A MINDFULNESS INTERVENTION FOR DIRECT-CARE STAFF WHO WORK WITH INDIVIDUALS WITH INTELLECTUAL DISABILITY AND PSYCHOPATHOLOGY

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ALISON S. O'CONNOR

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APPROVED: _____
Kenneth Schneider, Ph.D.

_____
Nancy J. Razza, Ph.D.

DEAN: _____
Francine Conway, Ph.D.

Abstract

Individuals with Intellectual Developmental Disabilities (I/DD) may present with challenging, externalizing behaviors, often times as a consequence of communication or sensory difficulties (Singh et al., 2006b; Harper, Webb, & Rayner, 2013). However, dually diagnosed individuals (i.e., those with comorbid psychiatric disorders) are at even greater risk for these high intensity, disruptive behaviors (Singh et al., 2007b). These behavior disruptions severely limit individuals' community engagement, independence, and social relationships (Harper et al., 2013) and create "bidirectional transactions" in which staff and clients negatively reciprocally influence each other serving to maintain disruptive behavior (Singh, Lancioni, Winton, Karazsia, & Singh, 2013, p. 213). Staff who are caregivers for individuals with dual diagnoses report emotional and physical stress and are at particular risk for burn-out (Creswell, Pacilio, Lindsay, & Brown, 2014; Whitebird et al., 2012). Staff who are taught mindfulness-based interventions have demonstrated an increase in happiness and quality of life as caregivers, and are able to focus energy on making internal changes within themselves rather than seeking to control the behavior of others (Singh et al. as cited in Minor et al., 2006, p. 95). There is further evidence (Harper et al., 2013) that intervening with staff is just as effective as direct intervention with clients. The current study was an assessment of mindfulness training and practice by day-program staff of dually diagnosed adult clients and the subsequent effects on their clients' behavior. A multiple baseline design was utilized to implement a mindfulness-based intervention to three day-program staff and the behavior of their corresponding clients was measured. Results of the visual analysis of changes in client behavior suggest that mindful staff lead to improvements in client behavior. For all three clients, rates of identified target behaviors dropped as their corresponding staff participated in mindfulness training and practice. Recommendations and implications for psychologists are provided.

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Chapter I: Introduction

Intellectual and Developmental Disabilities (I/DD) encompass a wide range of specific syndromes (e.g., cerebral palsy, fetal alcohol syndrome) as well as general impairments but all necessarily include "significant limitations in both intellectual functioning and in adaptive behavior […] present before the age of 18" (Schalock et al., 2010). Two criteria, based upon *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.) are standard scores below 75 on standardized cognitive tests and standardized and functional adaptive behavior measures present across conceptual, social, practical domains (American Psychiatric Association, 2013). Further, these impairments are seen across environmental settings and are largely stable over time.

Rates of psychiatric disorders have been estimated at two to four times more common in individuals with I/DD than in the typically developing population (Fletcher, Barnhill, & Cooper, 2018). The I/DD population experiences interpersonal trauma such as neglect, emotional abuse, physical abuse, and sexual abuse, three to five times more frequently than the typically developing population and further typically lacks protective factors such as social supports and adaptive coping styles (Razza, Schwartz Dayan, Tomasulo, & Ballan, 2014). Researchers (Nezu et al. as cited in Razza & Tomasulo, 2005) hypothesize that this combination is the driving force behind these dual diagnoses (i.e., I/DD and comorbid major psychiatric disorder).

Individuals with I/DD, and even more so those with dual diagnoses (Singh et al., 2007b), may present with challenging, externalizing behaviors (e.g., aggression, self-injury) which limit community integration, positive social experiences, and can lead to placements in increasingly restrictive settings (Harper, Webb, Rayner, 2013). Interactions between dually diagnosed individuals and direct care staff are “bidirectional transactions” in which staff and clients reciprocally influence one another, potentially maintaining disruptive behavior (Singh, Lancioni,

Winton, Karazsia, & Singh, 2013, p. 213). Similarly, staff who are tasked with managing these challenging behaviors are at particular risk for burn-out due to this ongoing physical and emotional stress (Creswell, Pacilio, Lindsay, & Brown, 2014; Whitebird et al., 2012). Work has been done which attempts to protect staff from such risk and of particular relevance are those interventions which incorporate mindfulness.

Mindfulness is a practice in which one cultivates the ability to remain present throughout one's experiences in a nonjudgmental way (Singh et al., 2006). This requires attention both to the external environment as well as to one's internal processes. (Kabat-Zinn as cited in Singh et al., 2010). Mindfulness-based interventions highlight the need for and ability to change internally and to let go of attempts to control others (Singh et al. as cited in Minor et al., 2006, p.95). A meta-analysis (Harper et al., 2013) demonstrated that mindfulness-based interventions not only improve stress, anxiety, and depression in caregivers and individuals with I/DD but also decrease challenging behavior in clients with I/DD.

Singh's and colleagues' work (2003; 2006a; 2006b; 2007a; 2007b; 2009; 2010; 2013) in this area has repeatedly demonstrated that interventions which seek to alter the "bidirectional transaction" between clients and staff have clinically significant outcomes. For example, they have implemented mindfulness-based training programs directly with clients (2003; 2007a; 2007b), with parents (2006b; 2010), and with caregivers (2006a; 2009; 2010; 2013) and have achieved community integration (2003), decreases in challenging behavior (2003; 2006a; 2006b; 2007a; 2007b; 2009; 2010; 2013) and resultant injury, psychotropic medication use, and need for physical restraint, and improvements in health and well-being (2003; 2006a; 2006b; 2007a; 2007b; 2009; 2010; 2013).

The purpose of the current study was to replicate Singh's and colleagues' work and expand the effects of "mindfulness" found in the current literature to other settings and populations by putting a mindfulness intervention in place with day-program staff who work with individuals who are dually diagnosed with I/DD and a major psychiatric disorder. Specifically, this is an assessment of how mindfulness training and practice by day-program staff of adult clients with I/DD and comorbid psychiatric conditions affects the clients' behavior. As an extension of Singh's work, the current intervention program has been adapted in duration to be more manageably delivered, ideally increasing sustainability, with identified staff-client dyads in an identified clinical setting.

Chapter II: Literature Review

Intellectual and Developmental Disabilities and Adaptive Functioning

Individuals with Intellectual and Developmental Disabilities (I/DD) present with a wide variety of strengths and "limitations in both intellectual functioning and in adaptive behavior" (Schalock et al., 2010). Developmental disabilities encompass a wide range of disorders which may impair cognitive development and functioning, physical development and functioning, or both. Intellectual disabilities are one type of developmental disability where cognitive or intellectual, functioning is the main area of impairment. The current state of practice in the field, is to use the term I/DD, which encompasses both disabilities (Schalock et al., 2010). Intellectual functioning is typically measured through the use of standardized cognitive assessment measures, such as the Weschler scales, and referred to by the term IQ, or intelligence quotient. Scores which fall approximately two standard deviations below the mean (Bertelli et al., 2014) or below 65 to 75 are those which might be deemed indicative of a limitation in intellectual functioning.

Definition and diagnosis. An IQ score may be viewed as a single point of measurement related to a whole person but as only part of what's needed in order to understand an individual's adaptive functioning and potentially make a diagnosis of I/DD. Bertelli and colleagues (2014) remark that "IQ as an indicator of adaptive complexity and dynamism of human intellectual functioning" is limited and point to evidence that individuals with the same IQ score can have wildly different presentations of adaptive functioning, cognitive profiles, and patterns of strengths and weaknesses. In 1992, the World Health Organization (WHO) defined I/DD as "a condition of arrested or incomplete development of the mind, which is especially characterized by impairment of skills manifested during the developmental period, which contribute to the overall level of intelligence, i.e., cognitive, language, motor, and social abilities" (Maulik, Mascarenhas, Mathers,

Dua, & Saxena, 2011). Over the past fifty years or so there have been nuanced explanations of intelligence. Since that time, evolution in theories of disability have led to a sophistication in the field's understanding and definitions of I/DD.

The American Association on Intellectual and Developmental Disabilities (Schalock et al., 2010) highlights the importance of an assessment of adaptive behavior coupled with intellectual functioning in order to diagnose or label I/DD. Adaptive behavior consists of skills present within conceptual, social, and practical domains. AAIDD defines conceptual skills as understanding of language and literacy, money, time, number concepts, and self-direction. Social skills encompass interpersonal skills, social responsibility, self-esteem, gullibility, naiveté, social problem solving, rule following, and social judgment. Finally, AAIDD designates activities of daily living, occupational skills, healthcare, travel and transportation, schedules and routines, safety, money use, and telephone use as practical skills.

There appears to be consensus in the larger field that adaptive functioning holds as much weight as intellectual functioning when determining the presence and subsequent severity of an I/DD. As the effects of I/DD reach beyond the identified individual to their families and communities (Maulik et al., 2011), there has been a recent shift in the field to see disability as even beyond an individual's intellectual and adaptive functioning to "a problem of the whole person in their life situation that impacts health, community participation, and role in society" (Buntinx & Schalock, 2010, p. 284).

Disability v. disorder. Current theorists (e.g., Salvador-Carulla et al., 2011) even posit that the term Intellectual Developmental Disorders is more appropriate as they delineate what is meant by a disability versus a disorder. This stance argues that a disability is only present as a consequence of a disorder that is not adequately supported through the environmental structures

and supports of a given society. Buntinx and Schalock (2010) write that "disability can be defined as the expression of limitations in individual functioning *within* a social context that represent a substantial disadvantage to the individual" (p. 284). This is a shift in focus from a problem within an individual to one that exists in the fit between a person and their environment as the basis for disability.

Other models of disability, namely ones focused on assessment of quality of life, also highlight this link between the larger social context and the characteristics of an individual. Buntinx and Schalock (2010) define quality of life as a "multidimensional phenomenon comprised of core domains influenced by personal characteristics and environmental factors" (p. 285). Many bodies have outlined these domains, which vary slightly in their detail, but all share the same basic structure. For example, The United Nations lists rights, participation, autonomy, independence, choice, physical wellbeing, material wellbeing, social inclusion, and accessibility among the core domains. Similarly, AAIDD names the domains, or dimensions, of human functioning as intellectual abilities, adaptive behavior, health, participation, and the role of supports. Through the labeling of multiple and diverse areas of life as equally important domains, the UN and AAIDD have argued against the use of a single measurement, namely IQ, to define any individual's quality of life or to predict success across the lifetime.

With this in mind, further questions regarding the definition of disability in functional terms and IQ as a construct begin to emerge. Based on the formulation of its very definition as a cultural, social, and ideological construct, one can expect that IQ is highly predictive of one's educational, financial, and vocational successes within a social context (Sternberg, Grigorenko, & Bundy, 2001). Sternberg and colleagues (2001) wrote about the reciprocal relationship between IQ and a variety of other factors such as education and environment and how this gives rise to

questions about its variability across one's lifetime and what importance other variables might have in predicting quality of life. When examining very narrow, specific populations, such as individuals with I/DD, there is restriction of the range of IQ scores which impedes the predictive power of and ultimately places more predictive value on other variables particularly those with reciprocal causality. Researchers (Sternberg et al., 2001) point specifically to social adaptation, coping skills, self-efficacy, and frustration tolerance as variables with meaningful indicators of quality of life outcomes beyond what can be predicted through the single measurement of IQ.

Taken altogether, this focus on additional indicators as predictive of quality of life outcomes, necessarily informs diagnostic, classification, and assessment procedures. For example, two individuals with the same IQ can have dramatically different presentations in cognitive profiles and adaptive strengths and weaknesses (Bertelli et al., 2014). As such, there has been a call for "a systems perspective […] that encompasses the microsystem level of individual clinical assessment and support planning, the mesosystem level of organizations and agencies involved in assessment and professional support delivery, and macrosystem level incorporating the societal perspective" (Buntinx & Schalock, 2010, p. 291). This shift in framework has been part of proposed changes as the field moves from the ICD-10 to ICD-11, so patterns of I/DD prevalence are investigated, it is important to keep in mind the evolution of assessment, diagnosis, definition, etc. that has occurred to this point, and that which will continue to change over time.

Prevalence and presentation. Prevalence estimates of I/DD worldwide vary somewhat but typically fall within the 1 to 3% range (Maulik et al., 2011). A recent meta-analysis (Maulik et al., 2011) aggregated I/DD prevalence data from 52 studies published between 1980 and 2009 and calculated the overall prevalence to be approximately 10.37/1000, or about 1%. These data

were consistent with other recent meta-analyses and provided support for recent shifts in theoretical understanding of the definition and classification of I/DD.

Data from Maulik and colleagues' 2011 meta-analysis indicated empirical support for a shift in the way the field understands and defines disability. For example, data demonstrated higher rates in low and middle-income countries and the lowest rates in high-income countries, such as the United States (Salvador-Carulla et al., 2011). This negative association between income and prevalence rates is expected given the reciprocal relationships between IQ and educational achievement, for example, (Sternberg et al., 2001) previously mentioned. Additionally, rates were highest in children and adolescents and were the lowest in the adult population. The researchers hypothesized two explanations the first was that those with significant disability have higher early mortality rates than the population in general. The second hypothesis put forth was that some individuals may no longer be identified as having an I/DD once they have left the school system. That is, younger children are identified at higher rates than adults "due to the increased pressures of schooling" (Maulik et al., 2011, p. 15). Again, this provides support for the notion that an impairment in intellectual and adaptive functioning can be classified as disabling only when societal supports fail to meet the needs of the individuals (e.g., Buntinx & Schalock, 2010; Salvador-Carulla et al., 2011).

Maulik and colleagues (2011) calculated patterns of severity and causality among the I/DD population which were similarly consistent with previous recent research. Of those in the I/DD population, 85% were classified within the mild range, 10% within the moderate range, 4% within the severe range, and 2% within the profoundly disabled range (Harris 2006 as cited in Maulik et al., 2011). Despite the changing framework around assessment, classification, and diagnosis, progressive members of the field (e.g., Salvador-Carulla et al., 2011) support the use of severity

specifiers. They make the case that the labels have "current diagnostic and clinical utility" (Salvador-Carulla et al., 2011, p. 177). Common and consistent language promotes ease of communication within and across "disciplines, families, and users" in the field (p. 177). The labels correlate with real life differences among severity levels, particularly regarding residential placement and self-determination. One might argue, again, though that these relationships between severity of impairment and other life outcomes is at least in part, reciprocal (Sternberg et al., 2001).

About half of the cases of I/DD in this meta-analysis (Maulik et al., 2011) had no known cause. Identifiable causes of I/DD were classified as antenatal, perinatal, or postnatal. Antenatal cases of I/DD, those which caused disability before birth, were largely genetic, such as Fragile X Syndrome, or any of another 750 genetic syndromes which cause I/DD (Eisenhower, Baker, & Blacher, 2005). Perinatal causes, those which can be traced to events immediately surrounding the birthing process, included injury or asphyxia. Finally, postnatal cases of I/DD, those linked to factors after birth, were largely due to infections or some other developmental disorder (Maulik et al., 2011). These causal factors of I/DD, by definition, lead to impairment in both intellectual and adaptive functioning. Impairment, however, is not limited to cognitive development as rates of dual diagnosis, or comorbidity with other disorders, is extremely common (Schalock et al., 2010).

Dual Diagnosis

Rates of psychiatric disorders have been estimated at two to four times more common in individuals with I/DD than in the typically developing population (Fletcher et al., 2018). Sternberg and colleagues (2001) who argued for the importance of the reciprocal causality between IQ and other factors like educational achievement or self-efficacy beliefs further investigated the links between IQ and well-being. They defined well-being as a "predominance of positive thoughts,

emotions, and attitudes about one's life" or a "global sense of satisfaction with one's life" (p. 11) and point to well-being as an important factor which links IQ to positive mental health outcomes or to pathological mental states such as anxiety and depression. Early epidemiological work (Pianta & Castaldi and Pianata & Caldwell as cited in Sternberg et al. 2001) demonstrates statistical links between IQ and internalizing symptoms or emotional dysregulation, such as anxiety, and externalizing symptoms, such as aggression. Additional and more recent work has supported the notion that "lower IQ [is] perhaps the most significant factor associated with psychiatric disturbances in children" (Razza et al., 2014; Sternberg et al., 2001, p. 11).

In a 2003 Dutch study (Dekker & Koot), prevalence rates of psychiatric disorders in the I/DD child population were assessed. Researchers were particularly interested in standardizing their measurements as typically prevalence rates of the non-I/DD population were garnered through the use of standardized assessment tools whereas those rates in the I/DD population were typically gathered through review of clinical records, a method they argue systematically underestimates true prevalence. They were additionally interested if there were any differences in rates of children who met criteria for a disorder versus rates of those functioning was impaired in some way by that disorder and further the difference between those who were impaired and those who received treatment.

Dekker and Koot (2003) randomly sampled 474 children with I/DD between six and 18-years-old. Researchers then met with parents of those children to complete anxiety, mood, and disruptive disorders sections of the Diagnostic Interview Schedule for Children – Parent Version. Data indicated that 39% of the children met diagnostic criteria for either an anxiety, mood, or disruptive disorder and of those children, 56% were assessed to be "significantly impaired" by the disorder. This is in contrast to rates found through clinical review of community-based samples

which place prevalence between four and 18%. The researchers concluded that I/DD children can be accurately assessed using the same standardized measures that are typically used in the non-I/DD population, that prevalence rates of co-occurring mental health disorders in the I/DD child population have been greatly underestimated, and that further, these children are not receiving treatment.

This early work by Dekker and Koot (2003) sheds light on this overlooked dually-diagnosed population. However, there are several shortcomings, namely that the there were no direct measurements of the identified children and that the population from which the sample was derived is very small and leads to some questions about generalizability. Additionally, this study did not include their own similarly sampled and assessed control group of non-I/DD children. However, other large-scale prevalence studies demonstrate similar findings, namely that psychiatric disorders occur at higher rates in children and adults with I/DD than in the general population.

Emerson (2003) cited early work which has consistently placed dual-diagnosis prevalence estimates between 30 and 50% of the international I/DD child population as a foundation for his I/DD and dual-diagnosis prevalence study in Great Britain. A large sample (n=10438) of children aged 5 to 15-years-old was gathered from England, Scotland, and Wales and the prevalence of I/DD was calculated at 2.6%. Through the Development and Well Being Assessment (DAWBA) parents and children completed questionnaires, structured interviews, and computerized diagnostic assessments. The data estimated the prevalence of psychiatric disorders in the I/DD children at 39% and 8.1% in the non-I/DD children. The patterns of depression, eating disorders, and psychosis was similar across both groups; however, children with I/DD were more likely to meet diagnostic criteria for conduct disorder, ADHD, and anxiety disorders than their typically

developing peers. Methodology and conclusions drawn from this study are similar to those from Dekker and Koot (2003) in that the authors argue that both the non-I/DD and I/DD population can be accurately assessed for psychiatric disorders using the same, often times formalized, assessment process.

Similar, small, European studies (i.e., Bhaumik, Tyrer, McGrother, & Ganghadaran, 2008; Hurley, Folstein, & Lam, 2003) have focused on the prevalence of co-occurring psychiatric disorders in the I/DD population with a particular emphasis on access to and utilization of mental health treatment. Hurley and colleagues (2003) gathered information through clinical record review on patients already accessing services at a university-based mental health outpatient clinic. Adults with severe or profound I/DD were compared to those with mild I/DD and to non-I/DD adults. Concern for the I/DD population was based upon data that indicates they are typically misidentified or not the focus of the mental health field, which leads the population to be chronically underserved or have their psychiatric disorders medically mismanaged. I/DD patients' "atypical presentation, inability to sufficiently verbalize symptoms," and professionals' "reliance on diagnostic criteria developed on intellectually normal individuals" are significant barriers to accessing proper care (Hurley et al., 2003, p. 3). They cite previous data that demonstrates patterns of I/DD individuals being prescribed antipsychotics at a higher rate than they are prescribed antidepressants whereas in the non-I/DD population, anxiolytics and antidepressants are the most commonly prescribed psychotropic medication. The data gathered from their record review demonstrated no difference in the rates of antidepressant prescription use although they did find that again, antipsychotics were more likely to be prescribed to the I/DD population and anxiolytics to the non-I/DD population. Similarly, both the I/DD and non-I/DD patients most frequently carried diagnoses of depression. The authors confidently stated that in this sample they found no

evidence of diagnostic overshadowing (p. 12). The setting of this study was a large, university-based teaching hospital, outpatient clinic which had particular specialization in dual-diagnosis.

There is a "lack of experiences, resources, and skills needed in general psychiatry to treat the complex co-existing health and behavior problems" (p. 987) of individuals with I/DD and psychiatric disorders (Bhaumik et al., 2008). A 2008 study (Bhaumik et al., 2008) from the United Kingdom also examined rates of dual-diagnosis and utilization of mental health services. Researchers focused on adults within the moderate, severe, and profound range of I/DD and their inpatient and outpatient data from a small area with a population of about 700,000. The general prevalence of psychiatric disorders in the I/DD population was calculated to be about 34% and this is consistent with the larger literature. The data further identified that of that 34%, only about 46% were seen by a psychiatrist and that the majority of those patients (72%) were classified within the severe and profound ranges of I/DD. Moreover, the data provided evidence that prevalence rates of psychiatric disorders increased as the level of I/DD severity increased. Dual-diagnosis rates were 27% for those classified within the moderate range, 34% for those within the severe range, and 45% for those within the profound range of impairment. (Bhaumik et al., 2008). Researches did not include individuals within the borderline or mild range of I/DD and argued that those individuals are not typically linked with services so are difficult to identify and further, that they are typically able to access the same healthcare system as the non-I/DD population. It is unclear if this has evidential backing in the UK or if that is the case in the US as well. There should likely be caution with generalization of this study as the state of healthcare in the US, especially for the I/DD population is greatly lacking. For example, the catchment area of this study was a population of 700,000 and within was a 12-bed specialized in patient unit accessible for the dually-diagnosed

(Bhaumik et al., 2008). For comparison, New Jersey has a population of approximately 9 million and has one 10-bed specialized dual-diagnosis unit (i.e., Trinitas Regional Medical Center).

Eisenhower and colleagues (2005) hypothesized that psychiatric disorders, or behavioral difficulties could be specific to particular groups of I/DD children. They examined approximately 200 preschool-aged children through the use of observations in the home, in the laboratory setting, parent questionnaires, and the Child Behavior Checklist (CBCL). They performed comparison between cohorts of children with autism, cerebral palsy, Down syndrome, undifferentiated I/DD and non-I/DD children. Data indicated that children with autism and cerebral palsy had the highest rates of problematic behavior whereas children with Down syndrome and without I/DD had the lowest rates. When grouped together, about 38% of the children with any form of I/DD and only about 10% of the non-I/DD children had significantly disruptive behavioral presentations. This study looked at co-occurring behavior problems not psychiatric disorders in the I/DD and non-I/DD child population. It is important to note, however, that disruptive behavior is not part of I/DD diagnostic criteria but *can* be part of psychiatric disorder diagnostic criteria. That is, "problem behaviors are not core components of I/DD, but can be an associated feature" (Salvador-Carulla et al., 2011, p. 176)

Finally, there has also been considerable growth in the field as it relates to dual-diagnosis and a greater understanding of the different presentations of psychiatric disorders in the I/DD population. The *Diagnostic Manual – Intellectual Disability* (Fletcher et al., 2018) is a manual, meant as a companion to the DSM, with specialized criteria, instructions, and considerations for assessment, diagnosis, and treatment of individuals with I/DD who present with mental health concerns. There is similar other work done in the field which takes a particular look at the dually-

diagnosed and hypotheses surrounding the avenues by which the I/DD population is at such increased risk for psychiatric disturbances.

Razza and colleagues (2014) aggregated multiple sources of data and reported that children with I/DD are subjected to neglect, emotional abuse, physical abuse, and sexual abuse three to five times more frequently than the typically developing population. These frequent instances of interpersonal trauma coupled with the lacking social support and social skills, learned helplessness, lower socioeconomic levels, physical disabilities, decreased inhibition, language delays, and poor adaptive coping styles which are also frequently present in the I/DD population are theorized to contribute to high rates of mental illnesses in the population (Nezu et al. as cited in Razza & Tomasulo, 2005).

Mindfulness and Previous Interventions

Individuals with I/DD may present with challenging, externalizing behaviors (e.g., aggression, self-injury), often times as a consequence of communication or sensory difficulties (Harper et al., 2013; Singh et al., 2006b). However, dually diagnosed individuals (i.e., those with comorbid psychiatric disorders) are at even greater risk for these high intensity, disruptive behaviors (Singh et al., 2007b). The occurrence of these behavior disruptions severely limits individuals' community engagement, independence, and social relationships (Harper et al., 2013). Such limits in relationships and positive interactions with direct care staff create "bidirectional transactions" in which staff and clients negatively reciprocally influence each other, serving to maintain disruptive behavior (Singh, Lancioni, Winton, Karazsia, & Singh, 2013, p. 213). Staff who act as caregivers for individuals with dual diagnoses are likely to report emotional and physical stress related to their roles and be at particular risk for burn-out, given such increases in anxious and depressive symptoms, for example (Creswell, Pacilio, Lindsay, & Brown, 2014;

Whitebird et al., 2012). Mindfulness-based interventions have demonstrated an increase in happiness and quality of life as caregivers are able to focus energy on making internal changes within themselves, rather than seeking to control the behavior of others (Singh et al. as cited in Minor, Carlson, Mackenzie, Zernicke, & Jones, 2010, p. 95). There is further evidence (Harper et al., 2013) that intervening with staff is just as effective as direct intervention with clients. Harper and colleagues (2013) conducted a meta-analysis on 17 studies which employed mindfulness-based interventions as a means to improve behavioral outcomes in individuals with I/DD. The evaluation revealed that "training caregivers seemed to be just as effective as delivering the interventions directly to participants" (p. 436) in reducing problematic behaviors (e.g., aggression, self-injury) in individuals with I/DD as well as stress, anxiety, and depressive symptoms in caregivers and those with I/DD.

Mindfulness theory. Mindfulness is a practice with roots in Buddhism (Wolf & Serpa, 2015). Meaning "insight meditation" in the Vipassana tradition, mindfulness is at its core a dynamic practice (2015). Being mindful can be described as having an active yet calm mind that has attention toward the present moment in a nonjudgmental way (Singh et al., 2006a). Moreover, a mindful state is one which is in tune with both what is occurring in the environment as well as what kind of processes are occurring within one's own mind (Kabat-Zinn as cited in Singh et al., 2010). One's ability to direct attention in a purposefully mindful way will no doubt be influenced by subjective variables like values, needs, memories, and culture, according to Wolf and Serpa (2015). Moreover, Kabat-Zinn (as cited in Wolf & Serpa, 2015) developed a list of "attitudinal foundations of mindfulness," prerequisite characteristics that must be cultivated in order to engage mindfully with the world. They include: acceptance, non-judging, non-striving, letting go/letting be, patience, trust, beginner's mind, and gratitude and generosity. These themes are typically

woven through modern-day mindfulness practices particularly mindfulness-based stress reduction (MBSR) curricula. Effects of this modern-day practice have been demonstrated in areas of symptom reduction, biological markers, neuroplasticity, compassion, and self-compassion (Wolf & Serpa, 2015).

Mindfulness-based intervention outcomes. There has been some work done which examines behavioral changes that occur as a result of mindfulness-based practice. Khoury, Sharma, Rush, and Fournier (2015) conducted a meta-analysis to examine efficacy of mindfulness-based stress reduction interventions (MBSR) in non-clinical populations. Studies which contained MBSR interventions with the goal of decreasing stress, depression, and/or anxiety, which contained explicit mindfulness training and practice (e.g., yoga, sitting meditation), and which hypothesized the mechanism of action to be a decrease in emotional reactivity were included. Typical interventions were implemented in group settings, once per week for 2.5 hrs, for 8 weeks, and included a 6 hr mindfulness retreat. Data from 29 studies, mostly published after 2010, were aggregated and several important themes emerged. Participants across studies were somewhat homogenous, that is, female, Caucasian, younger in age, in the health care field, and educated. Despite these issues with generalizability, mindfulness interventions had moderate effects in decreasing depression, anxiety, and distress and even larger reductions in stress and improvements in quality of life "regardless whether the [participants met] diagnostic criteria for a mental disorder" (Khoury et al., 2015, p. 526).

In an earlier study, Minor and colleagues (2006), sought to use MBSR to improve the quality of life of those who care for chronically-ill children. They hypothesized that they could help these caregivers "enhance the quality of life of those they care for by focusing on changing themselves rather than the individual with special needs" (Minor et al., 2006, p. 95). Participants

were selected through convenience sampling from a large hospital in Canada and they were interviewed prior to intervention to ascertain their level of interest, commitment, and understanding of the procedures. Participants' stress levels and moods were assessed pre- and post-intervention through a series of self-report inventories. Intervention consisted of eight, weekly, two-hour, group sessions plus commitment to an additional 45 min of daily mindfulness practice at home. Researchers likened the participants' pre-intervention stress levels to those of terminal cancer patients and reported that participants' post-intervention stress levels significantly decreased and measures of their mood (e.g., vigor) significantly improved (Minor et al., 2006). There are several interesting components of this study that warrant further consideration. Participants were all highly motivated to engage in the intervention. That is, many were self-selected, and all necessarily had to demonstrate commitment as a condition of enrollment. Group sessions had attendance rates of approximately 75% and the attrition rate was about 10-15%. Investigators attributed this to competing demands of their role as caregivers. Not only does this raise questions about confounding effect of participants who perhaps are "most stressed" leaving the study but also about the importance of creating interventions that are manageable to deliver.

In their 2015 work, Dane and Brummel, similarly examined the effects of mindfulness-based intervention in a non-clinical sample but for which researchers deemed that "mindfulness should be of particular concern and theoretical import" (p. 107). It was hypothesized that individuals working in *dynamic environments*, that is, those which require "series of interdependent decisions in real time" (p. 107) who were rated highly on measures on mindfulness would also rate highly on measures of work engagement and job performance, and would be less likely to have intentions of leaving their job. Data supported these hypotheses and prompted

researchers to raise questions regarding why some individuals are more mindful and how to go about fostering and cultivating this spirit (pp. 120-121).

In their 2013 work, Bethay, Wilson, Schnetzer, Nassar, and Bordieri attempted to do just that by providing mindfulness-based interventions to staff and then measuring their relative psychological health and propensity for burnout, among other variables. Professional staff working with individuals with I/DD in an institutionalized setting in a variety of capacities were assigned to receive training either solely on behavior modification (ABA) or on a combination of mindfulness-based Acceptance and Commitment Training and behavior modification (ACT and ABA). Participants attended weekly, three-hour workshops for three consecutive weeks and completed questionnaires related to their overall psychological health and professional burnout both immediately before and after participation and as well as three months later. Data indicated that staff who participated in the ACT and ABA combination intervention had greater decreases in psychological distress and in thoughts related to professional burnout. However, this difference between groups was only significant when researchers parsed out participants who stated that they practiced the ACT principles in their daily lives. This is particularly in contrast to other mindfulness-based research with data that indicated just the opposite, namely, the previously mentioned findings from Khoury and colleagues' meta-analysis that neither duration of treatment nor practice outside of sessions had any impact on outcomes (Khoury et al., 2015).

Singh's and colleague's initial work was the delivery of a mindfulness-based intervention delivered directly to one participant (2003). The participant was a 27-year-old male with dual-diagnosis who functioned within the mild range of I/DD and had a history of inpatient psychiatric hospitalizations and institutionalization and whose medication and behavioral intervention regimens were not effective. Importantly, this participant wanted to participate in the intervention

and was capable of providing consent. The intervention consisted of twice daily, 30-minute sessions, five days per week for a year and followed the *Mindfulness on the Soles of the Feet* curriculum developed by Kabat-Zinn. Data were gathered on incidents of verbal and physical aggression, self-control, psychotropic PRN medication administration, need for physical restraint, injury, and social and physical integration. After participation in the mindfulness-based intervention, the participant no longer met diagnostic criteria for any psychiatric diagnoses, was integrated into his larger community setting, and had no further instances of aggression. This work is a step toward bringing mindfulness-based interventions with a focus on behavior change outcomes, specifically to the dually-diagnosed population. Results were clearly significant and held great social validity for the participant. However, the intensity of the intervention, in terms of frequency and duration, as well as the need for the participant to have the capacity both to consent and participate in the intervention are areas where generalization might prove difficult.

Work was completed with three adults being served in inpatient psychiatric settings for a variety of serious and persistent mental illnesses (SPMI) who similarly had intense episodes of aggression, difficultly reintegrating in the community, and whose traditional treatment of medication and behavior modification was not effective (Singh et al., 2007a). Again, participants followed the Mindfulness on the Soles of the Feet curriculum and data were gathered on their verbal and physical aggression, psychotropic PRN medical administration, need for physical restraint, and injury. Intervention was implemented and data were analyzed in a multiple baseline design across participants. There were significant reductions for all participants in episodes of aggression, even at a four years post-intervention.

In their 2006(a) work, Singh and colleagues moved from providing intervention directly to clients to their caregivers. They compared the relative effects of staff behavior training versus

mindfulness training on reducing their I/DD clients' aggression and increasing their clients' skill acquisition. Interventions were implemented in a multiple baseline design across three group homes as five-day intensive trainings. Staff first participated in intensive behavioral training which led to only minor decreases in client aggression and nonsignificant increases in client skill acquisition. Staff then participated in intensive mindfulness training which utilized didactic as well as experiential components. After staff completed this training, there were clinically significant reductions in client aggression and improvements in skill acquisition.

Singh et al. again evaluated this model in their work with three parent-child dyads (2006b). They hypothesized that once parents were taught to engage mindfully with their autistic children, they would observe lower rates of problem behavior (e.g., aggression, self-injury, noncompliance) and they would report greater satisfaction in the parenting skills and interactions with their children. Again, a multiple baseline design was utilized in the delivery of a 12-week mindfulness training phase and then a 52-week mindfulness practice phase for each mother. For all three dyads there were significant reduction in the identified problem behavior and increases in ratings of satisfaction.

More recent work has continued to replicate the effects of intervening within these "bidirectional transactions." In a call for a reduction in the use of physical restraint, particularly with adults with I/DD, Singh and colleagues hypothesized that more mindful staff, along with larger institutional policy change, and behavior training could do just that (Singh et al., 2009). Direct-care staff (n=23) who worked with individuals with I/DD in group home settings participated in a mindfulness-based intervention which was delivered in groups as a multiple baseline design across two shifts. They received psycho-education on mindfulness and in vivo meditation experience during weekly, two-hour group sessions, over the course of 12 weeks. Staff

were directed to use mindfulness techniques they were learning in the sessions throughout their shifts. Investigators collected outcome behavioral data on the clients on incidents such as the psychotropic PRN medication administration, staff and peer injury, and staff use of verbal redirection and physical restraint. Data demonstrated reductions in all targeted areas (Singh et al., 2009). Moreover, when substitute or new staff, who had not received the mindfulness intervention, worked with clients, there were corresponding increases in rates of physical restraints and PRN psychotropic medication administration. It is significant to consider that the data were collected on groups of clients and particularly, that the specific clients in those groups changed over the course of the study. Because of this, definitions of target behaviors were necessarily general, and the investigators cannot draw conclusions about changes specific to one client.

Chapter III: Method

Participants and Setting

This study took place at a day-program serving the needs of adults (i.e., 22 years and older) with Intellectual and Developmental Disabilities (I/DD). Programs run from 8:30 a.m. to 3:00 p.m., Monday through Friday. Clients who participate in these day-programs are diverse in their areas of strengths and difficulties and as such engage in a variety of leisure, social, recreational, vocational, and skill-building activities. Staff at the programs are required to have a high school diploma or GED and participate in one didactic training covering an overview of I/DD, prevention of abuse, neglect, and exploitation, and medication administration. Day-program staff are almost entirely women, who identify as Black (e.g., African American, Caribbean), who range in age from approximately 20-years-old to 60-years-old, and who have worked for the agency from a period of about 6 months to 30 years. Additionally, the staff earn approximately $20,000 per year and many report working multiple jobs.

The principle investigator presented this study to day-program staff during their weekly staff meeting. The first three staff who worked with dually diagnosed clients to indicate interest and provide informed consent participated in the study. The participating staff were demographically representative of the larger staff population (e.g., women of color with high school degrees). Staffs' corresponding clients did not participate in this intervention in any way. These clients were classified within the severe to profound range of I/DD and carried diagnoses of co-occurring, major psychiatric disorders. Although clients did not participate, data which were routinely collected on their identified target behavior (e.g., aggression, self-injury) were confidentially accessed. Graduate students enrolled in doctoral and master's level psychology and counseling programs from several local universities participate in externship and internship

training programs through the agency's health services department. Their training experience is comprised of behavioral observation and data collection techniques. A cohort of graduate students collected behavior data on these clients throughout the week. With agency and departmental consent, the principle investigator accessed and summarized these data.

Three day-program staff were included in the intervention. Staff 1, was responsible for the daily care of Client 1, who exhibited disrobing behavior. Staff 2 was responsible for the daily care of Client 2, who exhibited self-injurious behavior (i.e., hand to head hitting). Staff 3 was responsible for the daily care of Client 3, who regularly engaged in disruptive episodes which included aggression, self-injury, property destruction, and shouting.

Mindfulness training sessions were conducted in a small clinical room in the same administrative building which housed the targeted day-program.

Recording Procedures, Target Behaviors, and Reliability

Although the mindfulness intervention was put in place with staff, the outcome measures were corresponding client behavioral data. Dependent upon the specific client, sampling data were collected on different maladaptive behaviors through momentary time sampling. Data were already routinely collected by training graduate students during several 30-minute sessions throughout the week. Each session was divided into 30-second intervals and if a client was engaging in the target behavior at the 30-second mark, it was indicated with a +. Conversely, if target behavior was not observed at the 30-second mark, it was indicated with a -. Data were collected in this manner every 30 seconds for the entire 30-minute session. Data were summarized as an average percentage of intervals engaged in the target behavior per week and plotted on a graph.

During 30% of observations, inter observer reliability data were also collected, and reliability of momentary time sampling was calculated via inter observer agreement (i.e., concurrent data collection) between two training graduate students independently observing the same clients during the same sampling intervals. Inter observer agreement was calculated by dividing the number of intervals both observers agreed by the total number of intervals and multiplying by 100. Inter observer agreement ranged from 75% to 100%, with a mean of 94% agreement. Treatment adherence fidelity was assessed by a second observer during 50% of training sessions. Detailed outlines of each session's content was provided to a master's level clinician. This clinician sat outside the session room, where she could hear the session occurring and scored a + for each portion of the outline the principle investigator covered with the staff and a – for each portion of the intervention the principle investigator failed to deliver. Treatment fidelity ranged from 86% to 100%, with a mean of 94% adherence.

For Client 1, the targeted behavior was disrobing which was defined as the attempted or successful removal of clothing. Disrobing did not include removal of clothing prior to restroom use or when prompted by staff to do so. For Client 2, the targeted behavior was self-injurious, repetitive motor movements, which were defined as rubbing and/or hitting of his head with his hand. The definition did not include wiping of his mouth or face, or rubbing of his eyes. Client 3's disruptive episodes were defined as crying (with or without tears), self-injury which included face slapping and head hitting, aggression towards staff, repeated non-communicative vocalizations, and screaming or yelling. Singing, manding for items, and tacting of stimuli in the immediate environment were not considered part of a disruptive episode.

Procedures and Analyses

A multiple-baseline across subjects (staff) design was used (Cooper, Heron, & Heward, 2007). Baseline was followed by mindfulness training. The single-case design of multiple baseline data were visually analyzed. Visual analysis allows for ongoing analysis to occur as a real-time record of behavior change is represented on the graphs. That is, as data were collected weekly, they were also plotted on a graph and analyzed weekly. This immediate and continuous analysis is preferable to a statistical analysis which might compare only resulting summaries of data at the conclusion of the intervention. This "enables the investigator to inspect and respond to the data continuously" and "best reveal[s] functional relations and minimize[s] the effects of confounding variables" (Cooper et al., 2007, p. 165). The trends, levels, variability, and immediacy of data change were analyzed between the baseline and treatment phases as well as within each phase. Once the intervention was in place with the corresponding staff, efficacy was demonstrated through each client's behavior data trend decreasing to a lower overall level. The staggered start of treatment, following a stable baseline and observing change in outcome measures when and only when the intervention was implemented, functioned as replication. Again, this visual analysis allows for conclusions to be drawn which hold greater social significance than statistical analyses. Visual inspection "imposes no arbitrary levels of significance for evaluating behavior change" (Cooper et al., 2007, p. 156) and instead allows for the social significance of each changing data point for each participant to stand on its own. Moreover, in this way, visual analysis is more easily accessible to the lay-person. In this case a graph of behavior change is a far more effective means of communication and soliciting support and buy-in from stakeholders who included day-program staff, management, administration, clients, client families, etc. (Cooper et al., 2007).

Baseline. Baseline was run in the absence of any programmed intervention across the three staff. The staff were not given any instructions on client management techniques and they were asked to simply continue with whatever management techniques they were using prior to the initiation of the study. Baseline was in effect for three weeks for Staff 1, six weeks for Staff 2, and eight weeks for Staff 3. During baseline, behavior data was collected for Client 1, Client 2, and Client 3 on identified target behavior through data sampling and summarized as an average percentage of intervals engaged in the target behavior per week.

Intervention. Immediately following a stable baseline trend, the training phase began, in a staggered fashion across the staff. The training phase consisted of weekly, 30-minute sessions, for eight weeks and included discussion and instruction related to focused attention, being in the present moment, and nonjudgmental acceptance, for example. The principle investigator conducted a review of mindfulness interventions that were in place in the previously discussed literature and chose to use *Mindfulness: An Eight-Week Plan for Finding Peace in a Frantic World* (Williams & Penman, 2011) as the curriculum for this intervention. The book is a concrete series of weekly instructions which is accessible to the lay person but not overly simplified. It was chosen for this reason and because the instructional and experiential concepts were to be taught over a short span of time (i.e., 8 weeks). Further, Kabat-Zinn, the previously mentioned developer of meditations which served as the basis for many other cited interventions (e.g., Singh et al., 2010), collaborated closely and at length with authors Williams and Penman to create this curriculum. Kabat-Zinn (as cited in Williams & Penman, 2011) wrote that "the program provides a coherent structure, an architecture if you will, within which you can observe your own mind and body and like unfolding, and a systematic and trustworthy approach for working with whatever arises. The architecture is strongly evidence based … and fashioned into a coherent, compelling, and

commonsensicle eight-week program …" (pp. x-xi). See Table 1 for a summary of the program and Table 2 for an example of a meditation from the Williams and Penman (2011) curriculum. Tables 3 through 19 are outlines and homework handouts for each session. These were created specifically for this research but their content is taken directly from Williams's and Penman's (2011) curriculum.

Participating staff were again given no instructions on client management techniques and encouraged to continue with whatever strategies they were using prior to the initiation of the study. Further, staff were not made aware that behavioral data from their assigned clients was accessed and used as an outcome measure related to their mindfulness-based intervention. In this way, client behavior should not have been tied to staffs' deliberate attempts to alter their interactions in a way that had not been identified by the researcher prior to intervention.

During intervention, the same behavior data were collected for Client 1, Client 2, and Client 3 on identified target behavior through data sampling and summarized as an average percentage of intervals engaged in the target behavior per week. Additionally, a portion of the intervention sessions were observed by a second clinician so that implementation fidelity could be assessed.

Chapter IV: Results and Discussion

Results

Weekly data for percentage of intervals engaged in identified target behaviors by clients during the baseline and mindfulness intervention phases of their paired staff are presented in Figure 1. During baseline, Client 1 engaged in disrobing an average of 22% of sampled intervals per week, Client 2 engaged in self-injurious, repetitive motor movements an average of 35% of sampled intervals per week, and Client 3 engaged in disruptive episodes an average of 24% of sampled intervals per week. During staff mindfulness intervention weeks, average percentage of sampled intervals engaged in the identified target behaviors for Client 1, Client 2, and Client 3 were 5%, 10%, and 15%, respectively. Figure 1 also depicts the overall downward trend of engagement in identified target behaviors for all three clients. Additionally, for both Client 1 and Client 2, percentage of intervals engaged in identified target behaviors dropped to 0% of sampled intervals during the mindfulness intervention phase.

It should be noted that after participating in five, weekly mindfulness sessions, Staff 1 was out of work for a two-week period due to illness. As such, she completed 8 mindfulness sessions over the course of 10 weeks, rather than 8. Client 2 was also absent for a one-week period which coincided with staff member Staff 2's first week of mindfulness training. As such, Figure 1 depicts only seven weeks of behavior data for Client 2 during the intervention phase.

Discussion

This study was an investigation of how mindfulness training and practice by day-program staff of adult clients dually diagnosed with I/DD and psychiatric disorders affects the clients' behavior. The research aimed to provide additional supports for direct-care staff who work with very challenging client behaviors (Harper et al., 2013; Singh et al., 2007b) and who the literature

indicate suffer significant amounts of work-related stress (Creswell et al., 2014; Whitebird et al., 2012). As a replication of Singh's and colleagues' previous work (2006a; 2006b; 2007a; 2007b; 2009; 2010; 2011; 2013), it was hypothesized that as staff received mindfulness training, rates of challenging behavior would decrease among their assigned clients. Three direct-care day-program staff participated in eight, individual, weekly, 30-minute mindfulness psychoeducation and training sessions and were given no instruction regarding interaction with or behavior management of their clients. Interventions were delivered in a multiple baseline design across the staff, that is, in a staggered fashion following a stable baseline trend of clients' identified target behaviors.

Results of the visual analysis of changes in client behavior suggest that mindful staff lead to improvements in client behavior. For all three clients, rates of identified target behaviors dropped as their corresponding staff participated in mindfulness training and practice. For two dyads, Client 1/Staff 1 and Client 2/Staff 2, their behavior rates dropped to 0% of sampled intervals. For the third dyad, Client 3/Staff 3, rates also dropped, although they remained somewhat more variable, similar to the trend seen while her staff, Staff 3, was in the baseline phase. These results are in line with previous work (Singh et al., 2006a; 2006b; 2007a; 2007b; 2013) which demonstrated similar patterns of "positive changes in the behavior and well-being" of clients which were attributed to "transformational change in caregivers" (Singh et al., 2006b, p. 170). The current study did in fact seek to replicate these findings but also to expand previous work by delivering a more manageable intervention with a novel population.

Limitations. One limitation of the current intervention was perhaps born of the intention to make the intervention more manageably delivered by limiting session length to 30 minutes and limiting the number of sessions to eight. Day-program staff at this agency had limited flexibility with their schedule, with no built-in downtime other than their lunch breaks. In order to pull staff

for mindfulness training sessions, a substitute clinician had to be made available to work with the participating staffs' clients for that period. For this reason, the intervention sessions were necessarily delivered individually. That is, it would not have been possible to gather a group of staff to participate in sessions together or to run sessions for longer periods of time. Doing so might have led to a more efficient means of creating more widespread change and better protected external validity by way of sustainability.

The small sample size necessarily threatened external validity to some extent. That is, only three staff, who worked at the same day-program, participated in the intervention. They similarly shared demographic variables (i.e., women of color with high school education) which may also contribute to difficulty in making generalizations across other programs or staff with other demographic profiles. Although the visual analysis of single-case design demonstrated socially and clinically significant change for the staff-client dyads, being able to implement the intervention across a larger sample would also lend itself to statistical analysis and perhaps a more nuanced understanding how the intervention might interact with more diverse staff.

An additional limitation of this study relates to both internal and external validity and the availability of resources. The collected behavior data were gathered via sampling procedures and those samples were collapsed by the week. Although those collecting the data were graduate students trained in data collection particular to these clients and reliability was assessed to be quite high (i.e., average 94% agreement), it is possible that the sample procedures did not adequately capture behavior changes throughout the week and that some more nuanced changes may have been washed out in the computation of weekly averages. With more available resources, it would be possible to expand dependent variables to more direct client measures such as psychotropic PRN medication administration, enuresis/encropesis, absences, injuries, and physical restraints as

well as larger programmatic staff variables including staff turn-over, absences, injuries, work satisfaction ratings, staff retention, and performance reviews, thus increasing the external validity. Similarly, more available resources could allow for a greater quantity of data collection, which would not necessarily be collapsed, and thus increase the internal validity of the data.

In a similar vein, staff were aware that behavioral data were being collected on their clients during the sampling periods. Although both staff and training graduate students were blind to the use of the data for this study, there still exists the possibility for reactivity. That is, the staff may have interacted differently with clients during the times when behavioral data were sampled. This however is only a limitation in the sense that the samples may not be representative of clients' behavior throughout the week. It does not confound any explanation for the larger data trends (i.e., decreases in target behaviors). The current study demonstrated greater internal validity than previous work in that these staff were blind to the purpose of the study and those collecting data were blind to the study in general whereas in previous work by Singh and colleagues caregivers were explicitly instructed to practice mindfulness throughout their day, specifically when interacting with clients.

Recommendations for future research. Future research might focus on mitigating some of the aforementioned limitations. The current study was a replication of previous work that might have had greater resources than are typically available in today's applied settings. As such, changes were intentionally created so that the intervention could be implemented without taxing the agency's system. In this way, no measures of staff acceptance or understanding of the intervention or measures of staff behavior change during intervention were completed. That is, future research might include a component analysis to better understand what portion of the intervention led to behavior change in clients. It is possible that staff merely being removed from

their work environment for 30 minutes each week had an impact on their work with clients or perhaps that their own needs were being recognized and interest was shown in their well-being altered the way they worked with clients. Similarly, there was no analysis done on staff interactions with clients. Future work which may be more theoretically (rather than clinically) oriented might observe and code those interactions for some measure of mindfulness.

Implications for psychologists. Despite several limitations, the results of this work are promising given the real-life restrictions of available resources at non-for-profit human service agencies. Although at first glance implementing such an intervention might appear to tax those limited resources, the data reveal a more efficient path to positive client outcomes than the typically labor-intensive prospect of training, development, and implementation of rigorous behavioral interventions. The outcomes further speak to the importance of system care and interest in staff's well-being. Client challenging behavior may be addressed through behavior management, psychotropic intervention, systems and environmental changes or care for the caregivers. Practicing psychologists as well as managers and administrators and direct-care staff must understand, acknowledge, and prioritize these "bidirectional transactions" between clients and caregivers. As previously noted, I/DD and psychiatric disorders are disabling to individuals when their needs are not supported through their larger systemic environment. Clinicians should therefore work to create changes in those environments to better support individuals with dual diagnoses and their unique and significant needs. Intervention focused on caregivers, those with whom clients spend the most time, is paramount to creating support in the environmental structure and has demonstrated improvements in quality of life for clients and for those who love and support them.

References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (5th ed.).* Arlington, VA: American Psychiatric Publishing.

Bertelli, M. O., Salvador-Carulla, L., Scuticchio, D., Varrucciu, N., Martinez-Leal, R., Cooper, S., … Walsh, C. (2014). Moving beyond intelligence in the revision of ICD-10: specific cognitive functions in intellectual developmental disorders [Letter to the editor]. *World Psychiatry, 13,* 93-94.

Bethay, J. S., Wilson, K. G., Schnetzer, L. W., Nassar, S. L., & Bordieri, M. J. (2013). A controlled pilot evaluation of acceptance and commitment training for intellectual disability staff. *Mindfulness, 4*(2), 113-121.

Bhaumik, S., Tyrer, F. C., McGrother, C., & Ganghadaran, S. K. (2008). Psychiatric service use and psychiatric disorders in adults with intellectual disability. *Journal of Intellectual Disability Research, 52,* 986-995.

Buntinx, W. H. E. & Schalock, R. L. (2010). Models of disability, quality of life, and individualized supports: implications for professional practice in intellectual disability. *Journal of Policy and Practice in Intellectual Disabilities, 7,* 283-294.

Cooper, J. O., Heron, T. E., & Heward, W.L. (2007). *Applied Behavior Analysis.* Upper Saddle River, N.J.: Pearson/Merrill Prentice Hall.

Creswell, D. J., Pacilio, L. E., Lindsay, E. K., & Brown, K. W. (2014). Brief mindfulness meditation training alters psychological and neuroendocrine responses to social evaluative stress. *Psychoneuroendocrineology, 44,* 1-12.

Dane, E. & Brummel, B. J. (2014). Examining workplace mindfulness and its relations to job performance and turnover intention. *Human Relations, 67,* 105-128.

Davis, D. M. & Hayes, J. A. (2011). What are the benefits of mindfulness? A practice review of psychotherapy-related research. *Psychotherapy, 48,* 198-208.

Dekker, M. C. & Koot, H. M. (2003). DSM-IV disorders in children with borderline to moderate intellectual disability: prevalence and impact. *Journal of the American Academy of Child and Adolescent Psychiatry, 42,* 915-922.

de Ruiter, K. P., Dekker, M. C., Verhulst, F. C., & Koot, H. M. (2007). Developmental course of psychopathology in youths with and without intellectual disabilities. *Journal of Child Psychology and Psychiatry, 48,* 498-507.

Eisenhower, A. S., Baker, B. L., & Blacher, J. (2005). Preschool children with intellectual disability: syndrome specificity, behaviour problems, and maternal well-being. *Journal of Intellectual Disability Research, 49,* 657-671.

Emerson, E. (2003). Prevalence of psychiatric disorders in children and adolescents with and without intellectual disability. *Journal of Intellectual Disability Research, 47,* 51-58.

Fletcher, R. E., Barnhill, J. & Cooper, S. (Eds.). (2018). *Diagnostic manual-intellectual disability: A textbook of diagnoses of mental disorders in persons with intellectual disabilities.* National Association for the Dually Diagnosed.

Grabovac, A. D., Lau, M. A., & Willett, B. R. (2011). Mechanisms of mindfulness: A Buddhist psychological model. *Mindfulness, 2,* 154-166.

Harper, S. K., Webb, T. L., & Rayner, K. (2013). The effectiveness of mindfulness-based interventions for supporting people with intellectual disabilities: A narrative review. *Behavior Modification, 37,* 431-453.

Hurley, A. D., Folstein, M. F., & Lam, N. (2003). Patients with and without intellectual disability seeking outpatient psychiatric services: Diagnoses and prescribing patterns.

Journal of Intellectual Disability Research, 47, 39-50.

Khoury, B., Sharma, M., Rush, S. E., & Fournier, C. (2015). A mindfulness-based stress reduction for healthy individuals: A metaanalysis. *Journal of Psychosomatic Research, 78*, 519-528.

Maulik, P. K., Mascarenhas, M. N., Mathers, C. D., Dua, T., & Saxena, S. (2011). Prevalence of intellectual disability: a meta-analysis of population-based studies. *Research in Developmental Disabilities, 32,* 419-436.

Minor, H. G., Carlson, L. E., Mackenzie, M. J., Zernicke, K., & Jones, L. (2006). Evaluation of a mindfulness-based stress reduction (MBSR) program for caregivers of children with chronic conditions. *Social Work in Health Care, 43,* 91-109.

Razza, N. J., Schwartz Dayan, L., Tomasulo, D. J. & Ballan, M. S. (2014). Intellectual disability and mental health: Is psychology prepared?. *Advances in Mental Health and Intellectual Disabilities, 8,* 381-389.

Razza, N. J. & Tomasulo, D. J. (2005). *Healing trauma: The power of group treatment for people with intellectual disabilities.* Washington, DC: American Psychological Association.

Salvador-Carulla, L., Reed, G. M., Vaez-Azizi, L. M., Cooper, S., Martinez-Leal, R., Bertelli, M., … Saxena, S. (2011). Intellectual developmental disorders: towards a new name, definition and framework for "mental retardation/intellectual disability" in ICD-11 [Special article]. *World Psychiatry, 10,* 175-180.

Schalock, R. L., Borthwick-Duffy, S. A., Bradley, V. J., Buntix, W. H., Coulter, D. L., Craig, E.

M., … & Shogren, K. A. (2010). *Intellectual disability: Definition, classification, and systems of supports.* Washington, DC: American Association on Intellectual and Developmental Disabilities.

Singh, N. N., Wahler, R. G., Adkins, A. D., Myers, R. E., & Mindfulness Research Group. (2003). Soles of the feet: A mindfulness-based self-control intervention for aggression by an individual with mild mental retardation and mental illness. *Research in Developmental Disabilities, 24*(3), 158-169.

Singh, N. N., Lancioni, G. E., Winton, A. S. W., Curtis, W. J., Wahler, R. G., Sabaawi, M., … McAleavey, M. (2006a). Mindful staff increase learning and reduce aggression in adults with developmental disabilities. Research in Developmental Disabilities, 27, 545-558.

Singh, N. N., Lancioni, G. E., Winton, A. S. W., Fisher, B. C., Wahler, R. G., McAleavey, K., … Sabaawi, M. (2006b). Mindful parenting decreases aggression, noncompliance, and self-injury in children with autism. *Journal of Emotional and Behavioral Disorders, 14*, 169-177.

Singh, N. N., Lancioni, G. E., Winton, A. S., Adkins, A. D., Wahler, R. G., Sabaawi, M., & Singh, J. (2007a). Individuals with mental illness can control their aggressive behavior through mindfulness training. *Behavior Modification, 31*(3), 313-328.

Singh, N. N., Lancioni, G. E., Joy, S. D. S., Winton, A. S., Sabaawi, M., Wahler, R. G., & Singh, J. (2007b). Adolescents with conduct disorder can be mindful of their aggressive behavior. *Journal of Emotional and Behavioral Disorders, 15*(1), 56-63.

Singh, N. N., Lancioni, G. E., Winton, A. S., Singh, A. N., Adkins, A. D., & Singh, J. (2009).

Mindful staff can reduce the use of physical restraints when providing care to individuals with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities, 22*(2), 194-202.

Singh, N. N., Lancioni, G. E., Winton, A. S. W., Singh, J., Singh, A. N., Adkins, A. D., & Wahler, R. G. (2010). Training in mindful caregiving transfers to parent-child interactions. *Journal of Child and Family Studies, 19,* 167-174.

Singh, N. N., Lancioni, G. E., Winton, A. S. W., Karazsia, B. T., Singh, J. (2013). Mindfulness training for teachers changes the behavior of their preschool students. *Research in Human Development, 10,* 211-233.

Sternberg, R. J., Grigorenko, E. L., & Bundy, D. A. (2001). The predictive value of IQ. *Merrill-Palmer Quarterly, 47* (1), 1-41.

Whitebird, R. R., Kreitzer, M., Crain, A. L., Lewis, B. A., Hanson, L. R., & Enstad, C. J. (2012). Mindfulness-based stress reduction for family caregivers: A randomized controlled trial. *The Gerontologist, 53,* 676-686.

Williams, M. & Penman, D. (2011). *Mindfulness: An eight-week plan for finding peace in a frantic world.* New York: Rodale.

Wolf, C., & Serpa, J. G. (2015). *A clinician's guide to teaching mindfulness: The comprehensive session-by-session program for mental health professionals and health care providers*. Oakland, CA: New Harbinger Publication, Inc.

Table 1

A week-by-week summary of the program (Williams & Penman, 2011, pp. 58-60)

Week	Topic
1	Autopilot at work
	Body and Breath meditation that stabilizes the mind
	Meditation to reconnect with senses through mindful eating
	Essential foundations for all other meditations are built
2	*Body Scan* meditation to help explore the difference between *thinking* and *experiencing*
	Focus attention directly on bodily sensations without judging or analyzing
	"Thinking mind" versus "Sensing mind"
3	Mindful Movement, yoga-based practices to demonstrate mental and physical limits
	Mind and body reintegration
4	*Sounds and Thoughts* meditation to let thoughts and feelings come and go
	Enhance clarity of awareness and encourage perspective-taking
5	*Exploring Difficulty* meditation
	Face problems with spirit of openness, curiosity, and compassion
6	*Befriending Meditation*
	Acts of generosity to cultivate loving-kindness and compassion
	Cultivate friendship towards oneself, including "failures" and "inadequacies"
7	Explore connection between daily routines, activities, behavior, and moods
	Making skillful choices to increase creativity, resilience, and spontaneous enjoyment
8	Generalize mindfulness into daily life

Table 2

Example of a meditation exercise (Williams & Penman, 2011, pp. 132-133)

Three-Minute Breathing Space meditation
Step 1: Becoming aware
Deliberately adopt and erect and dignified posture, whether sitting or standing. If possible, close your eyes. Then bring your awareness to your inner experience and acknowledge it, asking: what is my experience right now?
What *thoughts* are going through the mind? As best you can, acknowledge thoughts as mental events.
What *feelings* are here? Turn toward any sense of discomfort or unpleasant feelings, acknowledging them without trying to make them different from how you find them.
What *body sensations* are here right now? Perhaps quickly scan the body to pick up any sensations of tightness or bracing, acknowledging the sensations, but, once again, not trying to change them in any way.
Step 2: Gathering and focusing attention
Now, redirecting the attention to a narrow "spotlight" on the physical sensations of the breath, move in close to the physical sensations of the breath in the abdomen … expanding as the breath comes in … and falling back as the breath goes out. Follow the breath all the way in and all the way out. Use each breath as an opportunity to anchor yourself into the present. And if the mind wanders, gently escort the attention back to the breath.
Step 3: Expanding Attention
Now, expand the field of awareness around the breathing so that it includes a sense of the body as a whole, your posture and facial expression, as if the whole body was breathing. If you become aware of any sensations of discomfort or tension, feel free to bring your focus of attention right into the intensity by imagining that the breath could move into and around the sensations, befriending them, rather than trying to change them in any way. If they stop pulling for your attention, return to sitting, aware of the whole body, moment by moment.

Table 3

Session 1 Outline (Williams & Penman, 2011)

Waking Up to the Autopilot

1. Psychoeducation – Autopilot
    a. Why
    b. Cons
    c. Pros
    d. Mindfulness
2. Meditation – Food
    a. Holding
    b. Seeing
    c. Touching
    d. Smelling
    e. Placing
    f. Chewing
    g. Swallowing
    h. Aftereffects
3. Food Meditation Debrief
    a. HW – Choose a new activity for the week
4. Psychoeducation – Breath and Body
    a. Why
        i. Necessary for life
        ii. Automatic
        iii. Gentle target
        iv. Sensitive monitor
        v. Anchor for attention
5. Meditation – Body & Breath
    a. Comfortable Position
    b. No tension
    c. Close eyes or lower gaze
    d. Bring awareness to physical body, grounding
    e. “Spotlight” through body, notice sensations
    f. “Spotlight” to center of body, breaths
    g. Notice mind wandering, bring back to breath
    h. HW – twice per day
6. Psychoeducation – Habits
    a. Why
7. Recap / Homework
    a. Meditation – Food
    b. Meditation – Routine Activity
    c. Meditation – Body & Breath
    d. Habit Releaser

Table 4

Session 1 Homework Handout (Williams & Penman, 2011)

Autopilot
Mindfulness – Routine Activity
Pick one activity for the week
Do what you normally do but see what you notice about your sensations and what you are thinking about
Meditation – Body & Breath (2x a day)
Comfortable position, release tension
Close your eyes or lower your gaze
Gather attention and focus it on each part of your body, starting with your feet
Notice sensations and thoughts
Allow whole body to be as it is – don't change anything!
When your mind wanders notice where it goes then bring it back to your breath
Habit Releaser
Notice where you usually sit
Choose another chair and see what you notice!

Table 5

Session 2 Outline (Williams & Penman, 2011)

Keeping the Body in Mind

1. Review
2. Psychoeducation – Mind-Body connection
    a. Feedback loop
    b. Ignoring the body
    c. Change it! Instead of amplifying, use as a radar
3. Meditation – The Body Scan
    a. Comfortable position
    b. Close eyes or lower gaze
    c. [handout] or track 2 http://bit.ly/rodalemindfulness
    d. HW – two 15 min sessions per day
4. Psychoeducation – Expectations and Reality
    a. Doesn't have to be enjoyable
    b. Why is so hard to train?
        i. New muscle
        ii. Some days it's difficult
    c. Failure/Success labels
        i. Notice tension = not working? No!
    d. Befriend the body
5. Psychoeducation – Doing Mode
    a. Doing mode
        i. Judging everything
        ii. Comparing way things are with way you want
        iii. Autopilot
        iv. Lost in thoughts
        v. Living in past or future
        vi. Avoiding what you don't like
    b. Will be present during Body Scan
        i. Recognize and turn toward rather than away
        ii. Doing -> Being
6. Habit Releaser – Going for a Walk
    a. Focus on body
    b. Sights, sounds, smells
    c. Open all senses
    d. Look up!
7. Recap / Homework
    a. Meditation – Body Scan
    b. Meditation – Routine Activity
    c. Habit Releaser
    d. Gratitude

Table 6

Session 2 Homework Handout (Williams & Penman, 2011)

Body & Mind
Mindfulness – Routine Activity
Pick one *new* activity for the week
Do what you normally do but see what you notice about your sensations and what you are thinking about
Meditation – Body & Breath (2x a day)
Comfortable position, release tension
Close your eyes or lower your gaze
Track 2 http://bit.ly/rodalemindfulness
Habit Releaser (1x this week)
Go for a walk
Open all your senses
Gratitude Exercise (1x a day)
10 things!

Table 7

Session 3 Outline (Williams & Penman, 2011)

The Mouse in the Maze

1. Review
2. Psychoeducation – Approach v Avoidance
    a. Approach
        i. More creative
        ii. More open
    b. Avoidance
        i. Fear
        ii. Trapped, rigid
    c. Doing Mode
3. Psychoeducation – Mindfulness
    a. Benefits
        i. Better sleep
        ii. More energy
        iii. Slower to anger
    b. Still feel/experience negativity
        i. Can experience as empathy, compassion
        ii. Not all consuming
    c. Weaving into Everyday Life
4. Meditation – Mindful Movement
    a. Four stretching exercises to realign body
    b. [attached] or Track 3 http://bit.ly/rodalemindfulness
    c. Listen to your body!
    d. HW – 6 out of 7 days
5. Meditation – Breath and Body
    a. [attached] or Track 4 http://bit.ly/rodalemindfulness
    b. Practice immediately after Mindful Movement Meditation
    a. HW – 6 out of 7 days
6. Psychoeducation – Patience with a Wandering Mind
    a. Normal for mind to wander when sitting still
    b. Aim of meditation is not to control the mind
    c. Mindfulness as microscope that reveals patterns in mind
    d. Act of observing thoughts soothes them
7. Meditation – Three Minute Breathing Space
    a. Most difficult to remember mindful awareness when you need it most
    b. Mini meditation to bridge gap between longer, formal meditations
    c. [attached] or Track 8 http://bit.ly/rodalemindfulness
    d. Hourglass shape
        i. Open attention and gently acknowledge what is entering and leaving awareness
        ii. Focus attention on the breath in lower abdomen
        iii. Open awareness
8. Habit Releaser – Valuing the Television
    a. Plan one designated show, research your choice
    b. Turn off TV when not in preplanned time
    c. Record thoughts, feelings, sensations, and impulses

Table 8

Session 3 Homework Handout (Williams & Penman, 2011)

The Mouse in the Maze
Meditation – Mindful Movement (6x this week) Listen to your body! track 3 http://bit.ly/rodalemindfulness Meditation – Breath and Body (6x this week) Right after Mindful Movement Meditation track 4 http://bit.ly/rodalemindfulness Meditation – 3 Minute Breathing Space Use when you need some support between longer meditations track 8 http://bit.ly/rodalemindfulness Habit Releaser (1x this week) Preplan, research TV Consciously turn off

Table 9

Session 4 Outline (Williams & Penman, 2011)

Moving Beyond the Rumor Mill

1. Review
2. Psychoeducation – Thoughts as Rumors
    a. We can't really see world as it is, see it as we are
    b. We make inferences, interpretations constantly
    c. How we interpret -> how we react
    d. Can view interpretations as rumors -> don't try to dismiss thoughts/feelings, just step outside the cycle and notice them
    e. We don't have to accept them as truth (I must be strong, I can't relax, There's something wrong with me)
3. Meditation – Sounds and Thoughts
    a. Similarities between sounds and thoughts
    b. Receiving
    c. Noticing
    d. [attached] or track 5 http://bit.ly/rodalemindfulness
    e. HW – twice per day
4. Psychoeducation – Observing Thoughts and Feelings
    a. Specific thoughts about other parts of life are easier to recognize than thoughts about the process of meditation (while meditating)
        a. These judgements are thoughts too!
    b. Lots of repetition, that's how mindfulness gains power
        a. Allows us to tune into subtle differences in each moment
5. Meditation/Psychoeducation – Three Minute Breathing Space
    a. Go into a "breathing space" whenever you need to
    b. Hourglass shape
    c. Begin to use when highly emotionally activated, learn about your mind
        1. Not meant as an "escape" from unpleasantness
        2. Use to regain awareness
        3. Don't just return to what you were doing before, make a decision to:
            a. "Carry On" (one of four choices, in coming weeks)
                i. Re-enter situation with mindful awareness
6. Habit Releaser – A Visit to the Movies
    a. Pick the time, but not the movie, choose movie when you arrive
    b. Notice thoughts before hand
    c. Once you're in the movie, let go
7. Recap / HOMEWORK
    a. Meditation – Sounds and Thoughts
    b. Mindfulness – Three Minute Breathing Space (continue, modify)
    c. Habit Releaser – Movies

Table 10

Session 4 Homework Handout (Williams & Penman, 2011)

Rumors
Meditation – (twice per day) Breath and Body; track 4 http://bit.ly/rodalemindfulness Sounds and Thoughts; track 5 http://bit.ly/rodalemindfulness Meditation – 3 Minute Breathing Space Modify to shorter or longer as you wish Try to enter a "breathing space" during difficult times, then "Carry On" mindfully track 8 http://bit.ly/rodalemindfulness Habit Releaser – Go to the Movies! Don't pick a movie, just pick the time! Notice thoughts you have before. Once you're there, let go!

Table 11

Session 5 Outline (Williams & Penman, 2011)

Turning Towards Difficulties

1. Review
2. Psychoeducation – Pushing Away Feelings v Acceptance
    a. Pushing Away, why?
        a. Seemed to work in the past
        b. Denial, don't want to be vulnerable
        c. Lose friends, become lonely
    b. Acceptance, why?
        a. No longer able to push away
        b. NOT giving up, NOT detachment
        c. Embracing a true, deep, understanding of reality
        d. Become aware of difficulties and then respond most skillfully
        e. "Guest House"

This being human is a guest house. Every morning a new arrival. A joy, a depression, a meanness, some momentary awareness comes as an unexpected visitor. Welcome and entertain them all! Even if they are a crowd of sorrows, who violently sweep your house empty of its furniture, still, treat each guest honorably. He may be clearing you out for some new delight. The dark thought, the shame, the malice, meet them at the door laughing and invite them in. Be grateful for whoever comes, because each has been sent as a guide from beyond.

3. Psychoeducation – Acceptance
    a. Notice temptation to drive away unpleasant thoughts, feelings, sensations
    b. Then, "meet them at the door"
    c. Effective because
        a. Stops downward spiral
        b. Become aware of accuracy of thoughts
4. Meditation – Exploring Difficulties
    a. Begin with Breath and Body and then Sounds and Thoughts Meditations
    b. Think of difficult scenario (that is not overwhelming)
    c. Compassionate awareness
    d. Instead of trying to solve problem, return to breath, bodily sensations
        a. Focus on strongest sensations
        b. Take gentle and friendly awareness, breathe into sensation
        c. If it becomes too strong, you can back off. Be compassionate but curious.
        d. Maybe "nothing" will happen
    e. [attached] or track 6 http://bit.ly/rodalemindfulness
    f. HW – whole sequence, once per day
5. Meditation/Psychoeducation – Three Minute Breathing Space
        a. Review
        b. You then have a choice to
            a. "Carry On" (one of four choices, in coming weeks)
                i. Re-enter situation with mindful awareness
            b. "Drop In" (second choice)
                i. Explore any physical sensations
                ii. Hourglass
                    1. Awareness
                    2. Redirecting Attention
                    3. Expanding Attention (now include discomfort)
6. Habit Releaser – Look After a Plant

7. Recap / HOMEWORK
    a. Meditation – Breath and Body, Sounds and Thoughts, Exploring Difficulties
    b. Mindfulness – Three Minute Breathing Space (continue, modify)
    c. Habit Releaser – Look After a Plant

Table 12

Session 5 Homework Handout (Williams & Penman, 2011)

Turing Towards Difficulties
Meditation – (whole sequence, once per day) 1. Breath and Body track 4 http://bit.ly/rodalemindfulness 2. Sounds and Thoughts track 5 http://bit.ly/rodalemindfulness 3. Exploring Difficulties Use difficult, but not overwhelming, scenario Not trying to "solve" anything track 6 http://bit.ly/rodalemindfulness Meditation – 3 Minute Breathing Space Modify to shorter or longer as you wish Try to enter a "breathing space" during difficult times, then "Carry On" mindfully or "Drop In" on your bodily sensations track 8 http://bit.ly/rodalemindfulness Habit Releaser – Look After My Plant Needs sunlight and water Can research plant, find best way to care for it

Table 13

Session 6 Outline (Williams & Penman, 2011)

Trapped in the Past or Living in the Present

1. Review
2. Psychoeducation/Exercise – Memories
    a. Exercise: think of a specific time you felt: happy, bored, relieved, hopeless, excited...
    b. When we are happy, memories are remembered more fluently, more specifically
    c. When we are depressed, tired, are less so, "overspecific memory"
        a. These memories are more difficult to let go of
        b. More affected by difficulties in present moment
        c. "trapped in the past," permanence of damage
        d. Don't want to think about specifics of difficult memory
    d. Mindfulness helps by providing alternative to "avoidant" mode of mind
3. Psychoeducation/Exercise – Treating Yourself with Kindness
    a. Can only relate to the world with kindness and compassion if you have it for yourself
    b. Do I criticize myself for my emotions? Do I tell myself not to feel a certain way? Do I think my thoughts are bad or weird? Do I tell myself not to think a certain way? Do I judge myself as good or bad dependent upon my thoughts?
4. Meditation – The Befriending Meditation
    a. Can prepare with track 1 or track 4
    b. [attached] or track 7 http://bit.ly/rodalemindfulness
    c. HW – every day
5. Psychoeducation – Kindness
    a. Comes from empathy
        a. Same part of brain activated w empathy and w mindfulness
        b. Have to receive empathy
        c. We don't have to "indulge" or "dismiss" our thoughts and feelings, just be there for them
6. Meditation – Three Minute Breathing Space
    a. Carry on
    b. Drop in
    c. Relate differently to your thoughts
        a. Write them down
        b. Watch them come and go
        c. View thoughts as thoughts, not objective reality
        d. Name your thought patterns
        e. Ask if you are tired, jumping to conclusions, etc
7. Habit Releaser
    a. Reclaim your Life
    b. Do a good deed
8. Recap / HOMEWORK
    a. Meditation – Befriending Meditation
    b. Mindfulness – Three Minute Breathing Space (continue, modify)
    c. Habit Releaser – Reclaim your life or Do a good deed

Table 14

Session 6 Homework Handout (Williams & Penman, 2011)

Trapped in the Past or Living in the Present
Meditation – once per day Befriending Meditation track 7 http://bit.ly/rodalemindfulness Can use track 1 or 4 as warm up Meditation – 3 Minute Breathing Space Modify to shorter or longer as you wish Try to enter a "breathing space" during difficult times, then "Carry On" mindfully, "Drop In" on your bodily sensations, or Relate differently to your thoughts track 8 http://bit.ly/rodalemindfulness Habit Releaser Reclaim your life or Do a good deed

Table 15

Session 7 Outline (Williams & Penman, 2011)

When Did You Stop Dancing?

1. Review
2. Psychoeducation – The Exhaustion Funnel
    a. Exhaustion leads to burnout
        a. Top of funnel = full, balanced life
        b. Narrowing funnel = we give up parts of life to "focus" on what's important
        c. Continues to narrow = the more we are stressed, the more we give up
    b. The first things we give up are those that seem optional, but they are actual what nourishes us -> exhaustion
    c. Further down funnel, focus is on problem solving, become more symptomatic
    d. Eventually take more time to accomplish less
3. Psychoeducation/Exercise – All Work and No Play?
    a. Activities which nourish us build up resilience to stress AND help us become more sensitive to positive things
    b. Create list of daily activities, then ask yourself
        a. Which nourish me? Which energize me? Calm me? Increase my sense of purpose?
        b. Which deplete me? Drain my energy? Make me feel tense?
    c. Look at balance in life
4. Psychoeducation/Exercise – Learning to Dance Again
    a. Step One: Rebalancing your daily life
        a. Some things you cannot change
            1. "I don't want to fall behind," "I don't want to look weak," "I can't put myself first." -> black and white thinking
            2. Increase nourishing activities
            3. Approach depleting activities in a different way (mindfully)
        b. How can you alter the balance?
            1. Focus on small things
            2. Think of 5 ways
            3. Can you remain mindful for both nourishing and depleting activities?
    b. Step Two: Breathing Space plus taking further action
        a. When stressed, create breathing space then take action (use as behavioral experiment)
            1. Might not "feel like" doing it—just do it! May have to do some things before motivation comes. Motivation follows action.
            2. Action: What do I need for myself right now? How can I take care of myself?
                a. Do something pleasurable
                b. Do something that will give you satisfaction or
                c. Continue acting mindfully
5. Mindful Bells
    a. Preparing Food
    b. Eating
    c. Washing Dishes
    d. Driving
    e. Walking
    f. Waiting
    g. Listening
6. Recap / HOMEWORK
    a. Meditation – Pick 2

b. Mindfulness – Three Minute Breathing Space (plus action)
c. Mindful Bells

Table 16

Session 7 Homework Handout (Williams & Penman, 2011)

When Did You Stop Dancing?
Meditation – (you pick 2) 1. 2. 3. Three-Minute Breathing Space http://bit.ly/rodalemindfulness Whenever you are stressed, create a breathing space then *Take Action* – Do something pleasurable, Do something that will satisfy you, or Remain mindful Mindful Bells – Use these as reminders to stop and attend Cooking, eating, washing dishes, driving, waiting, walking, listening

Table 17

Session 8 Outline (Williams & Penman, 2011)

Your Wild and Precious Life

1. Review
    a. Early sessions aimed to opportunities to see the Doing mode and begin cultivating the Being mode
    b. Learn to pay sustained attention to one single thing
    c. Learn to see patterns of the mind which distract and how constant chatter of mind dulls senses
    d. Learn to return to focus, without judgment or self-criticism
    e. Later sessions focused on widening awareness
    f. Learn to disengage from Doing mode and enter Being mode
    g. Learn strategies to respond when overwhelmed
    h. Learn to cultivate kindness
    i. Learn to make space for difficult and uncomfortable emotions, explore with compassion
2. Psychoeducation – Completeness
    a. Have you felt this? We don't usually pause after a task
    b. You are complete as you are
3. Psychoeducation – Finding Peace in a Frantic World
    a. We get in our own way
        a. Stress, anxiety, exhaustion are signals that something is wrong
    b. Live life in present moment—NOW is only moment we have
    c. Mindfulness is not alternative version of therapy, doesn't fix problems but shows their patterns
    d. Negative themes start going away on their own when they are recognized
4. Using Mindfulness to Maintain Your Peace
    a. Start the day with mindfulness
    b. Use Breathing Spaces to punctuate your day
    c. Maintain your Mindful practice
    d. Befriend your feelings
    e. When you feel tired, frustrated, anxious, angry, etc., take a Breathing Space
    f. Mindful activities
    g. Increase exercise
    h. Remember the breath
5. Making the Choice
    a. Mindfulness not meant to be another thing you *should* do
    b. Ask yourself "What is the most important thing in my life that mindfulness could help with?"
    c. Somedays it will serve different purposes
    d. Most people combine formal exercises with mindfulness of the world
        a. Most difficult part is sitting down—just do one minute!

Table 18

Session 8 Handout A (Williams & Penman, 2011)

Review
Start the day with mindfulness. When you open your eyes, gently pause before taking five deliberate breaths. This is your chance to reconnect with your body. If you feel tired, anxious, unhappy, or in any way distressed, see these feelings and thoughts as mental events condensing and dissolving in the space of awareness. If your body aches, recognize these sensations as sensations. See if you can accept all of your thoughts, feelings, and sensations in a gentle and compassionate way. There is no need to try and change them. Accept them – since they are already here. Having stepped out of automatic pilot in this way, you might choose to scan the body for a minute or two, focus on the breath, or do some gentle stretches before getting out of bed. **Use Breathing Spaces to punctuate your day.** Using Breathing Spaces at preset times helps you reestablish your focus in the here and now, so that you can respond with wisdom and compassion to thoughts, feelings, and bodily sensations as you move through the day. **Maintain your Mindfulness practice.** As best you can, continue with your formal meditation practice. They are the practices that support your Breathing Spaces and help you maintain mindfulness throughout as much of your daily life as possible. **Befriend your feelings.** Whatever you feel, as best you can, see if you can bring an open and kindhearted awareness to *all* of your feelings. Remember to roll out your welcome mat to even your most painful thoughts, such as fatigue, fear, frustration, loss, guilt, or sadness. This will diffuse your automatic reactions and transform a cascade of reactions into a series of choices. **Whenever you feel, tired, frustrated, anxious, angry, or any other powerful emotion, take a Breathing Space.** This will "ground" your thoughts, diffuse your negative emotions, and reconnect you with your bodily sensations. You will then be in a better position to make skillful decisions. For example, if you feel tired you may choose to do some stretches to reawaken and reenergize your body. **Mindful activities.** Whatever you do, see if you can remain mindful throughout as much of the day as possible. F or example, when you are washing dishes, try to feel the water, the plates, and the fluctuating sensations in you r hands. Ware outside, look around and observe the sight, sounds, and smells of the world around you. Can you feel the pavement through your shoes? Can you taste or smell the air? Can you feel it moving through your hair and on your skin? **Increase your level of exercise.** Walking, cycling, gardening, going to the gym – anything physical can be used to help weave your parachute. See if you can bring a mindful and curious attitude to your body as you exercise. Notice the thoughts and feelings as they arise. Pay close attention if you feel the need to "grit your teeth" or if you start to feel the first stirrings of aversion or other negative thoughts or sensations. See if you can gently observe the sensations as they unfold. Breathe with, and into, their intensity. Gently increase the length and intensity of your exercise, but always try and remain mindful. **Remember the breath.** The breath is always there for you. It anchors you in the present. It is like a good friend. It reminds you that you are OK just as you are.

Table 19

Session 8 Handout B (Williams & Penman, 2011)

Hokusai Says by Roger Keyes

Hokusai says look carefully.
He says pay attention, notice.
He says keep looking, stay curious
He says there is no end to seeing.

He says look forward to getting old.
He says keep changing,
You just get more who you really are.
He says get stuck, accept it, repeat
Yourself as long as it's interesting.

He says keep doing what you love.

He says keep praying.

He says every one of us is a child,
Every one of us is ancient,
Every one of us has a body.
He says every one of us is frightened.
He says every one of us has to find
A way to live with fear.

He says everything is alive --
Shells, buildings, people, fish,
Mountains, trees. Wood is alive.
Water is alive.

Everything has its own life.

Everything lives inside us.

He says live with the world inside you.

He says it doesn't matter if you draw,
Or write books. It doesn't matter
If you saw wood, or catch fish.
It doesn't matter if you sit at home
And start at the ants on your veranda
Or the shadow of the trees
And grasses in your garden.
It matters that you care.

It matters that you feel.

It matters that you notice.

It matters that life lives
Through you.

Contentment is life living through you.
Joy is life living through you.
Satisfaction and strength
Is life living through you.
Peace is life living through you.

He says don’t be afraid.
Don’t be afraid.

Look, feel, let life take you by the hand.
Let life live through you.

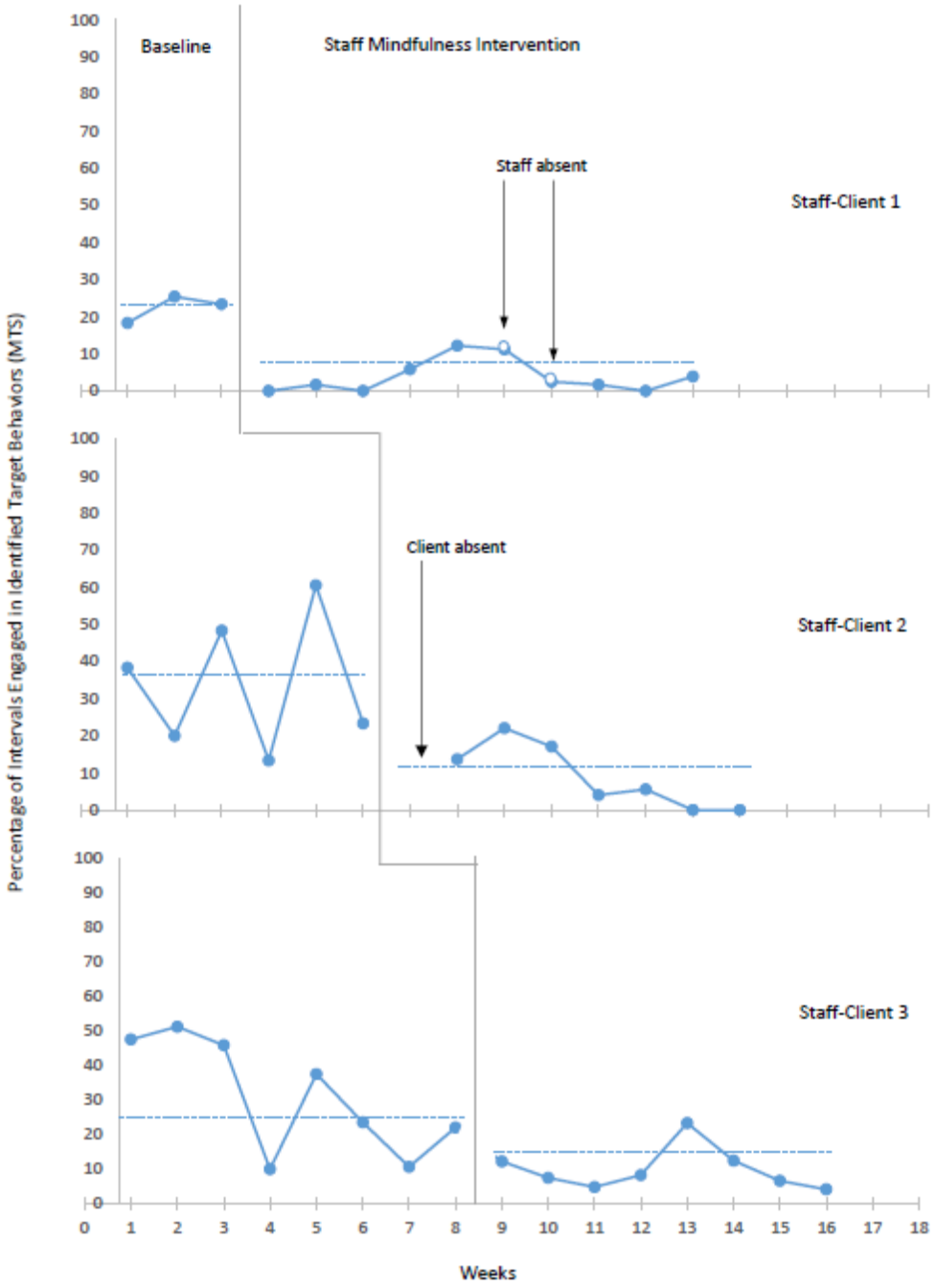

Figure 1. Percentage of 30 s intervals (MTS) clients engaged in identified target behaviors during the baseline and mindfulness intervention phases of their paired staff during sampled times per week.

Figure 1.