

Latent Components	SD	CB	Com	Sat	IS	VC	DA	NS
Social Desirability	1							
Citizenship Behavior	-0.13	1						
Commitment	-0.07	0.95	1					
Satisfaction	0.14	0.77	0.90					
Interpersonal Similarity	-0.18	0.74	0.59	0.23	1			
Value Congruence	0.06	0.96	0.95	0.84	0.60	1		
Demands-Abilities	-0.17	0.40	0.36	0.27	0.02	0.49	1	
Needs-Supplies Fit	0.27	0.86	0.85	0.74	0.53	0.94	0.58	1

Notes.

Table 5

Final correlations for within-group components of variables

Latent Components	SD	CB	Com	Sat	IS	VC	DA	NS
Social Desirability	1							
Citizenship Behavior	0.27	1						
Commitment	0.22	0.45	1					
Satisfaction	0.28	0.43	0.69	1				
Interpersonal Similarity	0.17	0.33	0.39	0.39	1			
Value Congruence	0.16	0.39	0.61	0.59	0.48	1		
Demands-Abilities	0.19	0.44	0.60	0.62	0.41	0.67	1	
Needs-Supplies Fit	0.15	0.44	0.55	0.55	0.47	0.66	0.70	1

Notes.

Table 6
Final correlations for between-group components of variables

Latent Components	SD	CB	Com	Sat	IS	DA	NS
Social Desirability	1						
Citizenship Behavior	-0.43	1					
Commitment	-0.26	0.86	1				
Satisfaction	0.09	0.36	0.72	1			
Interpersonal Similarity	-0.28	0.60	0.25	-0.37	1		
Demands-Abilities	-0.25	-0.25	-0.24	-0.31	-0.41	1	
Needs-Supplies Fit	0.39	0.36	0.44	0.18	0.09	0.23	1

Notes.

Initial Model Results

In the second stage of data analyses, I investigated the relationship between P-E fit, residents' satisfaction with, commitment to, and OCB in their recovery homes in a multilevel meditational path model based on findings of these relationships in employment settings and preliminary research in mutual-help housing—Hypothesis I. Socially desirable response patterns were controlled for in all analyses by regressing all endogenous variables on this control variable. The models were tested using multilevel structural equation modeling (MSEM) with the robust MLR estimator in *Mplus* in order to explore how satisfaction and commitment might mediate the relationship between components of fit and citizenship behaviors. A structural equation model (SEM) allowed multiple relationships to be assessed simultaneously, and a multilevel variant provided the capability to assess and account for dependency in the data. To minimize the risk of local optima, I requested that *Mplus* examine 1000 sets of parameter starting values and test the best set with 250 random sets.

I assessed the fit of the hypothesized model using the Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR) for each of the seven proposed models, with acceptable fit cutoffs of $CFI \geq .92$, $RMSEA \leq .08$, and $SRMR \leq .08$ (Hu & Bentler, 1999). Such fit was examined using a segregated approach to MSEM with separate covariance matrices for within and between effects as inputs for separate structural equation models. However, parameter estimates were derived from a simultaneous estimation of the within and between-group effects.

The hypothesized model did not fit the data well (see Table 7 for model fit); but, as planned additional models were tested to include additional parameters as research questions. Research question I-question III were assessed by testing alternative models that combined the hypotheses with variations of the research questions, with some models including each relationship in question and others excluding it. Model 4a included estimates for all of the relationships in question and fit the data perfectly but was a just identified model, so the two standardized parameters below 0.05 were fixed to 0 for model 4b. This was the only model to fit the data and included estimates for all of the relationships in question (see Table 8 for parameter estimates).

Table 7
Model Fit Statistics

Model	χ^2	df	CFI	RMSEA	RMSEA [LB, UB]	SRMR
1	71.43**	5	0.87	0.21	0.17, 0.26	0.06
2	38.86**	4	0.93	0.17	0.13, 0.22	0.04
3	29.78**	3	0.95	0.17	0.12, 0.23	0.03
4a	0.00	0	1.00	0.00	0.00, 0.00	0.00
4b	0.68	2	1.00	0.00	0.00, 0.08	0.01
5	4.86*	1	0.99	0.11	0.03, 0.22	0.01
6	19.19**	2	0.97	0.17	0.11, 0.24	0.02
7	14.34**	1	0.97	0.21	0.12, 0.32	0.02
8	62.34**	4	0.89	0.22	0.18, 0.27	0.06

Notes. 1 = only hypothesized parameters; 2 = path added between value congruence and satisfaction; 3 = paths added between value congruence and satisfaction as well as between needs-supplies fit and citizenship behavior; 4a = just-identified model with all questioned parameters included; 4b=All standardized parameters under 0.05 fixed to 0; 5 = paths added between value congruence and satisfaction, demands-abilities fit and satisfaction, demands-abilities fit and commitment, and demands-abilities fit and citizenship behavior; 6 = path added between demands-abilities fit and satisfaction, demands-abilities fit and commitment, and demands-abilities fit and citizenship behavior; 7 = path added between needs-supplies fit and citizenship behavior as well as between demands-abilities fit and satisfaction, demands-abilities fit and commitment, and demands-abilities fit and citizenship behavior; 8 = path added between path added between needs-supplies fit and citizenship behavior . * $p < .05$, ** $p < 0.001$

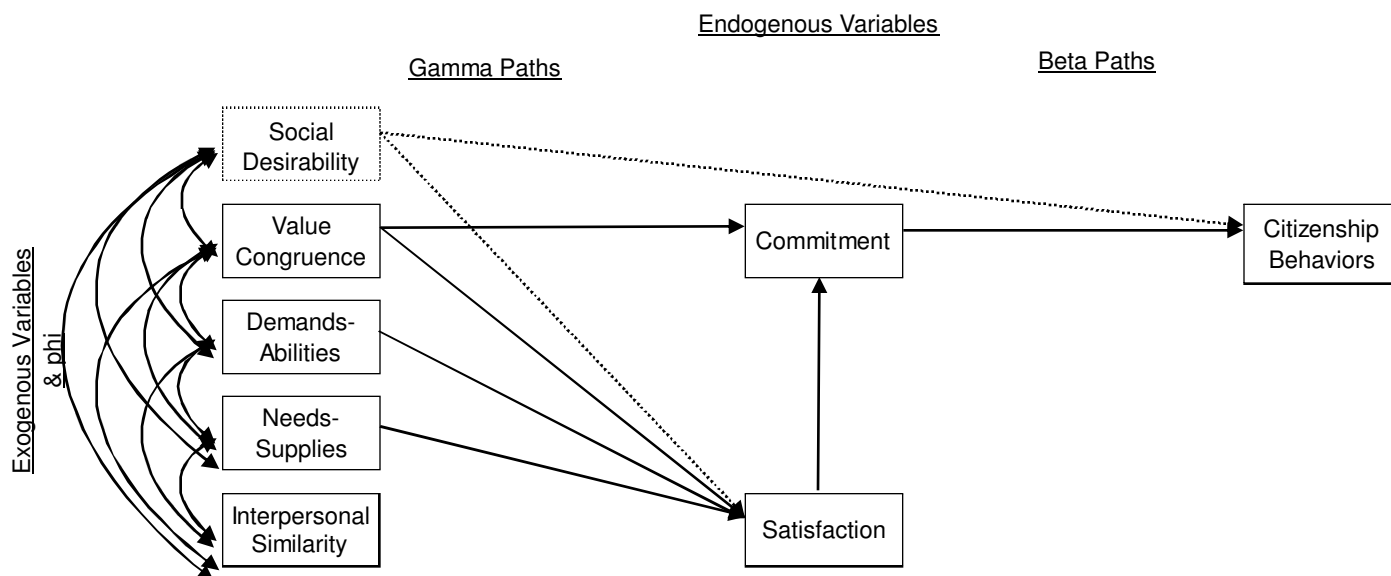


Figure 2: Final Model. Final model for the relationship between components of P-E fit and helping behaviors including all hypothesized and questioned paths with only significant parameters indicated in the model. *Note:* Socially desirability was used to predict all endogenous variables to control for socially desirable response patterns.

Hypothesized Parameters

Hypothesis II-Hypothesis X were assessed by examining the parameters in the MSEM for significant parameters for direct effects and indirect effects for the proposed mediations (see Table 8 for parameter estimates). As hypothesized, value congruence was directly related to commitment (see Table 8 for parameter estimates). For each 1 standard deviation increase in value congruence, there was a 0.2 standard deviation increase in commitment. Value congruence explained 4% of the variance in commitment.

However, contrary to my hypothesis, needs-supplies fit was not directly related to commitment (see Table 8 for parameter estimates). Therefore, this path was not partially

mediated by satisfaction either. This relationship was fully mediated by satisfaction though. The path of needs-supplies fit through satisfaction explained 1% of the variance in commitment.

Also contrary to my hypothesis, interpersonal similarity was not directly related to commitment, and this relationship was not partially mediated by satisfaction (see Table 8 for parameter estimates). Interpersonal similarity was also not indirectly related to commitment through satisfaction.

As hypothesized, needs-supplies fit was directly related to satisfaction (see Table 8 for parameter estimates). For every 1 standard deviation increase in needs-supplies fit, there was a 0.15 increase in satisfaction. Needs-supplies fit explained 2% of the variance in satisfaction.

Contrary to my hypothesis, interpersonal similarity was not significantly related to satisfaction (see Table 8 for parameter estimates).

As hypothesized, satisfaction was significantly related to commitment (see Table 8 for parameter estimates). For each 1 standard deviation increase in satisfaction, there was a 0.46 increase in commitment. Satisfaction explained 21% of the variance in commitment.

Contrary to my hypothesis, satisfaction was not directly related to citizenship behavior though (see Table 8 for parameter estimates). However, satisfaction was indirectly related to citizenship behavior through commitment. This indirect path explained 1% of the variance in citizenship behavior.

Also contrary to my hypothesis, value congruence was not directly related to citizenship behavior (see Table 8 for parameter estimates). Although value congruence was indirectly related to citizenship through of full mediator of commitment, this indirect path only explained 0.2% of the variance in citizenship behavior.

Further contrary to my hypothesis, interpersonal similarity was not directly or indirectly related to citizenship behavior (see Table 8 for parameter estimates).

Questioned Parameters

One research question was whether value congruence partially mediated the relationship between value congruence and commitment. Results demonstrated that there was such a partial mediation that explained 1% of the variance in commitment (see Table 8 for parameter estimates). Value congruence was also directly related to satisfaction (see Table 8 for parameter estimates). For each 1 standard deviation increase in value congruence, there was a 0.27 standard deviation increase in satisfaction. Value congruence explained 7% of the variance in satisfaction.

A second research question was whether needs-supplies fit was related to citizenship behavior, with this relationship mediated by commitment and satisfaction. Needs-supplies fit was not directly related to citizenship behavior and satisfaction did not mediate an indirect relationship between this component of fit and citizenship behavior (see Table 8 for parameter estimates). Although, there was an indirect relationship between needs-supplies fit and citizenship behavior that was fully mediated by commitment, this indirect path only explained 0.1% of the variance in citizenship behavior.

A third research question was whether demands-abilities fit was related to citizenship behavior, with that relationship being mediated by commitment and satisfaction. Demands-abilities fit was not directly or indirectly related to citizenship behavior (see Table 8 for parameter estimates). However, this component of fit was directly related to satisfaction. For each 1 standard deviation increase in demands-abilities fit, there was a 0.28 standard deviation increase in satisfaction. Demands-abilities fit explained 8% of the variance in satisfaction.

Table 8
Standardized & Unstandardized Parameter Estimates

Parameter	β^1	<i>B</i>	<i>SE</i>	<i>z</i>	<i>p</i>	95% CI	r_p^2
						[LB, UB]	
Commitment on							
Social Desirability	0.00	0.00	0.00	---	---	---	---
Satisfaction	0.46	0.50	0.07	6.70	< 0.001	0.35, 0.64	0.21
Value Congruence	0.20	0.30	0.10	3.15	< 0.001	0.11, 0.49	0.04
through Satisfaction	0.12	0.18	0.04	4.08	< 0.001	0.09, 0.27	0.01
Demands-Abilities Fit	0.09	0.12	0.08	1.40	0.16	-0.05, 0.28	0.01
through Satisfaction	0.04	0.06	0.04	1.52	0.13	-0.02, 0.13	0.002
Needs-Supplies Fit	0.10	0.15	0.10	1.55	0.12	-0.04, 0.34	0.01
through Satisfaction	0.07	0.11	0.06	1.94	0.05	0.00, 0.21	0.01
Interpersonal Similarity	0.05	0.06	0.06	1.05	0.30	-0.05, 0.17	0.003
through Satisfaction	0.02	0.03	0.03	0.94	0.35	-0.03, 0.08	0.001
Satisfaction on							
Social Desirability	0.16	0.15	0.04	3.83	0.00	0.07, 0.22	0.02
Value Congruence	0.27	0.36	0.08	4.40	0.00	0.20, 0.52	0.07
Demands-Abilities Fit	0.28	0.35	0.11	3.24	0.00	0.14, 0.57	0.08
Needs-Supplies Fit	0.15	0.21	0.11	2.01	0.05	0.01, 0.42	0.02
Interpersonal Similarity	0.05	0.05	0.05	0.97	0.33	-0.05, 0.16	0.003
Citizenship Behavior on							
Social Desirability	0.13	0.11	0.05	2.45	0.01	0.02, 0.20	0.02
Commitment	0.24	0.22	0.07	3.21	0.00	0.09, 0.36	0.06
Satisfaction	0.07	0.08	0.09	0.87	0.39	-0.09, 0.24	0.01
through Commitment	0.11	0.11	0.03	3.30	< 0.001	0.05, 0.18	0.01
Value Congruence	0.00	0.00	0.00	---	---	---	---
through Satisfaction	0.07	0.08	0.04	2.26	0.02	0.01, 0.15	0.004
through Commitment	0.05	0.07	0.04	1.85	0.07	0.00, 0.14	0.002
Demands-Abilities Fit	0.12	0.13	0.11	1.15	0.25	-0.09, 0.34	0.01
through Satisfaction	0.02	0.03	0.03	0.84	0.40	-0.04, 0.09	0.0004
through Commitment	0.02	0.03	0.02	1.28	0.20	-0.01, 0.07	0.0004
Needs-Supplies Fit	0.13	0.16	0.13	1.24	0.22	-0.09, 0.41	0.02
through Satisfaction	0.02	0.03	0.02	1.70	0.09	-0.01, 0.07	0.001
through Commitment	0.04	0.05	0.03	1.85	0.07	0.00, 0.10	0.001
Interpersonal Similarity	0.10	0.09	0.05	1.73	0.09	-0.01, 0.20	0.01
through Satisfaction	0.00	0.004	0.01	0.65	0.52	-0.01, 0.02	0.00002
through Commitment	0.01	0.01	0.01	1.03	0.30	-0.01, 0.04	0.0002

Notes. "through " indicates indirect relationship mediated by the third variable. ¹STDYX standardization

The total effects were as follows (see Table 9-10). The model explained 41% of the variance in commitment. Of which, 21% was explained by satisfaction, 5% by value congruence, and 1% by needs-supplies fit. The model also explained 27% of the variance in satisfaction. Of which, 2% was explained by socially desirable response patterns, 7% by value congruence, 8% by demands-abilities fit, and 2% by needs-supplies fit. Furthermore, the model explained 19% of the variance in citizenship behavior. Of which, 2% was explained by socially desirable response patters, 6% by commitment, 1% by satisfaction, and 0.6% by value congruence. The remaining variance explained for each of these endogenous variables is due to shared variance in predictors.

Table 9

Total Unique Effects

	Direct Effect	Indirect Effect	Indirect 2 Effect	Total Effect
Commitment on				
Social Desirability	---	---	---	---
Satisfaction	0.21	---	---	0.21
Value Congruence	0.04	0.01	---	0.05
Demands-Abilities Fit	---	---	---	---
Needs-Supplies Fit	---	0.01	---	0.01
Interpersonal Similarity	---	---	---	---
Satisfaction on				
Social Desirability	0.02	---	---	0.02
Value Congruence	0.07	---	---	0.07
Demands-Abilities Fit	0.08	---	---	0.08
Needs-Supplies Fit	0.02	---	---	0.02
Interpersonal Similarity	---	---	---	---
Citizenship Behavior on				
Social Desirability	0.02	---	---	0.02
Commitment	0.06	---	---	0.06
Satisfaction	---	0.01	---	0.01
Value Congruence	---	0.004	0.002	0.006
Demands-Abilities Fit	---	---	---	---
Needs-Supplies Fit	---	---	---	---
Interpersonal Similarity	---	---	---	---

Notes. Total effects calculated only for significant parameters.

Table 10
Proportion of Endogenous Variance Explained

Endogenous Variables	R^2	SE	z	p
Commitment	0.19	0.04	4.67	< 0.001
Satisfaction	0.41	0.05	8.14	< 0.001
Citizenship Behavior	0.27	0.04	6.19	< 0.001

Supplemental Analyses

Of particular note from the primary analyses is the large proportion of variance explained in endogenous variables ($R^2 = 0.19, 0.27, \& 0.41$) but mostly small to moderate effects of these variables regressed onto exogenous variables ($r_p^2 = 0.02$ to 0.21). This suggests shared variance between predictors in the multivariate model may be explaining the remaining variance. Given that the four components of person-environment fit are moderately to strongly correlated with one-another and could conceptually form an underlying construct of perception of general fit with an environment, these components may form a latent construct with each serving as an indicator. Therefore, supplemental analyses were performed to assess a MSEM measurement model for the latent factor as well as a structural model for the relationship of the latent person-environment fit to citizenship behavior while controlling for socially desirable response patterns with satisfaction and commitment serving as partial mediators of that relationship.

Overall Model

The supplemental models were also tested using multilevel structural equation modeling (MSEM) with value congruence restricted to the within-level using the robust MLR estimator in *Mplus* and random start values to minimize the risk of local optima. As with the primary models,

I assessed the fit of the supplemental models using the CFI, RMSEA, and SRMR indices of the segregated models with acceptable fit cutoffs of $CFI \geq .92$, $RMSEA \leq .08$, and $SRMR \leq .08$ (Hu & Bentler, 1999). Parameter estimates were again derived from a simultaneous estimation of the within and between-group effects. Both the measurement and structural models fit the data well (see Table 11 for model fit).

Table 11
Supplementary Model Fit Statistics

Model	χ^2	df	CFI	RMSEA	RMSEA [LB, UB]	SRMR
Measurement	5.21	2	0.99	0.07	0.00, 0.15	0.02
Structural	27.97**	15	0.99	0.05	0.02, 0.09	0.07

Notes. * $p < .05$, ** $p < 0.001$

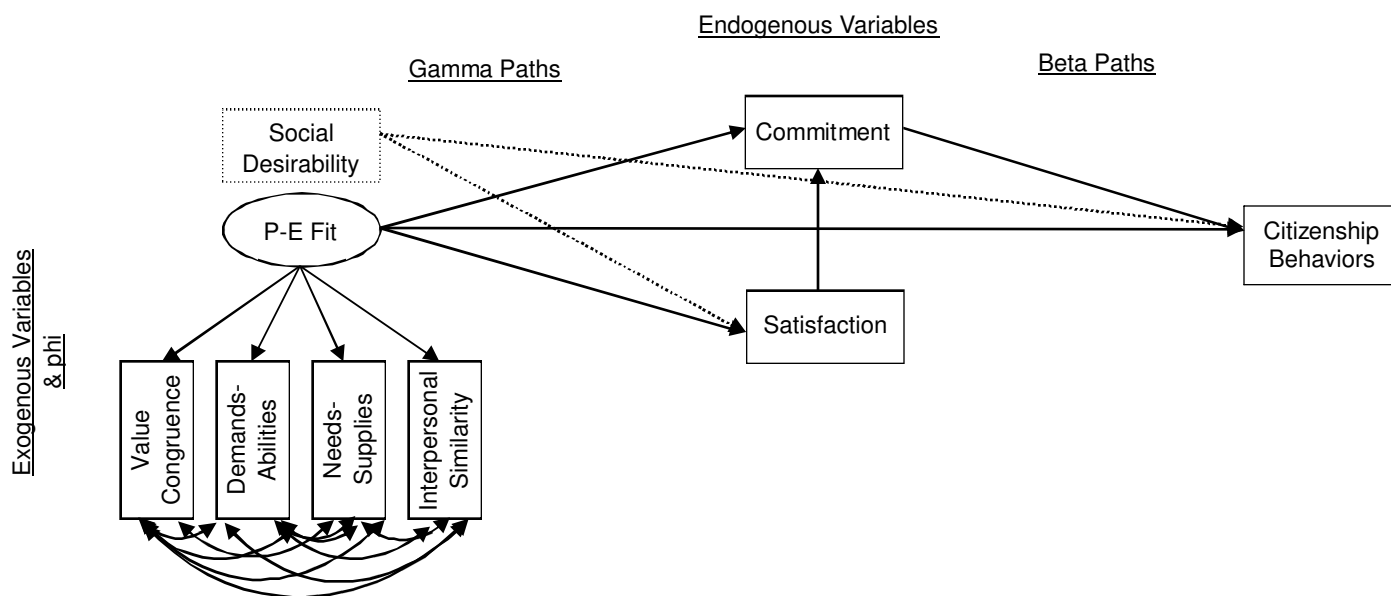


Figure 3: Supplementary Model. Final model for the relationship between components of P-E fit and citizenship behaviors with only significant paths depicted. Note: Socially desirability was used to predict all endogenous variables to control for socially desirable response patterns.

Supplemental Parameters

For the supplemental model, the latent variable of P-E fit was hypothesized to be significantly related to citizenship behavior with satisfaction and commitment as partial mediators of that relationship. This hypothesis was assessed by examining the parameters in the supplemental MSEM for significant parameters for direct effects and indirect effects for the proposed mediations (see Table 12 for parameter estimates). As hypothesized P-E fit was directly related to citizenship behavior. For each 1 standard deviation increase in P-E fit, there was a 0.37 standard deviation increase in citizenship behavior. This direct relationship explained 14% of the variance in citizenship. There were also indirect effects of fit on citizenship P-E fit through satisfaction and commitment that explained an additional 2% and 1% of the variance in citizenship. In total, P-E fit explained 16% of the variance in citizenship behavior.

P-E fit was also hypothesized to be related to commitment with satisfaction partially mediating that relationship. As hypothesized, fit was directly related to commitment (see Table 12 for parameter estimates). For each 1 standard deviation increase in P-E fit, there was a 0.44 standard deviation increase in commitment. This direct relationship explained 19% of the variance in commitment. There was also an indirect effect of fit on commitment through satisfaction that explained an additional 10% of the variance in commitment. In total, P-E fit explained 29% of the variance in commitment.

Additionally, P-E fit was hypothesized to be related to satisfaction. As hypothesized, fit was directly related to satisfaction (see Table 12 for parameter estimates). This direct relationship explained 46% of satisfaction.

Lastly, satisfaction was hypothesized to be related to citizenship behavior with commitment partially mediating that relationship. However, there was no direct relationship

between satisfaction and citizenship. Although there was a significant relationship between these two constructs that was mediated by commitment, the magnitude of this effect (0.4%) was negligible.

Table 12
Supplementary Standardized & Unstandardized Parameter Estimates

Parameter	β^1	<i>B</i>	<i>SE</i>	<i>z</i>	<i>p</i>	95% CI [LB, UB]	r_p^2
PE-Fit							
by Value Congruence	0.81	1.00	---	---	---	---	---
by Demands-Abilities	0.84	1.05	0.07	15.08	< 0.001	0.91, 1.18	0.71
by Needs-Supplies	0.82	0.93	0.07	13.52	< 0.001	0.79, 1.06	0.67
by Interpersonal Similarity	0.55	0.83	0.08	10.30	< 0.001	0.67, 0.97	0.30
Commitment on							
Social Desirability	0.02	0.02	0.04	0.54	0.59	-0.06, 0.11	0.00
Satisfaction	0.39	0.42	0.08	5.10	< 0.001	0.26, 0.59	0.15
P-E fit	0.44	0.76	0.13	5.93	< 0.001	0.51, 1.01	0.19
through Satisfaction	0.32	0.46	0.10	4.49	< 0.001	0.26, 0.67	0.10
Satisfaction on							
Social Desirability	0.16	0.15	0.04	3.84	< 0.001	0.08, 0.23	0.03
P-E fit	0.68	1.10	0.11	10.31	< 0.001	0.89, 1.30	0.46
Citizenship Behavior on							
Social Desirability	0.15	0.14	0.05	2.86	0.004	0.04, 0.23	0.02
Commitment	0.16	0.14	0.07	2.16	0.03	0.01, 0.27	0.03
Satisfaction	0.03	0.03	0.09	0.33	0.74	-0.14, 0.19	0.001
through Commitment	0.06	0.06	0.03	2.07	0.04	0.003, 0.12	0.004
P-E Fit	0.37	0.57	0.11	5.08	< 0.001	0.35, 0.78	0.14
through Satisfaction	0.14	0.16	0.07	2.22	0.03	0.02, 0.30	0.02
through Commitment	0.09	0.11	0.05	2.11	0.04	0.008, 0.21	0.01

Notes. "through" indicates indirect relationship mediated by the third variable. ¹STDYX standardization

The total effects were as follows (see Table 13-14). The model explained 57% of the variance in commitment. Of which, 15% was explained by satisfaction and 29% by P-E fit. The model also explained 49% of the variance in satisfaction. Of which, 3% was explained by socially desirable response patterns and 46% by P-E fit. Furthermore, the model explained 30% of the variance in citizenship behavior. Of which, 2% was explained by socially desirable response patterns, 3% by commitment, 1% by satisfaction, and 16% by P-E fit. The remaining variance explained for each of these endogenous variables is due to shared variance in predictors.

Table 13
Supplementary Total Unique Effects

	Direct Effect	Indirect Effect	Indirect 2 Effect	Total Effect
Commitment on				
Social Desirability	---	---	---	---
Satisfaction	0.15	---	---	0.15
P-E Fit	0.19	0.10	---	0.29
Satisfaction on				
Social Desirability	0.03	---	---	0.03
P-E Fit	0.46	---	---	0.46
Citizenship Behavior on				
Social Desirability	0.02	---	---	0.02
Commitment	0.03	---	---	0.03
Satisfaction	---	---	0.004	0.01
P-E Fit	0.14	0.02	0.01	0.16

Notes. Total effects calculated only for significant parameters.

Table 14
Supplementary Proportion of Endogenous Variance Explained

Endogenous Variables	R^2	SE	z	p
Commitment	0.57	0.05	11.81	< 0.001
Satisfaction	0.49	0.06	8.97	< 0.001
Citizenship Behavior	0.30	0.05	5.72	< 0.001

CHAPTER IV

DISCUSSION

This study examined a model for the relationship between components of person-environment fit and citizenship behavior, as mediated by satisfaction and commitment, while controlling for socially desirable response patterns. I hypothesized that greater fit between Oxford House residents and their addiction recovery homes would be related to greater citizenship behavior, and that this relationship would be partially mediated by satisfaction and commitment. I hypothesized specific paths through which this mediation would occur and questioned whether additional paths might exist. To test the model, I collected survey data from a national sample of Oxford House residents, with participants selected by randomly sampling from the population of Oxford Houses in the United States.

Results

Model Fit

The initial model based on hypothesized relationships failed to replicate the data. Although this was expected, there was insufficient support to include other parameters as hypotheses. Instead, they were examined as research questions in alternative models. One such alternative model (see Figure 2) including all the relationships in question fit the data excellently. The model, as a whole, explained a large portion of variance in satisfaction, commitment, and citizenship behavior. However, the unique variance explained by each of the predictors ranged from trivial to large. This is potentially due to shared variance between the person-environment fit components that may be accounting for variance in endogenous variables but being partialled out from parameter estimates. A supplemental analysis that formed a latent construct of person-

environment fit from the fit components explained a large portion of variance in these exogenous variables, thus providing support for this interpretation.

Hypothesized Parameters

Hypothesis II. Greater value congruence would significantly predict greater resident commitment to their Oxford House. As expected, there was a significant relationship between value congruence and commitment in that residents who felt their values were similar to their Oxford House's were more committed to the home. However, that effect was small. Although past research in employment settings has found value congruence to be moderately related to commitment (Boxx et al., 1991; Greguras & Diefendorff, 2009; Ostroff et al., 2005; Verquer et al.'s, 2003), such research examined univariate relationships or excluded other indicators such as social desirability and satisfaction rather than the multivariate model in the current study. These models would not have portioned off variance related to other fit components, satisfaction, and social desirability as the current study has done. Edwards and Shipp (2007) pointed out theoretical justification for a shared relationship between fit components. For example, they suggested values may influence what individuals want from an environment as well as what the environment provides for individuals. They also proposed that value congruence and interpersonal similarity might improve communications and coordination which, in turn, might enhance one's ability to meet the demands of an environment. The shared relationship between P-E fit components is supported by the measurement model in the supplemental analyses.

Hypothesis III. Greater needs-supplies fit would significantly predict greater resident commitment to their Oxford House, with satisfaction partially mediating that relationship.

Contrary to my hypothesis needs-supplies fit was not directly related to commitment. Although there was an indirect relationship that was mediated by satisfaction, this effect was small. This

suggests that Oxford House residents who feel their needs are being met by the house have greater levels of satisfaction and, in turn, have somewhat greater levels of commitment. As with past value congruence research, other needs-supplies fit research has not examined multivariate relationships and other indicators such as social desirability and satisfaction. In particular, needs-supplies fit may have a shared relationship to other fit components. In addition to the aforementioned influence of value congruence on needs-supplies fit, Edwards and Shipp (2007) proposed that supplementary fit, which encompasses value congruence, might improve communications and coordination which, in turn, might enhance one's ability to meet the demands of an environment. They posited that interpersonal similarity may fulfill needs for affiliation and belonging. They also suggested such similarity could meet needs for closure and clarity by enhancing predictability and reducing ambiguity.

Hypothesis IV. Greater interpersonal similarity would significantly predict greater resident commitment to their Oxford House, with satisfaction partially mediating that relationship. Contrary to my hypothesis, there was no direct or indirect relationship between interpersonal similarity and commitment. This suggests that Oxford House residents have a similar level of commitment regardless of the degree to which they feel similar to other Oxford House residents. Although related empirical work (Dick et al., 2008; Ellemers et al., 1997; Levine et al., 2005) suggested a linkage, this component of fit's relationship to commitment had not been directly examined previously. However, the lack of such a relationship in this multivariate model should be interpreted with caution because of the potential of a shared relationship between interpersonal similarity and other components of fit. For example, interpersonal similarity is another dimension of the supplementary fit construct, which has been posited to share a relationship with the needs-supplies fit component through the improvement of

communications and coordination which, in turn, might enhance one's ability to meet the demands of an environment (Edwards & Shipp, 2007).

Hypothesis V. Greater needs-supplies fit would significantly predict greater resident satisfaction with their Oxford House. As hypothesized, needs-supplies fit was directly related to satisfaction, but the effect of this relationship was small. This suggests Oxford House residents who feel their needs are met by the house are more satisfied with the home. However, there is not a strong degree of relationship between satisfaction and need fulfillment. These findings are concordant with prior employment setting research (Beasley et al., 2012; Cable & DeRue, 2002; Hinkle & Choi, 2009; Resick et al., 2007). In a community support setting designed to meet a specific need, residents for whom such needs are not met would likely feel unsatisfied. Edwards and Shipp (2007) draw parallels between classic theories of job satisfaction and person-environment fit. For example, they note that Locke (1969) postulated a connection between need fulfillment and job satisfaction because of an appraisal of the job relative to one's desires. Similarly, the Theory of Work Adjustment posits that individuals and environments have requirements for one-another and derive satisfaction from their transaction based on whether those requirements are met (Dawis & Lofquist, 1984). Additionally, Lazarus (1991) suggested negative emotion may result from incongruence between people's goals and whether those goals are congruent with transactions in a setting. Edwards and Shipp (2007) argued subjective needs are those desired by individuals and satisfaction is, in part, due to assessments of whether environments are meeting those needs. Lastly, Yu (2009) expanded on this work with his proposition that perceptions of fit with an environment are expected to produce a pleasant affective response that, in turn, influences attitudes toward the setting.

The strength of the effect may be relatively small though, because residents have additional needs that are not necessarily met by the Oxford House. Discrepancy models of satisfaction suggest the construct is negatively influenced by unmet expectations (Wanous et al., 1992). Residents would likely not feel dissatisfied when those needs are not met, because the setting is not expected to address them, thus attenuating the relationship between need fulfillment and satisfaction with the home. The effect also may be attenuated by the shared relationship of needs-supplies fit to other components of fit. Edwards and Shipp (2007) implicated needs-supplies fit as the fit component most influential for satisfaction but also pointed out the potential shared relationship of needs-supplies fit to other components mentioned previously in this discussion.

Hypothesis VI. Greater interpersonal similarity would significantly predict greater resident satisfaction with their Oxford House. Contrary to my hypothesis, interpersonal similarity was not related to satisfaction. This suggests Oxford House residents have a similar level of satisfaction regardless of the degree to which they feel similar to other Oxford House residents. However, shared variance between this component of fit and the value congruence component may occur because of the recovery aspect of residents' identity which is likely to be related to the most prominent value of Oxford Houses—their addiction recovery orientation. This recovery identity may be the most salient during addiction recovery and, thus, the most likely to influence satisfaction in a setting. This shared variance of congruence between residents and their recovery homes would be partialled out in the multivariate analysis. However, the supplemental latent factor model captures this variance and supports expected relationships.

Hypothesis VII. Greater resident satisfaction with their Oxford House would significantly predict greater commitment to their Oxford House. As hypothesized, satisfaction was related to

commitment, and the strength of this relationship far exceeded any other in the model. This suggests more satisfied Oxford House residents are more committed to their house. This finding also is concordant with research in employment settings (Armutlulu & Noyan, 2011; Zeinabadi, 2010). Residents satisfied with their setting may be more likely to commit to it. However, both satisfaction and affective commitment incorporate emotional responses to transactions between individuals and environments (Cranny, Smith, & Stone, 1992; Locke, 1969; Meyer & Allen, 1991). The Affective Events Theory suggests any transaction perceived as a positive one would be expected to illicit a positive affective response that would positively influence both perceptions of satisfaction and affective commitment (Weiss & Cropanzano, 1996). Therefore, it is possible that a common underlying effect of positive emotional experiences could positively relate to both satisfaction and commitment. This confound could account for some but not likely all the variance in commitment though, because satisfaction has been shown to have a stronger relationship to commitment than affect experiences (Wegge, Dick, Fisher, West, & Dawson, 2006).

Hypothesis VIII. Greater resident satisfaction with their Oxford House would significantly predict greater levels of citizenship behavior, with commitment to their Oxford House partially mediating that relationship. Contrary to my hypothesis, satisfaction was not directly related to citizenship behavior, suggesting residents' level of satisfaction with their Oxford House was not directly related to the degree to which they help other residents and the house itself succeed. However, this relationship was examined in a multivariate model with commitment also predicting citizenship behavior. The moderate correlation between satisfaction and citizenship but lack of such a relationship when accounting for commitment suggests satisfaction and citizenship are related, but this relationship may be mostly due to a common

underlying factor such as affective responses to the environment (Weiss & Cropanzano, 1996). The significant yet small indirect effect of satisfaction on citizenship that was mediated by commitment suggests some of the effect of satisfaction on citizenship behavior also may be due to satisfaction's relationship to commitment. Residents who were more satisfied were more committed and, in turn, engaged in slightly greater behavior to support other residents and the house. Lastly, Oxford House residents may feel obligated to engage in citizenship behavior regardless of their level of satisfaction, because 12-step addiction recovery has an important component of service to others (Alcoholics Anonymous, 2001). Those more committed to the house may feel a stronger urge to direct that service toward housemates rather than members of other communities to which residents belong.

Hypothesis IX. Greater value congruence would significantly predict greater levels of citizenship behavior, with commitment mediating that relationship. Also contrary to my hypothesis, value congruence was not directly related to citizenship behavior, suggesting residents had similar levels of behaviors to support other residents and the house regardless of the degree to which they felt their values were similar to their houses. However, there was an indirect albeit small relationship between value congruence and citizenship behavior that was mediated by commitment. This suggests residents who perceive their values as being similar to their house's are more committed and, in turn, engage in slightly more behavior to support the success of the house and its members. This component of fit may not be directly related to citizenship behavior in a multivariate model because of its shared relationship to other components, particularly the interpersonal similarity component. The recovery aspect of residents' values and identity may be the portion that influences citizenship behavior. Again, the

indirect relationship through commitment may indicate residents directing their service work toward fellow residents and the home rather than other targets.

Hypothesis X. Greater interpersonal similarity would significantly predict greater levels of citizenship behavior, with commitment and satisfaction mediating that relationship. Further contrary to my hypothesis, interpersonal similarity was not directly or indirectly related to citizenship. This suggests that residents engage in similar levels of behavior to support the success of the house and its members regardless of the degree to which they feel similar to other residents. The supplementary fit dimension of fit is comprised of both value congruence and interpersonal similarity, and this dimension is expected to improve communications and coordination (Edwards & Shipp, 2007)—two potentially important tools for citizenship behavior. Although, interpersonal similarity may not be uniquely associated with citizenship when accounting for other fit components, it may share a relationship to citizenship behavior with these other components.

Questioned Paths

Question I. Did satisfaction partially mediate the relationship between value congruence and commitment? Satisfaction did partially mediate the relationship between value congruence and commitment. Although value congruence had a moderate effect on satisfaction, the indirect path from value congruence to commitment through satisfaction had only a small effect. This suggests residents who feel their values are similar to their home have greater levels of satisfaction and, in turn, are slightly more committed to their house. The finding of a relationship between value congruence and satisfaction is concordant with past theory about individual values and social interactions. For example, perceptions of fit with an environment are expected to produce a pleasant affective response that, in turn, influences attitudes toward the setting (Yu,

2009). An important value for people in recovery is the type of support system they endorse. This system may be 12-step groups or other supports. Those who primarily rely on 12-step systems for support may find they have greater value congruence with Oxford House, which is founded on principles of 12-step recovery (Oxford House, 2008). Anecdotal conversations with Oxford House residents suggest the 12-step system is heavily emphasized, and members may feel incongruent and dissatisfied when using other recovery support groups. Although past research on this relationship in Oxford House failed to find a significant association (Beasley et al., 2012), this past research included a more biased sample recruited from a national Oxford House conference. These attendees would be more closely aligned with the Oxford House value system if attending such a conference.

Question II. Was needs-supplies fit significantly related to levels of citizenship behavior, with commitment and satisfaction mediating that relationship? Needs-supplies fit was not directly related to citizenship behavior or indirectly related through satisfaction. This suggests residents have similar levels of behavior to support the success of the house and its members regardless of how well they feel their needs are met by the house. However, there was a trivial indirect relationship between needs-supplies fit and citizenship behavior that was mediated by commitment. This suggests residents who feel their needs are met by their Oxford House are more committed and, in turn engage in more citizenship behavior, but this increase in citizenship behavior is so slight that it is relatively unimportant. Although, this is concordant with Cable and DeRue's (2002) finding that there was no significant relationship between these constructs, they examined needs-supplies fit at the job level and commitment at the organizational level. The current study likely failed to find a relationship between these constructs because of the

multivariate design in which the shared relationship between fit components was not accounted for.

Question III. Did demands-abilities fit significantly predict greater levels of citizenship behavior, with commitment and satisfaction mediating that relationship? Demands-abilities fit was not directly or indirectly related to citizenship behavior. This suggests residents have similar levels of behavior to support the success of the house and its members regardless of how well they feel they are able to meet the demands of their house. This is congruent with Cable and DeRue's (2002) failure to find such a relationship. However, there was a direct moderate relationship between demands-abilities fit and satisfaction, suggesting residents are more satisfied with their Oxford House if they feel they are able to meet the demands of it. This finding corresponds to the concept of personal competence. Meyer and Allen (1997) suggested competence as an important antecedent for affective commitment to organizations and provided support from Mathieu and Zajac's (1990) findings of such a relationship in their sample. It is also congruent with Affective Events Theory, which posits that interactions with an environment and events in this environment lead to positive affect that influences attitudes toward an organization (Weiss & Cropanzano, 1996). It is also congruent with Yu's (2009) suggestion that person-organization fit is a potential cause of affect and subsequent organizational attitudes. Although past employment research failed to find this relationship (Cable & DeRue, 2002; Hinkle & Choi, 2009), those who are unable to meet the demands of employment settings may not be selected for those settings and may be terminated more readily than in a mutual-help addiction recovery setting where most people are accepted into the community and may remain as long as they are contributing. Thus, there may be a greater range of demands-abilities fit in these recovery settings. Similarly, past research examining this relationship in an Oxford House (Beasley et al.,

2012) context was conducted at a national conference where attendees are largely long-term residents who have demonstrated an ability to meet the demands of the setting.

Supplementary Model

The large amount of explained variance in exogenous variables could not be uniquely attributed to any of the components of P-E fit in the model. This combined with the moderate correlational and conceptual relationship between person-environment fit components suggested a latent variable of fit may be an important factor in relationship to satisfaction, commitment, and citizenship behavior. Although past research on P-E fit has not examined such a latent factor, these studies typically examine different components of fit related to different facets of the work environment such as value congruence related to the organization, needs-supplies fit related to the job, and demands-abilities fit related to the job (Cable & DeRue, 2002) rather than assessing how individuals fit with each facet in different ways. As expected, the four fit components formed a latent variable of general fit between residents and their Oxford House. The subsequent structural model examining the relationship of this latent variable with satisfaction, commitment, and citizenship behavior similarly demonstrated good fit with the data.

Supplementary Parameters

Supplementary Hypothesis 1. P-E fit will be directly and positively related to citizenship behavior. P-E fit was directly and moderately related to citizenship behavior. This suggests residents have greater levels of behavior to support the success of the house and its members if they perceive a good fit between themselves and their homes. Such a finding is concordant with Affective Events Theory (Weiss & Cropanzano, 1996) and cognitive dissonance (Festinger, 1957). According to this theory, people seek to minimize psychological discomfort by maintaining congruence between their attitudes and behaviors. According to this theory, if

someone feels positively toward a setting, they would be expected to behave in ways that are favorable to the setting. However, if individuals feel negatively toward a setting, they would be expected to refrain from positive behaviors or engage in counter-productive ones. One such positive feeling is the experience of positive affect in an Oxford House, which could theoretically result from P-E fit. If such fit produces positive affect, residents would likely engage in behaviors congruent with it such as citizenship behavior.

Supplementary Hypotheses 2. Commitment will be directly and positively related to citizenship behavior. As hypothesized, commitment was similarly found to be positively and moderately related to citizenship behavior. As with affective reactions, cognitive dissonance suggests if residents feel committed to a setting, they would likely act in ways congruent with these feelings (Festinger, 1957). Such behavior would likely be related to behaviors most closely associated with the setting given that the attitudes are closely associated with the setting. Given Oxford House and 12-step groups' emphasis on being of service to others (Alcoholics Anonymous, 2001), commitment to Oxford House would likely lead to greater citizenship behavior. This behavior also helps to support a system the resident is intricately attached to through commitment. However, the small effect size of this relationship suggests the magnitude of this association is not a strong one. It is possible that the service-oriented values of Oxford House may pressure residents to engage in citizenship behavior even when they do not feel committed to the setting.

Supplementary Hypothesis 3. Satisfaction will be directly and positively related to citizenship behavior. Unlike commitment, satisfaction was not found to be positively related to citizenship behavior. This suggests that residents engage in similar levels of citizenship behavior regardless of how satisfied they are with the home. The finding could partially be explained by

an obligation to engage in service-related behavior. It could also be explained by the proximity of this behavior to the feeling of satisfaction. While commitment may prompt behavior that supports the system to which a resident is committed, the association with satisfaction is less clear and more distal. The pathway of behavior and attitude congruence for satisfaction may pass through commitment, which was found to be a mediator of this relationship. However, this indirect path explained little of the variance in citizenship behavior, suggesting it may be inconsequential. As with the direct relationship between satisfaction and citizenship, the inconsequential nature of the indirect relationship may be due to a sense of obligation to engage in such behavior.

Supplementary Hypothesis 4. Satisfaction will be directly and positively related to commitment. As hypothesized, satisfaction was found to be positively and moderately related to commitment. Affective Events Theory suggests a common factor of affective reactions could be positively related to both satisfaction and commitment (Weiss & Cropanzano, 1996), which could create an appearance of association between the two constructs. Alternatively, there could be a true association between these constructs. The Halo effect (Thorndike, 1920) provides support for such a relationship. According to this theory, positive views toward a target tend to generalize to other aspects of the target. Therefore, positive feelings of satisfaction with an Oxford House could lead to other positive feelings toward the house such as commitment to it.

Supplementary Hypothesis 5-6. P-E fit will be directly and positively related to satisfaction and commitment. As hypothesized, there was a direct moderate relationship between P-E fit and satisfaction and commitment, suggesting residents are more satisfied with and committed to their Oxford House if they perceive a fit between themselves and these recovery homes. This is congruent with Affective Events Theory, which posits that interactions with an

environment and events in this environment lead to positive affect that influences attitudes toward an organization (Weiss & Cropanzano, 1996). It is also congruent with Yu's (2009) suggestion that person-organization fit is a potential cause of affect and subsequent organizational attitudes.

Supplementary Hypothesis 7-8. P-E fit will be indirectly and positively related to citizenship behavior through the partial mediators of satisfaction and commitment. As hypothesized, both satisfaction and commitment did partially mediate the relationship between P-E fit and citizenship behavior. However, this was a small effect. This suggests residents who perceive themselves as fitting with their recovery home are both more committed and more satisfied and, in turn, engage in slightly more behavior to support the success of the house and its members. This is likely due to a combination of Affective Events Theory (Weiss & Cropanzano, 1996) and cognitive dissonance (Festinger, 1957) in which residents' positive affective reactions to feeling like they fit with the home are related to positive attitudes such as satisfaction and commitment. Residents may then act in ways congruent with these positive attitudes to minimize psychological discomfort. One such behavior is citizenship behavior, which can be closely associated with the Oxford House system. As seen with the direct relationship of satisfaction and commitment to citizenship behavior though, this effect of cognitive dissonance may not be a particularly strong one.

Interpretation

Overall, the hypothesized model was a poor indicator of relationships between person-environment fit, satisfaction, and commitment. The alternative model including questioned relationships explained the data well and predicted a large amount of variance in satisfaction, commitment, and citizenship behavior while accounting for the effect of socially desirable

response tendencies of residents. This suggests person-environment fit is related to citizenship behavior through satisfaction and commitment. However, little of that relationship was attributable to unique aspects of any person-environment fit components. The latent component of general P-E fit was both directly and indirectly related to citizenship behavior though suggesting residents may engage in more citizenship behavior when they feel as though they fit with their Oxford House. When these residents feel as though they fit with the house, they are also more satisfied and committed to the home. Lastly, residents are more committed to their Oxford House when they are satisfied with the recovery home.

Limitations

The aforementioned results should be considered relative to limitations of the study. These include: (a) limited representativeness of the sample, (b) potential biased responses of participants, (c) the cross-sectional nature of the study, and (d) potential model misspecification. I conducted representativeness checks to compare the sample to known demographics of Oxford House. These analyses indicated a greater proportion of female, White, unemployed, single, and married participants than that reported in the Oxford House annual report of demographics (Oxford House, 2012). Additionally, there was a smaller proportion of employed, divorced, separated, and Black participants compared to the aforementioned demographics. Although the average age of participants was similar to reported population data, participants indicated being in recovery and Oxford House longer as well as attending fewer 12-step meetings per week than the Oxford House population. This collection of individual-level variables potentially indicates a sample that may be more stable than the population from which it is derived. House-level analyses of representativeness indicated these differences may be due to participation levels of houses. For example, women's houses were proportionally selected for the study but

disproportionately returned more surveys than men's houses. The geographic areas from which houses selected for and participating in the study were located were proportionally similar to that of the Oxford House population.

Another potential limitation is possible biases in participant responses. Although self-reports of citizenship behavior are seen as relatively accurate indicators of this construct (Khalid & Ali, 2005), there is always a risk of some bias from such self-reporting. Similarly, there is a risk of bias in self-reports of person-environment fit components, satisfaction, and commitment. One such risk is socially-desirable response tendencies (Holden & Passey, 2009). To minimize this risk, the study included a measure of such tendencies and controlled for them. The survey also was designed to be anonymous to encourage honest responses.

An additional potential limitation is the cross-sectional design of the study. Collecting data at a single time-point limits interpretations of the temporal sequence of constructs as well as directionality and causal inferences. A further limitation of the study is potential misspecification in the model. Although relationships between assessed constructs may be apparent, unexamined confounds may exaggerate or attenuate these relationships.

A final limitation is a potentially specification errors in the model. Such errors could include incorrectly specified paths between variables in the model or the exclusion of potentially important variables. Most notably, affective responses to the Oxford House environment may be a potentially important construct that is related to the path between P-E fit and citizenship behavior. It is possible that a common underlying effect of positive emotional experiences could positively relate to both satisfaction and commitment.

Future Directions

Future studies may want to address these limitations and/or examine extensions and/or new directions related to the findings. For example, future research is needed to cross-validate this model in other Oxford House samples and additional populations. Such research should consider including assessments of affective reactions to Oxford House as a potential mediator. Additionally, qualitative research into person-environment fit, satisfaction, and citizenship behavior might provide insights into potential misspecification in the model to inform future data collection efforts. Furthermore, future research could employ longitudinal methods to assess temporal sequence and/or interventions to assess causality. Such research could strengthen past data collection methods and generalizability by employing two-stage random sampling in which both houses and residents within them are randomly selected. Lastly, future research could examine similar models with different dependent variables such as how long residents stay in Oxford House or indicators that predict such tenure.

CHAPTER V

SUMMARY

Substance abuse and dependence is social problem in the U.S. that continues to be difficult to adequately address (Dutra et al., 2008; Harwood, 2000; ONDCP, 2004; SAMHSA, 2010). Services such as inpatient treatment, outpatient treatment, mutual-help addiction support groups and recovery housing have attempted to redress the issue with limited effect (Jason et al., 2001). Obviously, additional research is needed for these services. In particular, additional research is needed for mechanisms by which mutual-help and recovery housing influence behavior. For example, research suggests that members who engage in helping behaviors have more favorable outcomes (Crape, Latkin, Laris, & Knowlton, 2002; Magura et al., 2003; Pagano, Friend, Tonigan, Stout, 2004; Zenmore et al., 2004), and groups whose members engage in such behavior appear to be more sustainable over time (King, Stewart, King, & Law, 2000; Wituk, Shepherd, Warren, & Meissen, 2002). Although the mechanisms of these helping behaviors in mutual-help systems are not well understood, a transdisciplinary perspective can be employed to examine helping behaviors from an industrial/organizational (I/O) framework. The I/O literature suggests that citizenship behavior (e.g. helping the setting and fellow members prosper) is related to satisfaction with and commitment to settings (LePine, Erezand & Johnson, 2002; Organ & Ryan, 1995; Schappe, 1998; Whitman, Rooy, & Viswesvaran, 2010; Zeinabadi, 2010), as well as the congruence between persons and settings in which they interact (Hoffman & Woehr, 2006; Varquer et al., 2003). This literature further suggests that satisfaction and commitment may mediate the relationship between congruence and citizenship (Varquer, Beehr, & Wagner, 2003).

Based on the aforementioned literature, this dissertation examined a meditational path model using a multilevel structural equation model to account for potential dependence that can result from complex sampling methods. The dissertation also examined individual paths in the model. The initial model with only hypothesized relationships did not fit the data well. Although an alternative model with all questioned relationships included fit the data excellently and explained a large amount of variance in satisfaction, commitment, and citizenship behavior, only little to moderate variance was explained by unique paths. Additionally, there was a moderate to strong correlations between the components of P-E fit. This suggested the components may form a latent factor of general P-E fit that could be related to citizenship behavior through satisfaction and commitment. The supplemental measurement and structural model supported this supposition. This supplemental model suggested a moderate direct relationship of P-E fit to satisfaction, commitment, and citizenship as well a strong relationship between satisfaction and commitment. These findings are consistent with recent theory regarding P-E fit (Yu, 2009) and were discussed in relation to both Affective Events Theory (Weiss & Cropanzano, 1996) and cognitive dissonance (Festinger, 1957).

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Appendix A
Information Sheet

INFORMATION SHEET FOR PARTICIPATION IN RESEARCH STUDY

Industrial/Organizational Pathways to Helping Behaviors in Recovery Homes

What is the purpose of this research?

You have received this survey packet, because your house was randomly selected from a list of all Oxford Houses. We are asking you to be in a research study because we are trying to learn more about how well Oxford House residents fit with their Oxford House, their recovery groups, as well as how residents help one-another. You are invited to participate in this study because you are a resident of Oxford House. Christopher Beasley, a doctoral student at DePaul University. The research is for his dissertation and is being supervised by Dr. Leonard Jason, who is a professor at DePaul University.

How much time will this take?

This study will take about 15 minutes of your time.

What compensation is offered?

You will receive a \$15 money order as compensation for your time and efforts.

What will I be asked to do if I agree to participate in this study?

If you agree to be in this study, you will be asked to fill out an anonymous survey. This survey will include questions about your fit with your Oxford House, your recovery groups, and your workplace, as well as how you help others in these settings and how satisfied you are with the settings. You will also be asked to complete a questionnaire that collects some personal information about you such as age, race/ethnicity, marital status, employment status, level of education, other life history information, and your substance use. To thank you for being in the study and if you are interested, your name and contact information will be collected by phone, so that we can mail you a \$15 money order. Your name and contact information for the money order will be collected separately from your answers to the survey, so your survey responses will remain completely anonymous.

What are the risks involved in participating in this study?

Although the survey is anonymous, there is a slight risk of your responses being seen by your housemates if the completed survey is left in a public area of the home. You can avoid this risk by keeping completed surveys in a private area of the home and placing completed surveys in a mailbox that your housemates do not have access to.

What are the benefits of my participation in this study?

You will not personally benefit from being in this study. However, we hope that what we learn will help recovery, treatment, and scientific communities better understanding helping behaviors in mutual-help groups.

Can I decide not to participate? If so, are there other options?

Yes, you can choose not to participate. The information is being collected solely for the purpose of this research. Your participation is voluntary, meaning you can choose not to participate.

There will be no negative consequences if you decide not to participate. Your decision whether or not to be in the research will have no effect on your residency in the Oxford House.

How will the confidentiality of the research records be protected?

Your survey responses are completely anonymous, so there is little risk of your responses becoming known to others. The only risk of this would be if completed surveys are left in public areas of your house. Because the surveys are anonymous, any publication of the results will not include any information that will identify you and anyone who reviews our records will not be able to identify you by your responses.

Whom can I contact for more information?

If you have questions about this study, please contact Christopher Beasley at the Center for Community Research, DePaul University at (773) 325-4976, crbeasley@gmail.com or his supervisor Leonard Jason at the Center for Community Research, DePaul University at (773) 325-2018. If you have questions about your rights as a research subject, you may contact Susan Loess-Perez, DePaul University's Director of Research Protections at 312-362-7593 or by email at sloesspe@depaul.edu.

Statement of Consent:

By completing and returning the attached survey, you consent to participation in this research.

Appendix B
Dissertation Measures

Person-Environment Fit

The items below ask about the match between you and your current Oxford House.

Value Congruence

1. The things I value in life are very similar to the things that my Oxford House values
2. My personal values match my Oxford House's values and culture.
3. My Oxford House's values and culture provide a good fit with the things that I value in life.

Needs-Supplies Fit

1. There is a good fit between what my Oxford House offers me and what I am looking for in a recovery home.
2. The attributes that I look for in a recovery home are fulfilled very well by my present Oxford House.
3. The Oxford House that I currently live in gives me just about everything I could want from a recovery home.

Demands-Abilities Fit

1. The match is very good between the demands of my Oxford House and my personal skills.
2. My abilities and experience are a good fit with the requirements of my Oxford House.
3. My personal abilities and education provide a good match with the demands that my job places on me.

Interpersonal Similarity

1. The other residents of my Oxford House are similar to me.
2. The other residents of my 12-step group are different from me. (R)
3. I am different than the other residents of my 12-step group. (R)

Satisfaction

For each of the five items below, indicate how you feel about your current Oxford House.

1. All in all, I am satisfied with my Oxford House.
2. In general, I don't like my Oxford House.
3. In general, I like living here.

Commitment

For each of the five items below, indicate how you feel about your current Oxford House.

Affective Commitment Scale items

1. I would be very happy to spend the rest of my recovery with this Oxford House.
2. I really feel as if this Oxford House's problems are my own
3. I do not feel like 'part of the family' at my Oxford House (R)
4. I do not feel 'emotionally attached' to this Oxford House (R)
5. This Oxford House has a great deal of personal meaning for me
6. I do not feel a strong sense of belonging to my Oxford House (R)

Organizational Citizenship Behavior

For each of the five items below, indicate how you feel about your current Oxford House.

1. I volunteer to do things for this Oxford House.
2. I help orient new residents in this Oxford House.
3. I attend functions that help the Oxford House.
4. I assist others in this Oxford House with their recovery for the benefit of the house.
5. I get involved to benefit this Oxford House.
6. I help others in this Oxford House learn about the Oxford House system.
7. I help others in this Oxford House with their responsibilities.

Appendix C
Full Battery of Measures

DePaul University Oxford House Helping Survey

Please take your time to complete the survey. If you need to take a break, try to do so after you have completed one of the three sections, but please try to complete the entire survey in the same day. There are three sections: (1) questions about your experience in Oxford House, (2) questions about your experience in your primary 12-step group, and (3) questions about your experiences at your workplace. If you do not attend 12-step groups or are not employed, you may skip the section that does not apply to you. If you attend more than one 12-step group or have more than one job, please refer to the your home group or group you attend the most and the job that you work the most hours at.

1. Gender (check one)

Male Female

2. Date of Birth

Month Date Year

3. Ethnic Group (check all that apply)

- Black or African-American
- White, not of Hispanic origin
- American Indian or Alaskan Native
- Asian, Asian-American
- Pacific Islander
- Hispanic
- Some other ethnic group (please specify _____)

4. Marital Status (check only one)

- Single, never married
- Legally married
- Life partner but not legally married
- Separated but still married
- Divorced
- Widowed

5. Employment Status (check only one)

- Full-time
- Part-time
- Unemployed
- Receiving disability
- Retired
- Student

6. How many years of education have you completed? (check only one)

- 1-8th grade
- 9-11th grade
- GED
- High school graduate
- Trade school
- Some college
- Associates degree
- Undergraduate degree
- Graduate degree

7. How long were you actively using drugs and/or alcohol?Years Months **8. How long have you been abstinent from drugs and/or alcohol?**Years Months **9. How often do you attend 12-step meetings?**

 (Please provide a number and time frame; for example 2 times a week)**10. How long have you attended in your home or primary 12-step group?**Years Months **11. Is there anyone else in your current 12-step group who is the same ethnicity as you?**Yes No **12. How long total have you lived in an Oxford House?** (If you have lived in more than one Oxford House, add up the total amount of time)Years Months **14. What is the name of your current Oxford House?****15. How long have you lived in your current Oxford House?**Years Months **16. How much longer do you plan on living in your current Oxford House?**Years Months **17. Is there anyone else in your current Oxford House who is the same ethnicity as you?**Yes No **18. Have you ever been to prison?**Yes No **19. Have anyone else in your current Oxford House ever been to prison?**Yes No **20. How were you first referred to Oxford House? (check only one)**

- Court
- Probation or parole
- Treatment provider
- Friend or family member
- Another person in recovery
- Referred myself
- Other _____

Here are a number of personality traits that may or may not apply to you. Using the 1-7 scale below, please indicate the extent to which *you agree or disagree* with each statement by circling the appropriate number next to that item. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.

	Strongly Disagree	Mostly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Mostly Agree	Strongly Agree
1. Extraverted, enthusiastic	1	2	3	4	5	6	7
2. Critical, quarrelsome	1	2	3	4	5	6	7
3. Dependable, self-disciplined	1	2	3	4	5	6	7
4. Anxious, easily upset	1	2	3	4	5	6	7
5. Open to new experiences, complex	1	2	3	4	5	6	7
6. Reserved, quiet	1	2	3	4	5	6	7
7. Sympathetic, warm	1	2	3	4	5	6	7
8. Disorganized, careless	1	2	3	4	5	6	7
9. Calm, emotionally stable	1	2	3	4	5	6	7
10. Conventional, uncreative	1	2	3	4	5	6	7

Below are five statements with which you may agree or disagree. Please be open and honest in your responding.

	Strongly Disagree	Mostly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Mostly Agree	Strongly Agree
1. In most ways my life is close to my ideal.	1	2	3	4	5	6	7
2. The conditions of my life are excellent.	1	2	3	4	5	6	7
3. I am satisfied with my life.	1	2	3	4	5	6	7
4. So far I have gotten the important things I want in life.	1	2	3	4	5	6	7
5. If I could live my life over, I would change almost nothing.	1	2	3	4	5	6	7

For each of the ten items below, thinking about yourself and how you normally feel, to what extent do you generally feel:

	Never	Almost Never	Sometimes	Almost Always	Always
1. Upset	1	2	3	4	5
2. Hostile	1	2	3	4	5
3. Alert	1	2	3	4	5
4. Ashamed	1	2	3	4	5
5. Inspired	1	2	3	4	5
6. Nervous	1	2	3	4	5
7. Determined	1	2	3	4	5
8. Attentive	1	2	3	4	5
9. Afraid	1	2	3	4	5
10. Active	1	2	3	4	5

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, please indicate how often you felt or thought a certain way.

	Never	Almost Never	Sometimes	Fairly Often	Often
1. In the last month, how often have you felt that you were unable to control the important things in your life?	0	1	2	3	4
2. In the last month, how often have you felt confident about your ability to handle your personal problems?	0	1	2	3	4
3. In the last month, how often have you felt that things were going your way?	0	1	2	3	4
4. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	0	1	2	3	4

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally.

	True	False
1. It is sometimes hard for me to go on with my work if I am not encouraged.	T	F
2. I sometimes feel resentful when I don't get my way.	T	F
3. On a few occasions, I have given up doing something because I thought too little of my ability.	T	F
4. There have been times when I felt like rebelling against people in authority even though I know they were right.	T	F
5. No matter who I am talking to, I am always a good listener.	T	F
6. There have been occasions when I took advantage of someone.	T	F
7. I am always willing to admit it when I make a mistake.	T	F
8. I sometimes try to get even, rather than forgive and forget.	T	F
9. I am always courteous, even to people who are disagreeable.	T	F
10. I have never been irked when people expressed ideas very different from my own.	T	F
11. There have been times when I was quite jealous of the good fortune of others.	T	F
12. I am sometimes irritated by people who ask favors of me.	T	F
13. I have never deliberately said something that hurt someone's feelings.	T	F

The questions in this scale ask you about people in your life who support you.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. There is a special person who is around when I am in need.	1	2	3	4	5
2. There is a special person with whom I can share my joys and sorrows.	1	2	3	4	5
3. My family really tries to help me.	1	2	3	4	5
4. I get the emotional help and support I need from my family.	1	2	3	4	5
5. I have a special person who is a real source of comfort to me.	1	2	3	4	5
6. My friends really try to help me.	1	2	3	4	5
7. I can count on my friends when things go wrong.	1	2	3	4	5
8. I can talk about my problems with my family.	1	2	3	4	5
9. I have friends with whom I can share my joys and sorrow.	1	2	3	4	5
10. There is a special person in my life who cares about my feelings.	1	2	3	4	5
11. My family is willing to help me make decisions.	1	2	3	4	5
12. I can talk about my problems with my friend.	1	2	3	4	5

THE FOLLOWING QUESTIONS REFER TO THE OXFORD HOUSE YOU CURRENTLY LIVE IN.

For each of the five items below, indicate how you feel about your current Oxford House.

	Strongly Disagree	Mostly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Mostly Agree	Strongly Agree
1. I volunteer to do things for this Oxford House.	1	2	3	4	5	6	7
2. I help orient new residents in this Oxford House.	1	2	3	4	5	6	7
3. I attend functions that help the Oxford House.	1	2	3	4	5	6	7
4. I assist others in this Oxford House with their recovery for the benefit of the house.	1	2	3	4	5	6	7
5. I get involved to benefit this Oxford House.	1	2	3	4	5	6	7
6. I help others in this Oxford House learn about the Oxford House system.	1	2	3	4	5	6	7
7. I help others in this Oxford House with their responsibilities.	1	2	3	4	5	6	7

The items below ask about intentions about living in your current Oxford House.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. I am thinking about leaving this Oxford House.	1	2	3	4	5
2. I am planning to look for a new Oxford House or other recovery home.	1	2	3	4	5
3. I intend to ask people about a different Oxford House or other recovery homes.	1	2	3	4	5
4. I don't plan to be in this Oxford House much longer.	1	2	3	4	5

For each of the five items below, indicate how you feel about your current Oxford House.

	Strongly Disagree	Mostly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Mostly Agree	Strongly Agree
1. I would be very happy to spend the rest of my recovery with this Oxford House.	1	2	3	4	5	6	7
2. I really feel as if this Oxford House's problems are my own	1	2	3	4	5	6	7
3. I do not feel like 'part of the family' at my Oxford House.	1	2	3	4	5	6	7
4. I do not feel 'emotionally attached to this Oxford House.	1	2	3	4	5	6	7
5. This Oxford House has a great deal of personal meaning for me.	1	2	3	4	5	6	7
6. I do not feel a strong sense of belonging to my Oxford House.	1	2	3	4	5	6	7

The following questions also deal with how you feel about your current Oxford House.

	Strongly Disagree	Mostly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Mostly Agree	Strongly Agree
1. All in all, I am satisfied with my Oxford House.	1	2	3	4	5	6	7
2. In general, I don't like my Oxford House.	1	2	3	4	5	6	7
3. In general, I like living here.	1	2	3	4	5	6	7

The items below ask about the match between you and your current Oxford House.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. The Oxford House that I currently live in gives me just about everything I could ever need from a recovery home.	1	2	3	4	5
2. The other residents of my Oxford House are similar to me.	1	2	3	4	5
3. My values prevent me from fitting in with my Oxford House.	1	2	3	4	5
4. I have the ability to meet the demands of my Oxford House.	1	2	3	4	5
5. The other residents of my Oxford House are different from me.	1	2	3	4	5
6. There is a poor fit between what my Oxford House offers me and what I need in a recovery home.	1	2	3	4	5
7. The values of my Oxford House do not reflect my own values.	1	2	3	4	5
8. My unique differences add to the success of my Oxford House.	1	2	3	4	5
9. The Oxford House that I live in does not have the attributes that I need in a recovery home.	1	2	3	4	5
10. I am different than the other residents of my Oxford House.	1	2	3	4	5
11. The match is very good between the demands of my Oxford House and my personal skills.	1	2	3	4	5
12. I am not able to meet the demands of my Oxford House.	1	2	3	4	5
13. Nothing unique about me adds to the success of my Oxford House.	1	2	3	4	5
14. I make unique contributions to my Oxford House.	1	2	3	4	5
15. My personal values are similar to those of my Oxford House.	1	2	3	4	5
16. The things that I value in life are very similar to the things that my Oxford House values.	1	2	3	4	5
17. My personal values match my Oxford House's values and culture.	1	2	3	4	5
18. My Oxford House's values and culture provide a good fit with the things that I value in life.	1	2	3	4	5
19. There is a good fit between what my Oxford House offers me and what I am looking for in a job.	1	2	3	4	5
20. The attributes that I look for in an Oxford House are fulfilled very well by my present job.	1	2	3	4	5
21. The Oxford House that I currently hold gives me just about everything that I want from a job.	1	2	3	4	5
22. The match is very good between the demands of my Oxford House and my personal skills.	1	2	3	4	5
23. My abilities and training are a good fit with the requirements of my Oxford House.	1	2	3	4	5
24. My personal abilities and education provide a good match with the demands that my Oxford House places on me.	1	2	3	4	5

The items below ask about how you feel about recovery housing in general.

	Strongly Disagree	Mostly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Mostly Agree	Strongly Agree
1. The most important things that happen in life involve recovery housing.	1	2	3	4	5	6	7
2. Recovery housing is something that people in recovery should get involved in most of the time.	1	2	3	4	5	6	7
3. Recovery housing should be only a small part of one's life.	1	2	3	4	5	6	7
4. Recovery housing should be considered central to a recovering person's life.	1	2	3	4	5	6	7
5. In my view, a recovering individual's goals should be recovery-home oriented.	1	2	3	4	5	6	7
6. Life is worth living only when recovering people get absorbed in their recovery home.	1	2	3	4	5	6	7

THE FOLLOWING QUESTIONS REFER TO YOUR 12-STEP (AA/NA/CA/CMA ETC.) HOME GROUP. IF YOU HAVE NO HOME GROUP, PLEASE CHOOSE THE GROUP THAT YOU ATTEND MOST OFTEN. IF YOU DO NOT ATTEND 12-STEP GROUPS, YOU MAY SKIP TO THE WORKPLACE QUESTIONS

The items below ask about intentions about attending your primary 12-step group.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. I am thinking about leaving this 12-step group.	1	2	3	4	5
2. I am planning to look for a new 12-step group or other recovery group.	1	2	3	4	5
3. I intend to ask people about different 12-step groups or other recovery groups.	1	2	3	4	5
4. I don't plan to be in this 12-step group much longer.	1	2	3	4	5

For each of the five items below, indicate how you feel about your primary 12-step group.

	Strongly Disagree	Mostly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Mostly Agree	Strongly Agree
1. I volunteer to do things for this 12-step group.	1	2	3	4	5	6	7
2. I help orient new members of this 12-step group.	1	2	3	4	5	6	7
3. I attend functions that help the 12-step group.	1	2	3	4	5	6	7
4. I assist members of this 12-step group with their recovery for the benefit of the group.	1	2	3	4	5	6	7
5. I get involved to benefit this 12-step group.	1	2	3	4	5	6	7
6. I help others in this 12-step group learn about 12-step groups.	1	2	3	4	5	6	7
7. I help others in this 12-step group with their responsibilities.	1	2	3	4	5	6	7

For each of the five items below, indicate how you feel about your primary 12-step group.

	Strongly Disagree	Mostly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Mostly Agree	Strongly Agree
1. I would be very happy to spend the rest of my recovery with this 12-step group.	1	2	3	4	5	6	7
2. I really feel as if this 12-step group's problems are my own.	1	2	3	4	5	6	7
3. I do not feel like 'part of the family' at my 12-step group.	1	2	3	4	5	6	7
4. I do not feel 'emotionally attached' to this 12-step group.	1	2	3	4	5	6	7
5. This 12-step group has a great deal of personal meaning for me.	1	2	3	4	5	6	7
6. I do not feel a strong sense of belonging to my 12-step group.	1	2	3	4	5	6	7

The following questions also deal with how you feel about your primary 12-step group.

	Strongly Disagree	Mostly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Mostly Agree	Strongly Agree
1. All in all, I am satisfied with my 12-step group.	1	2	3	4	5	6	7
2. In general, I don't like my 12-step group.	1	2	3	4	5	6	7
3. In general, I like attending this group.	1	2	3	4	5	6	7

The items below ask about the match between you and your primary 12-step group.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. The 12-step group that I currently attend gives me just about everything I could ever need from a recovery group.	1	2	3	4	5
2. The other members of my 12-step group are similar to me.	1	2	3	4	5
3. My values prevent me from fitting in with my 12-step group.	1	2	3	4	5
4. I have the ability to meet the demands of my 12-step group.	1	2	3	4	5
5. The other residents of my 12-step group are different from me.	1	2	3	4	5
6. There is a poor fit between what my 12-step group offers me and what I need in a recovery group.	1	2	3	4	5
7. The values of my 12-step group do not reflect my own values.	1	2	3	4	5
8. My unique differences add to the success of my 12-step group.	1	2	3	4	5
9. The 12-step group that I live in does not have the attributes that I need in a recovery group.	1	2	3	4	5
10. I am different than the other residents of my 12-step group.	1	2	3	4	5
11. The match is very good between the demands of my 12-step group and my personal skills.	1	2	3	4	5
12. I am not able to meet the demands of my 12-step group.	1	2	3	4	5
13. Nothing unique about me adds to the success of my 12-step group.	1	2	3	4	5
14. I make unique contributions to my 12-step group.	1	2	3	4	5
15. My personal values are similar to those of my 12-step group.	1	2	3	4	5

The items below ask about how you feel about 12-step recovery groups in general.

	Strongly Disagree	Mostly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Mostly Agree	Strongly Agree
1. The most important things that happen in life involve 12-step groups.	1	2	3	4	5	6	7
2. 12-step groups are something that people in recovery should get involved in most of the time.	1	2	3	4	5	6	7
3. 12-step groups should be only a small part of one's life.	1	2	3	4	5	6	7
4. 12-step groups should be considered central to a recovering person's life.	1	2	3	4	5	6	7
5. In my view, a recovering individual's goals should be 12-step group oriented.	1	2	3	4	5	6	7
6. Life is worth living only when recovering people get absorbed in their 12-step groups.	1	2	3	4	5	6	7

The items below ask about how you feel about 12-step recovery groups in general.

	Strongly Disagree	Mostly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Mostly Agree	Strongly Agree
1. I often think about being a 12-step member	1	2	3	4	5	6	7
2. Being a 12-step member has little to do with how I feel about myself in general.	1	2	3	4	5	6	7
3. Being a 12-step member is an important part of my self-image.	1	2	3	4	5	6	7
4. The fact that I am a 12-step member rarely enters my mind.	1	2	3	4	5	6	7
5. In general, I'm glad to be 12-step member.	1	2	3	4	5	6	7
6. I often regret being a 12-step member.	1	2	3	4	5	6	7
7. Generally, I feel good about myself when I think about being a 12-step member.	1	2	3	4	5	6	7
8. I don't feel good about being a 12-step member.	1	2	3	4	5	6	7
9. I have a lot in common with other 12-step members.	1	2	3	4	5	6	7
10. I feel strong ties to other 12-step members.	1	2	3	4	5	6	7
11. I find it difficult to form a bond with other 12-step members.	1	2	3	4	5	6	7
12. I don't feel a sense of being connected to 12-step members.	1	2	3	4	5	6	7

THE FOLLOWING QUESTIONS REFER YOUR WORKPLACE. IF YOU HAVE MORE THAN ONE JOB, PLEASE REFER TO THE JOB THAT YOU WORK THAT MOST HOURS/WEEK AT. IF YOU ARE NOT EMPLOYED, YOU MAY SKIP THIS FINAL SECTION.

The following questions also deal with how you feel about your current workplace.

	Strongly Disagree	Mostly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Mostly Agree	Strongly Agree
1. All in all, I am satisfied with my job.	1	2	3	4	5	6	7
2. In general, I don't like my job.	1	2	3	4	5	6	7
3. In general, I like working here.	1	2	3	4	5	6	7

For each of the five items below, indicate how you feel about your current workplace.

	Strongly Disagree	Mostly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Mostly Agree	Strongly Agree
1. I volunteer to do things for this work group.	1	2	3	4	5	6	7
2. I help orient new residents in this group.	1	2	3	4	5	6	7
3. I attend functions that help the work group.	1	2	3	4	5	6	7
4. I assist others in this Oxford House with their work for the benefit of the work group.	1	2	3	4	5	6	7
5. I get involved to benefit this work group.	1	2	3	4	5	6	7
6. I help others in this work group learn about the work.	1	2	3	4	5	6	7
7. I help others in this work group with their responsibilities.	1	2	3	4	5	6	7

The items below ask about intentions about working at your current workplace.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. I am thinking about leaving this organization.	1	2	3	4	5
2. I am planning to look for a new job.	1	2	3	4	5
3. I intend to ask people about new job opportunities.	1	2	3	4	5
4. I don't plan to be in this organization much longer.	1	2	3	4	5

For each of the five items below, indicate how you feel about your current workplace.

	Strongly Disagree	Mostly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Mostly Agree	Strongly Agree
1. I would be very happy to spend the rest of my recovery with this organization.	1	2	3	4	5	6	7
2. I really feel as if this organization's problems are my own	1	2	3	4	5	6	7
3. I do not feel like 'part of the family' at my organization (R)	1	2	3	4	5	6	7
4. I do not feel 'emotionally attached' to this organization (R)	1	2	3	4	5	6	7
5. This Oxford House has a great deal of personal meaning for me.	1	2	3	4	5	6	7
6. I do not feel a strong sense of belonging to my organization (R)	1	2	3	4	5	6	7

The items below ask about the match between you and your current workplace. Please circle the number to indicate how much you agree or disagree with each statement.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. The organization that I currently work at gives me just about everything I could ever need from a workplace.	1	2	3	4	5
2. The other employees of my workplace are similar to me.	1	2	3	4	5
3. My values prevent me from fitting in with my workplace.	1	2	3	4	5
4. I have the ability to meet the demands of my workplace.	1	2	3	4	5
5. The other employees of my workplace are different from me.	1	2	3	4	5
6. There is a poor fit between what my organization offers me and what I need in a workplace.	1	2	3	4	5
7. The values of my workplace do not reflect my own values.	1	2	3	4	5
8. My unique differences add to the success of my workplace.	1	2	3	4	5
9. The organization that I work for does not have the attributes that I need in a workplace.	1	2	3	4	5
10. I am different than the other employees of my workplace.	1	2	3	4	5
11. The match is very good between the demands of my workplace and my personal skills.	1	2	3	4	5
12. I am not able to meet the demands of my workplace.	1	2	3	4	5
13. Nothing unique about me adds to the success of my workplace.	1	2	3	4	5
14. I make unique contributions to my workplace.	1	2	3	4	5
15. My personal values are similar to those of my workplace.	1	2	3	4	5

The items below ask about how you feel about working in general.

	Strongly Disagree	Mostly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Mostly Agree	Strongly Agree
1. The most important things that happen in life involve work.	1	2	3	4	5	6	7
2. Work is something that people should get involved in most of the time.	1	2	3	4	5	6	7
3. Work should be only a small part of one's life.	1	2	3	4	5	6	7
4. Work should be considered central to a recovering person's life.	1	2	3	4	5	6	7
5. In my view, an individual's goals should be work oriented.	1	2	3	4	5	6	7
6. Life is worth living only when people get absorbed in their work.	1	2	3	4	5	6	7

Congratulations!

You have completed the survey. We appreciate your help with this research. You may now place the completed survey in the pre-addressed, postage-paid envelop and mail it back to the researcher. Please remember to call XXX-XXX-XXXX and leave your name, house name, address, and phone number, so we can mail you your \$15 check. You should receive this check within four weeks of placing the call.

