

Improving Job Retention for the Network-2-Work Program in Charlottesville, Virginia

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DISCLAIMER

The author conducted this study as part of the program of professional education at the Frank Batten School of Leadership and Public Policy, University of Virginia. This paper is submitted in partial fulfillment of the course requirements for the Master of Public Policy degree. The judgments and conclusions are solely those of the authors, and are not necessarily endorsed by the Batten School, by the University of Virginia, or by any other agency.

PERSONAL NOTE

Please feel free to contact the author at gjs4tu@virginia.edu with questions or comments.

For the past (almost) 5 years, Charlottesville has been a loving home to me—for which I am deeply indebted. This report is far from perfect, but hopefully it plays some small role in making Charlottesville a better place to live and work, for everyone.

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HONOR STATEMENT

On my honor as a student, I have neither given nor received unauthorized aid on this assignment.

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Acronyms & Key Terms

N2W – Network-2-Work

N2W Participant – Anyone who has ever enrolled in the N2W, even if they have found employment.

N2W Job-Seeker – Anyone who has enrolled in the N2W but has not found employment yet.

N2W Partner Employer – An employer who works directly with N2W to hire program participants.

UVA – University of Virginia

PVCC – Piedmont Valley Community College

EF – Executive Function

CBT– Cognitive Behavioral Therapy

CBMT – Cognitive Bias Modification Therapy

MBSR – Mindfulness Based Stress Reduction

EAP – Employee Assistance Program

WFD – Workforce Development

Turnover – The occurrence of one, or many, employees leaving a workplace.

Retention – The continued employment of one or more people at a given workplace.

Executive Summary

More than 5,000 families in Charlottesville and Albemarle County do not make enough money to pay for the essentials of life – including food, shelter, clothing, utilities, and costs associated with childcare and transportation. The Network-2-Work (N2W) combats that problem by connecting low-income adults to living-wage jobs.

Overall, N2W meets general best practices as a community workforce development initiative. However, too many N2W participants fail to retain their new jobs after one year.

N2W predicts this is due to the neurobehavioral and cognitive effects of poverty on low-income job-seekers. These effects make work-related conflict resolution and stress management difficult. Considering both the cognitive effects of poverty and best practices in organizational management, this report presents five options for N2W to improve retention:

1. Let Present Trends Continue
2. Cognitive Bias Modification Therapy (CBMT) for N2W Participants
3. Mindfulness Training for N2W Participants
4. Mentorship Training for N2W Employers
5. Portable Employee Assistance Program (EAP) for the N2W Network of Employers

I evaluate each option with respect to a) dollar cost, b) administrative complexity, c) ease of evaluation, d) proven effectiveness, and e) long-term support. Based on this analysis, I recommend Option 5: Establish a Portable EAP for the N2W Network of Employers.

An EAP is a work-based program that offers free and confidential assessments, short-term counseling, referrals, and follow-up services to employees who have personal and/or work-related problems. Whereas traditional EAPs are arrangements between one provider and one employer, “portable” EAPs provide coverage to network of employers in an area. EAPs are a national best practice for meeting employee needs, improving job satisfaction, and boosting job retention.

The option is a low-cost and flexible solution to employee needs in the long-term. The option will also benefit new and existing participants in N2W. After an initial hurdle of establishing the EAP, there is limited administrative hassle associated with the option. The “Recommendation” section of this report offers guidance for implementing a portable EAP.

I. BACKGROUND AND PROBLEM STATEMENT

Client

The Network-2-Work (N2W)¹ is a workforce development program sponsored by the Charlottesville Chamber of Commerce, also in partnership with Piedmont Valley Community College. The stated mission of N2W is to “reduce unemployment/underemployment and eliminate poverty” (Charlottesville Chamber of Commerce). The initiative is a response to the Orange Dot Report, a 2011 report sponsored by the Chamber of Commerce intended to detail issues of income inequality and family self-sufficiency in Charlottesville and Albemarle County.

Local Context

A 2015 version of the Orange Dot estimates that 5,661 families (18 percent of county families) do not make enough money to pay for the “essentials” of life – including food, shelter, clothing, utilities, and costs associated with childcare and transportation (Schuyler, 2015).² A recent analysis of economic mobility across the U.S. suggests an overwhelming majority of those families will remain poor into the next generation (Chetty et al., 2014). On an overall composite metric for economic mobility, Charlottesville City ranked at 2,700 out of 2,885 jurisdictions studied. The analysis also found that a Charlottesville child born to a family in the lowest national quintile of income has only a 6% chance of reaching the highest quintile. This ranks in the bottom 20% nationally.

The Orange Dot Report acknowledges that economic mobility in Charlottesville is a multifaceted issue requiring several kinds of policy interventions. For example, the report acknowledges that interventions to increase the availability of affordable housing are important for improving family stability and alleviating poverty in Charlottesville. The report also acknowledges that low-income children need education beyond high school to “move up the economic ladder” (Schuyler, 2015).

Ridge Schuyler, author of the Orange Dot Report and director of N2W, identifies adult workforce development as one crucial piece of a “two generation strategy” to poverty alleviation that combines childhood development and stability in the home (Schuyler, 2015). With other local actors focusing on housing, children, and schools, Mr. Schuyler designed N2W to create intentional pathways from struggling families to stable, high-paying jobs with opportunities for upward mobility. N2W provides a peer-network, job training programs, transportation services, one-time emergency funding and more.

How Does N2W Operate?

N2W is built on a peer network that connects participants to services. Schuyler and his team have identified more than 120 members of the Charlottesville-Albemarle community to, in turn, identify low-income individuals who would be capable of succeeding in job trainings that would prepare them for a living-wage job in the area (PVCC.edu). The referring individuals are either “program peers” or “affinity peers” (Schuyler, personal communication, April 2018) The program peers are clergy-people, social workers, guidance counselors, and educators. The affinity peers are well-connected people within the low-income areas of Charlottesville (Schuyler, 2018).

Once a peer has identified a highly capable individual, the peer gives that individual access to the N2W web-tool and the individual becomes an official N2W program participant. The web-tool is a database of job-seekers and available living-wage jobs in the Charlottesville area (Schuyler, 2018). Employers in area post living-wage job opportunity with full descriptions, including necessary skills and training. Whenever an employer has a job opening (or several), they typically contact N2W to

¹ The Network-2-Work changed its name in April 2018. It was previously known as the Charlottesville Works Initiative, or CWI.

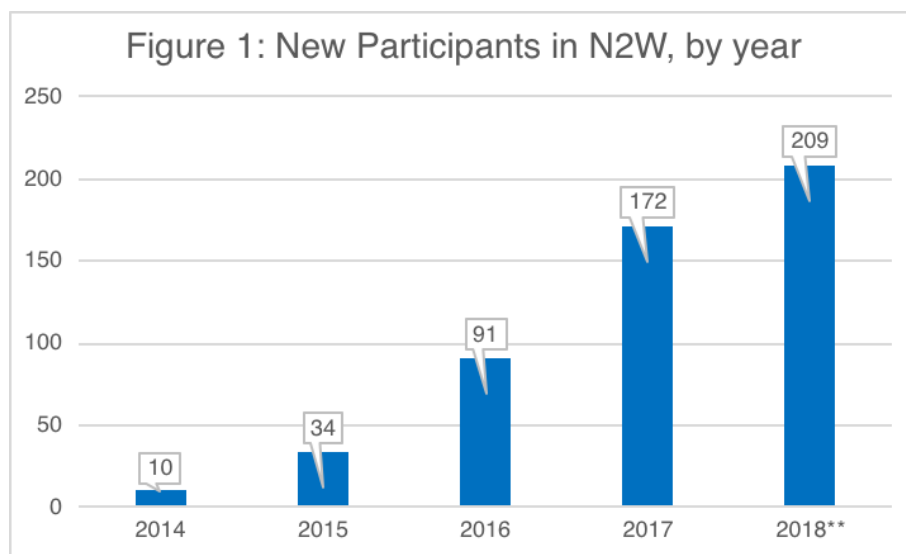
² Appendix A provides a GIS map of families in Charlottesville & Albemarle County who earn less than \$35,000 annually.

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organize a training somewhere in the community for the position(s). N2W and the employer jointly plan the training (Schuyler, 2018). Job-seekers on the platform can browse available opportunities.

On every job-seeker profile, there is a list of service needs that he/she may need to succeed (N2W.org). The list may include transportation, language services, legal services, childcare, medical services, or the need for proper work apparel (N2W.org). Whenever a new participant joins the web-tool, they complete an assessment indicating which services they need.³ After that, their peer and N2W administrators connect the job-seeker with a provider to meet those needs (Schuyler, 2018).

To date, 93% of job-seekers who have completed a training have found jobs (PVCC.edu). 77% of those jobs pay more than \$25,000 annually (PVCC.edu). Notably, 42% of the participants are single moms (PVCC.edu). Moreover, enrollment in N2W is growing rapidly. This is in large part due to the recent rollout of N2W's online web-tool and new grant funding for N2W to expand its staff ((Schuyler, 2018). The figure below shows total new enrollment each year.



Source: Ridge Schuyler, personal communication, April 3, 2018

Note: 2018 data is from year-to-date, as of 4.3.18.

Problem Statement

Even though N2W provides a wide range of job training services and accommodations to low-income residents of Charlottesville and Albemarle County, an estimated 15% of N2W participants who find jobs fail to retain those jobs beyond one year (Schuyler, 2018).⁴ For reference, that is nine percentage points higher than the 6% overall turnover rate for well-performing employers across the U.S. (Society for Human Resource Management, 2016). This retention issue (1) requires employers to spend additional time and resources on new training and hiring and (2) represents a failure by N2W to adequately prepare job-seekers for new roles in the workforce. N2W is seeking a new strategy to boost retention.⁵

³ Needed services are easily identified with small icons. The icons are grey when a participant needs a service and green when the service has been met. N2W participants manage their own profile, but peers and administrators actively monitor the profiles.

⁴ I attempted to conduct a survey to get a more empirical estimate beyond Ridge's best approximation. The survey yielded minimal response, so I suggest N2W conduct a follow-up survey to get a better empirical estimate of this issue.

⁵ At present, N2W has approximately \$70,000 set aside to pursue a new strategy or program. Additionally, N2W's approximate annual budget is currently \$600,000.

II. STATE AND LOCAL TRENDS IN WORKFORCE DEVELOPMENT

To better understand the policy context for N2W and root causes of poor job retention for low-income individuals, this section gives a review of literature on statewide workforce development efforts in VA and emerging best practices for local workforce development programs as a method for fighting poverty. The most important findings from this review are as follows:

- Virginia's workforce development efforts are decentralized and not standardized.
- Nonprofits and localities across the US have shown tremendous interest in studying workforce development as a strategy for poverty alleviation.
- Growing best-practices literature suggests that successful programs combine focus on particular employers or job sectors, inclusion of some type of post-secondary education, and suites of social support services - such as group counselling and childcare.
- Results vary by site and by industry, but overall, programs that follow best practices substantially boost employment outcomes for participants.

Virginia State Policy Trends in Workforce Development

According to a 2014 report from the VA Judicial Audit and Review Commission (JLARC), workforce development efforts in the state of Virginia are decentralized and outdated.

The JLARC report's authors provided several key critiques of statewide WFD efforts. They found that employers had a difficult time navigating the nineteen different statewide WFD programs (Molliet-Ribet et al., 2014). They also found that many programs for teaching in-demand skills did not match statewide labor market trends. For example, health sciences jobs represented 20% of all job openings in 2013, but they were severely underrepresented in WFD programming (Molliet-Ribet et al., 2014).

The JLARC report adds that there is a lack of coordination between local and state agencies in WFD efforts, which likely contributes to uneven employer engagement across different regions of the state (Molliet-Ribet et al., 2014). There are no comprehensive statewide performance measures for WFD programs, and there is no uniform spending classification system either, which limited some aspects of JLARC's analysis. The lack of coordination also contributes to underuse of available federal funds. For example, Virginia's registered apprentice program appears much more limited than that of other states, even though there is available federal funding (Molliet-Ribet et al., 2014).

For the fiscal year of 2013, the state dedicated \$341.4 million in funds to nineteen different statewide WFD programs. Approximately \$208 million of that funding came from federal grants, while \$105 million came from state general funds (Molliet-Ribet et al., 2014). As an upcoming step in this project, I will review the breakdown of funding sources for the N2W to determine if there is available, unutilized funding.

Emerging Best Practices in Local Workforce Initiatives

Despite weak federal support for WFD programs as a means for poverty alleviation (Harry J. Holzer, 2008), nonprofits and localities continue to show strong interest in such programs. A great variety of programs exist throughout the United States, so there is substantial (and growing) literature on best practices. This section sheds light on some of those practices, most of which already form the basis of N2W's approach to workforce development.

Social Solutions, a technology and software company specializing in nonprofit services, suggests that there are two popular approaches to workforce development programs: place-based and sector-based. Place-based WFD programs focus on the people in a specific region or community, identifying employment needs and barriers to employment and then building programs to help

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address those needs and barriers (Social Solutions, 2016). Sector-based programs broadly tailor training to fast-growing industries (Social Solutions, 2016).

According to Holzer and Martison (2005), successful programs generally involve some combination of the two approaches, with three main pillars: 1) Combining education and training that give workers a postsecondary credential; 2) Direct ties to employers or industries that provide well-paying jobs in key sectors; and 3) A range of additional supports and services to help workers deal with problems that arise (such as child care and transportation), during the training period and beyond.

1: EDUCATION + TRAINING: In reviewing results from a series of eleven WFD program evaluations across the country (NEWWS), Martinson and Strawn (2003) find that adult education services without job training have minimal effect on earnings gains and time spent on welfare. By contrast, participants in programs that paired education services with job training, on average, experienced a 25 percent increase in earnings and a 22 percent reduction in the time spent on welfare for participants (Martinson & Strawn, 2003). Each of the eleven programs used some kind of randomized experimental framework, so these results are both substantial and reliable.

Evidence suggests that the inclusion of education services in WFD programs yields greater results for non-high school graduates and GED recipients, as opposed to traditional high school graduates. Nonexperimental analyses of three sites in the NEWWS evaluation found that high school non-graduates in basic education activities had substantially larger increases in longer-terms earnings if they also participated in job training (Bos et al., 2001). A more recent experimental analysis of ProjectQUEST, a health services WFD program in San Antonio, corroborate these results. Among GED recipients, 66% of program participants earned a satisfactory living-wage within six years of enrollment, whereas only 39% of the control group reached that threshold (Elliot and Roder, 2017). Among traditional high school graduates, the treatment vs. control split is a much closer 52% to 47% (Elliot and Roder, 2017).

2: SECTOR-BASED STRATEGIES: Sector-based strategies refer to programs that (1) provide services and/or training to employees for jobs in specific industries or with specific employers; and (2) also try to influence employer human resource policies—including their recruitment, training, and compensation. Results from research on “sectoral” employment strategies, i.e. targeting a few large and growing sectors of a region for job placements and training, are particularly promising. For example, an Aspen Institute (Conway, 2007) evaluation of six training-focused sectoral WFD programs found that average annual earnings of employed participants increased from \$8,580 annually at baseline to \$17,732 within two years. The results were positive overall, but some sites were more successful than others. Additionally, this evaluation was nonexperimental. There were not separate treatment and control groups, so it is difficult to establish causal effects.

More recent research utilizes a more rigorous experiment design. The results are still promising, but somewhat mixed. In particular, an ongoing experimental evaluation of four sectoral programs across different industries has found that results, while substantively positive after three years, have varied by industry, by site, and even by cohort within each site (Schaberg, 2017).

Research on “career ladder” employment strategies, i.e. generating clear progressions to skilled jobs in particular industries based on packages of education, training and work experience, is similarly mixed (Jenkins & Spence, 2006; Mitnik & Zeidenberg, 2007). This reflects different general prospects for career growth across industries. For example, there are more high-paying jobs available in the construction industry than the hospitality industry.

3: ADDITIONAL SUPPORT & SERVICES: These additional services refer to childcare, transportation, peer networks, group or individual counseling, and more. Reports from the Annie E. Casey Foundation (2002; 2010) suggest that even individuals who receive excellent education and

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sector-based employment services will fail if their other needs are not met. A 1998-1999 survey of employers in four major US cities about job performance and retention supports this claim. In particular, data from the survey suggest that childcare and transportation difficulties are the highest contributors to employee absenteeism (Holzer et al., 2004). For example, a single father with excellent training but no childcare will likely miss work often and, eventually, fail to retain his job.

Still, even once employee receive childcare or transportation assistance, other factors related to job readiness contribute significantly to performance and retention. The 1998-1999 survey identified soft-skills (e.g. communication and interpersonal conflict resolution in the workplace) as a particularly important factor. The authors write that soft skills appeared to affect job performance and retention in welfare recipients' current jobs to a greater extent than hard skills (e.g. abilities in typing, reading, writing, mathematics, and technology) (Holzer et al., 2004). A recent report from the Mathematica Policy Research group provides an interdisciplinary backing to this idea.

The Mathematica report reviews literature and suggests that self-regulation and goal-attainment insights from the fields of psychology, behavioral science, and neuroscience could greatly improve efforts to improve adult economic self-sufficiency (Anderson et al., 2017). Similarly, the report suggests that poor self-regulation and goal-attainment skills contributes to hardship with economic self-sufficiency. As a follow-up to the report, the US Office of Planning, Research, and Evaluation (OPRE) is currently conducting a study titled "Evaluation of Coaching-Focused Interventions for Hard-to-Employ Populations and Other Low-Income Populations." The study is designed to provide experimental evidence about whether interventions that focus on self-regulation and goal attainment have an impact on employment outcomes.

In the interim, though, it is worth noting that several federal agencies with focuses on economic development – including the Departments of Labor, Education, Commerce, Health and Human Services, USAID, the St. Louis Federal Reserve, and the Atlanta Federal Reserve - acknowledge soft skills as an important part of modern employment training and job preparation (US Dept. of Labor et al. 2014; Lippman et al., 2015; Federal Reserve Bank of St. Louis, 2016; Andreason, 2015).

Overall, the Annie E. Casey Foundation suggests that the best way to prevent absenteeism, boost performance, and promote retention for WFD program participants is through bundling support services. A 2010 report from the Foundation notes that, "Clients who receive bundled services are three to four times more likely to achieve a major economic outcome (such as staying employed, earning a vocational certification or associate degree or buying a car) than clients receiving only one type of service." Further, the report indicates that local and neighborhood-based programs are best suited meet clients' diverse needs.

Conclusions

The overall model of N2W is consistent with general best practices from across the United States, especially the Annie E. Casey Foundation's recommendations for neighborhood workforce development. Still, N2W has expressed concerns about job retention for program participants and fears that a lack of conflict resolution, stress management, and other soft-skill training drives retention issues. N2W suspects that cognitive and psychological factors associated with living in poverty likely drive many of N2W's retention issues. The following section investigates that idea.

III. COGNITIVE & PSYCHOLOGICAL EFFECTS OF POVERTY

Living in poverty limits cognitive function associated with managing stressful situations, communicating effectively under pressure, and planning for the future—all of which fall under the broader category of "executive function." This conclusion is well-supported in neuroscience literature, although more research is needed in the fields of psychology and economics to understand how poverty affects productivity and decision-making in practice. Still, there is a growing

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literature on interventions that improve human coping and communication skills. This section gives a more thorough definition of executive function, describes the literature on the neurological and psychological effects of poverty, and introduces potential interventions to limit those effects.

What Is Executive Function?

Stress management, communication under pressure, and planning for the future all fall under the broader psychological definition of “executive functions”, or EFs. More formally, executive functions⁶ are “a set of cognitive processes that are necessary for the cognitive control of behavior, i.e. selecting and successfully monitoring behaviors that facilitate the attainment of chosen goals” (Diamond, 2013). There are three fundamental EFs: working memory, cognitive flexibility, and inhibitory control (Diamond, 2013). These fundamental EFs help humans temporarily store and use information, think creatively, and both ignore distractions and resist temptation (Understood.org, 2017). Developing fundamental EFs helps humans develop higher-order EFs, such as problem-solving, reasoning, and planning (Diamond, 2013; Moldin & Rubenstein, 2006; Rinaldi, Perrodin, & Markram, 2008). EFs are essential to success in all facets of life, including job success. Poor EFs lead to poor productivity, and difficulty both finding and keeping a job (Bailey, 2007; Suzanne, 2010).

There are three main areas of the brain that are essential to executive function: the amygdala, the hippocampus, and the prefrontal cortex (Marston, 2013). The amygdala plays a primary role in the processing of decision-making and emotional responses (Edwards, 2005). The hippocampus also plays a primary role in short-term and long-term memory processing (Rubin, Watson, Duff, & Cohen, 2014). The prefrontal cortex is essential for planning complex cognitive behavior, personality expression, decision making, and moderating social behavior (Diamond, 2013; Moldin & Rubenstein, 2006; Rinaldi et al., 2008).

Poverty & Neurological Development

Poverty has a significant impact on neurological development associated with executive function (Marston, 2013). Dr. Daniel Marston, a behavioral psychology and a member of the APA’s Committee on Socioeconomic Status, illustrated this point in a 2013 literature review on the neurobehavioral effects of poverty. I recap some of those findings below.

Data from the 1997-2008 National Health Interview Surveys (Boyle et al, 2011) found that family incomes below the federal poverty level were associated with higher levels of developmental disabilities, learning disabilities and intellectual disabilities. Researchers and clinicians attribute some of this trend to issues of malnutrition common to low-income people, environmental toxins common to low-income housing, and a lack of educational enrichment during early childhood development (Bergen 2008; Morris 2008). Researchers also attribute this trend to chronic stress associated with living in poverty (Graybeal, Kiselycznyk, & Holmes, 2012).

Many studies use magnetic resonance brain-imaging (MRI) in humans and animals to establish a clear link between poverty and reduced neurological development.

Several studies found that poverty significantly impairs brain function in the amygdala and hippocampus. Noble, Houston, Kan & Sowell (2012) found significantly lower brain volume in the hippocampus and amygdala in children from lower-income households compared to children from higher-income households. This is consistent with a review from Evans & Schamberg (2009) showing that a number of animal and human studies indicate problems with working memory in lower-income individuals that are consistent with impairments in the hippocampus and amygdala.

Similarly, several studies found that poverty significantly impairs brain function in the prefrontal cortex. Graybeal et al (2011) studied lab rats and concluded that chronic stress significantly impairs

⁶ Executive functions are also commonly referred to as cognitive control.

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development of the prefrontal cortex. This is consistent with higher rates of human neurobehavioral disorders associated with the prefrontal cortex, including autism and ADHD. Several human studies support the notion that poverty diminishes development of the prefrontal cortex. Farah et al. (2005) administered cognitive function tests to children of various ages, genders, ethnicities, and socioeconomic statuses—abbreviated SES. SES was the only good predictor of performance. Lipina et al (2005) and Mezzacappa (2004) had similar research designs and also found a significant difference in executive functioning between children from higher and lower income households. Noble et al (2006) performed MRIs on a similar sample and found reduced prefrontal cortex development in the low-SES group.

Most of this research, however, studies children only and comes from the field of neuroscience. In a recent “primer for economists interested in the relationship between poverty and cognitive function”, Dean et al (2017) suggest that researchers study the link between particular neurological impairments due to poverty and economic outcomes in adults, including job retention. Dean et al. (2017) also pose an important question: “Should policies target poverty, leading to improvements in cognitive function, or should they target improvements in cognitive function to reduce poverty?”

Conclusions

Issues relating to executive function and cognition likely afflict low-income individuals as they move into new jobs with novel situations related to conflict resolution, problem-solving, and planning for the future. However, it is unclear whether programs and policies aimed job retention should first target noncognitive aspects of poverty—e.g. limited opportunities, limited income, poor nutrition—or the cognitive aspects of poverty—i.e. taking direct steps to improve the executive capabilities of impoverished individuals. At present, N2W broadly targets poverty without a direct cognitive function component and has seen mixed results for job retention. The next section explores available strategies for boosting job retention. Some strategies focus directly on improving cognition, and some do not.

IV. POTENTIAL INTERVENTIONS

This section describes a wide range of interventions, cognition-focused and otherwise, for boosting job-retention among low-income individuals. This section discusses the bodies of research that support the interventions and describe some of the associated dollar costs. Not all of these interventions are necessarily viable or reasonable for N2W, though. After describing these interventions in detail, I narrow these interventions into more targeted options for N2W.

Cognitive Behavioral Therapy (CBT)

CBT is a form of psychotherapy designed to change a pattern of thoughts, beliefs, or attitudes in order to change behavior and emotion (Anderson et al., 2017). Extensive psychology to-date indicates that CBT can improve executive function in adults and treat a range of mental illnesses, and there is some economics literature that suggest it improves labor market outcomes. See below for further explanation of the treatment, evidence of its effectiveness, and cost information.

Clinicians can administer CBT in individual or group settings, with participants assigned to practice certain behaviors on their own between sessions. CBT is based on the philosophy that thoughts dictate how we respond to particular situations. After successful completion of a series of CBT sessions, a participant should be able to respond positively to a situation that would have previously evoked a negative response. Unlike psychoanalysis, another popular form of psychotherapy, CBT is designed to produce results after only a short number of sessions (Anderson et al, 2017). According to the National Association of Cognitive Behavioral Therapists (NACBT), the average number of sessions clients receive across all types of problems and approaches to CBT is only 16 (NACBT, 2016). By contrast, psychoanalysis is often a years-long or lifelong intervention.

The majority of research on CBT focuses generally on treating mental health issues in adults. There is strong evidence suggesting that various forms of CBT are highly effective at improving executive function and reducing both anxiety and depression in adults (Solanto, 2011; Butler et al, 2006). There is limited research on CBT in workforce development settings, but the existing research is very promising. A randomized control study by Proudfoot et al. in 2009 showed that a CBT-motivated training reduced job turnover at a UK insurance agency by 66% (12% in control group vs. 4% in treatment group) for an 8-month period. Further, the study indicated that the CBT training prevented employee resignations altogether, as opposed to only delaying them, in a population of low-performing workers that had higher-than-average rates of turnover to begin with (Proudfoot et al, 2009).

Additional research shows independently positive outcomes of CBT in an adult workforce context and a low-income context. More specifically, a randomized control study by Mori et al in 2014 found that a web-based CBT training program yielded positive results at a Japanese tech company. The program moderately alleviated employee distress and help improve employees' ability to evaluate their own stress management skills (Mori et al., 2014). This result is promising, although the population is not low-income. A randomized control study by Heller et al in 2013 found that CBT significantly reduced violent-crime rates and boosted graduation rates of disadvantaged male children in Chicago (Heller, Pollack, Ander, & Ludwig, 2013).

There are several ways to offer CBT: individualized in-person treatment, group treatment, or access to online CBT services. There have been mixed results in evaluating which form of in-person CBT is more effective at treating anxiety, social phobias, and other mental issues most salient for job retention (Tucker & Oei, 2007).

Dollar costs for in-person CBT vary. Individual CBT sessions typically cost \$100-\$150 per hour out-of-pocket, and rates for group therapy are less consistent (Anxiety and Depression Association of

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America). Some providers charge similar per-person rates for group therapy, while some providers offer charge substantially lower per-person rates. Estimated from the typical individual out-of-pockets mentioned above, ten sessions of CBT would cost between \$1,000 and \$1,500 per person.

It is unclear if out-of-pocket estimates are most apt in this context. According to PsychologyToday.com, a professional listing website for therapists, there were at least twenty-one CBT therapists practicing in Charlottesville who accept Medicaid.⁷ Federal guidelines prohibit Medicaid copays of more than 10% of the out-of-pocket cost for CBT for individuals who are above the federal poverty line, and a flat \$4.00 for individuals below the poverty line (Medicaid.gov). Estimated from these copays, ten sessions would cost between \$40 and \$150 per person. It is unclear whether or not Medicaid would cover CBT prescribed for workforce development purposes.

Online CBT presents an alternative to in-person CBT. Research is limited, but early evidence from psychologists suggests that online CBT could be just as effective as in-person therapy at improving mental health outcomes (Andersson et al, 2014). At the very least, economic research on online CBT suggests that it is just as cost-effective as in-person CBT, so long as a participant has easy and regular access to a computer (Hedman et al, 2012).

The exact dollar-cost of online CBT is unclear, since the industry is new and emerging. Overall, online CBT is mildly less expensive than in-person therapy because there is usually reduced interaction with a therapist. In some cases, there is actually no interaction with a therapist at all (Cartreine, 2015). For example, a startup called X2AI offers a therapy-like online service using artificial intelligence. After initial setup costs that are tailored to each institutional client, the service only costs \$1/month per patient (www.X2.ai). Applications like X2AI, while promising, have little-to-no clinically proven effectiveness as of now.

Cognitive Bias Modification Therapy (CBMT)

CBMT is a group of therapies based on modifying cognitive processes with or without accompanying medication and talk therapy. CBMT is typically administered via a computer learning module. CBMT is an emerging treatment that has not yet been studied in a workforce development context. However, the psychology literature to date shows that CBMT can be effective at reducing anxiety in adults, reducing addictive behaviors, and improving executive function—although this last point has been less thoroughly studied (Hertel & Mathews, 2011). See below for further explanation of the treatment, evidence of its effectiveness, and cost information.

By its name, CBMT attempts to modify “bias” behavior. It is well-documented in psychology literature that individuals act with bias, i.e. respond inappropriately or irrationally to situations, when they experience some sort of external stressor or anxiety. There are several sub-types of CBMT, but the most common are Attention Bias Modification Therapy (ABMT) and Interpretation Bias Modification Therapy (IBMT). ABMT trains participants to “direct attention away from distracting or negative stimuli and thereby allow a person to focus on more positive or adaptive behaviors” (Anderson et al, 2017). The technique is based on the idea that individuals often direct attention toward threatening cues in their environment (referred to as “biased toward threat”), which triggers anxiety and bias in responding to situations. IBMT is similar, but it trains participants to less frequently interpret neutral stimuli in their environment as negative or threatening (Mathews, Ridgeway, Cook, & Yiend, 2007). Some CBMT training modules combine the two common sub-types (Naim, Kivity, Bar-Haim, & Huppert, 2018).

CBMT is often administered through computer training modules in a lab context, but there is new research to suggest that CBMT delivered via mobile or home computer devices is also effective

⁷ As of 3.1.2018.

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(Anderson et al, 2017; Kerst & Waters, 2014). For example, MoodMint is a sleek and easy-to-use CBMT mobile app that costs \$3. Despite MoodMint's self-proclamation as the “#1 ranked CBMT app,” there are currently no completed or in-progress studies on the app (Biasmodification.com; Psyberguide.com).⁸⁹

CBMT training is different from cognitive behavioral therapy in that it is not dynamic and not tailored to individual participants. Because of its dynamic and personalized nature, cognitive behavioral therapy can address the totality of participant issues with goal-attainment. CBMT cannot. Additionally, CBMT is a newer intervention in psychology. There are no published studies on CBMT in the context of workforce development, although research is underway (OPRE). Research on the general effectiveness of CBMT is promising (Weir, 2011). For example, a recent randomized control trial conducted in Washington, DC found that CBMT is effective at curbing smoking addiction (Kerst & Waters, 2014). Further, a 2015 meta-analysis found that twenty studies since 2007 have found that CBMT can be effective at reducing anxiety (Cristea, Kok, & Cuijpers, 2015). However, this same meta-analysis notes that the study designs are heterogenous, have heterogenous outcomes, and the topic could suffer from “publication bias”—i.e. unsuccessful studies remaining unpublished (Cristea et al., 2015).

Still, the research is promising. The newness of the intervention could also serve as an opportunity for N2W to secure grant funding and contribute to research literature on CBMT in workforce development contexts. There is already a new research initiative on CBMT underway here in Charlottesville at the University of Virginia (UVA). More specifically, the MindTrails Project is an experimental program that uses a CBMT computer application in an attempt to reduce anxiety in adults (MindTrails.virginia.edu). The project is led by Bethany Teachman, Ph.D., a licensed clinical psychologist and a professor of psychology at UVA. MindTrails could be a partner for adding CBMT to N2W's workforce development efforts. Because of its immediate proximity and focus on research, the MindTrails Project could tailor a series of online modules to N2W's job retention goals and assist in program evaluation efforts.

Mindfulness Training

Mindfulness refers to “moment-to-moment awareness of one's experience without judgment. In this sense, mindfulness is a state and not a trait” (Davis & Hayes, 2011). Research to-date shows that mindfulness interventions significantly improve executive function in children and adults ((Moynihan et al., 2013; Tang, Yang, Leve, & Harold, 2012; Zylowska et al., 2008). There is also substantial research suggesting that mindfulness improves job satisfaction and calmness at work (Janssen, Heerkens, Kuijer, Engels, & van der Heijden, 2018). However, there is limited research on mindfulness interventions in low-income adult contexts. See below for further explanation of mindfulness, evidence of its effectiveness, and cost information.

Common mindfulness-based interventions include Integrative Body-Mind Training (IBMT) and Mindfulness-Based Stress Reduction (MBSR). IBMT is simpler and less time intensive, but the two rely on a common foundation and likely yield the similar results. Both include guided mindfulness meditation training, which at the outset are preceded by a brief instructional period explaining the goal of the exercise: to achieve a state of restful awareness with a high degree of awareness of body, breathing, and little effort to actively control thoughts (Tang, Jiang, & Tang, 2017). Training for either intervention is typically guided by a skillful coach (Tang et al., 2017). The differences in the two interventions are minor. IBMT primarily involves three components—body relaxation, mental imagery and mindfulness training (Tang et al., 2017). By contrast, MBSR includes those three

⁸ Biasmodification.com is MoodMint's website. It is not a website generally dedicated to CBMT.

⁹ Psyberguide.org offers comprehensive reviews of psychology mobile apps that provide various interventions.

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components plus yoga exercise, body stretching, and group discussion (Tang et al., 2017; UVA Mindfulness Center).

The majority of studies on mindfulness interventions to-date have studied children. A 2012 review of literature by Tang et al identified 12 unique studies showing that mindfulness interventions caused increases in executive function for school-aged children (Tang et al., 2012).

Still, a limited body of psychology research suggests similarly encouraging executive function outcomes for adults. For example, a randomized control study of 201 older adults found that the MBSR improved executive function, mood, depression, and perceived stress (Moynihan et al., 2013). Further, a nonexperimental study in 2008 found that MBSR was effective at substantially boosting cognitive function in 22 adult and 8 adolescent participants (Zylowska et al., 2008). The study used an 8-week program that consisted of once-per-week evening sessions lasting 2.5 hours with daily at-home practice (Zylowska et al., 2008). The study did not report income, and it measured treatment effects by comparing pre- and post-tests of cognitive function (Zylowska et al., 2008).

However, the studies above specifically examined executive function. The workforce development literature on the effect of mindfulness interventions focuses less overtly on cognitive outcomes and is even more encouraging. Janssen et al (2018) very recently conducted a systematic review of 22 studies focusing on mindfulness in the workplace. Overall, the analysis found that mindfulness interventions¹⁰ caused reduced levels of various job burnout measures, including; emotional exhaustion, stress, psychological distress, depression, anxiety, and occupational stress (Janssen et al., 2018). Improvements were also found in mindfulness, personal accomplishment, self-satisfaction, quality of sleep, and ability to relax (Janssen et al., 2018). Evidently, mindfulness interventions improve many factors that likely contribute job retention.

The primary limitation in mindfulness research for the purposes of N2W, is that there is limited research—but still some research—on mindfulness interventions in low-income adult contexts. Two areas of concern are (1) maintaining the same level of effectiveness as other populations and (2) ensuring that the population is open and willing to participate in the treatments. The research to-date is promising on both fronts, although existing studies focus only on women.

For example, a 2013 randomized control study of 106 low-income women with a history of traumatic intimate partner violence found that MBSR helped reduce symptoms of post-traumatic stress disorder (Dutton, Bermudez, Matás, Majid, & Myers, 2013). A 2011 focus-group study of 13 adult African-American women aged 60+ in low-income housing found that MBSR reduced stressed and generated enthusiasm from the participants (Szanton, Wenzel, Connolly, & Piferi, 2011). Additionally, a randomized control trial about the effects of mindfulness on hypertension in a similar sample also had high attendance and an encouraging outcome (Palta et al., 2012).

Across the three studies, researchers identified several factors that contributed to good attendance and enthusiasm among the participants: Locating sessions near a housing complex, providing free food, establishing a one-on-one relationship between the instructor and the participants, clarifying that MBSR is a secular practice, and/or locating the sessions at a community hospital clinic near public transportation (Dutton et al., 2013; Palta et al., 2012; Szanton et al., 2011). Some researchers also noted that the sessions became social after initial meetings, which likely boosted enthusiasm about attendance as the interventions went along (Szanton et al., 2011). These insights and lessons are encouraging, but it is unclear whether the same insights would apply to low-income men.

Luckily, there are many mindfulness service providers in Charlottesville. In particular, the Mindfulness Center at the UVA School of Medicine offers a mindfulness class for \$460 per person.

¹⁰ Primarily MBSR.

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That cost covers an eight-week MBSR course with 2.5-hour sessions every week, daily mindfulness practice assignments, and a daylong silent retreat on a Saturday (UVA Mindfulness Center). The UVA Contemplative Sciences Center offers various mindfulness services too, in addition to sponsoring several research projects focused on mindfulness (UVA Contemplative Sciences Center).

There are also many online options for mindfulness and meditation. For example, Headspace is an effective and popular mindfulness and meditation mobile app that costs \$96 per year for the full version or \$0 per year for a limited version (Chayowski, 2017; Headspace.com; Psyberguide.com). Another popular app is Simply Being. The app has less clinical research support than Headspace, but it costs only \$2 (Psyberguide.com). Other applications include Aware, Be Mindful, and Breathe 2 Relax (Psyberguide.com).¹¹

Mentorship Programming

Mentorship programs do not focus directly on cognition but could still be a viable strategy for N2W to improve job retention. Mentorship programs refer to any program in which more experienced or higher-level employees are paired with a newer or lower level employee to systematically provide guidance (Sdps.ucdavis.edu). There is no research of mentorship programs specifically for low-income workers, but there is substantial research in organizational management literature suggesting that mentorship is effective at reducing job turnover and improving job satisfaction (Alleman & Clarke, 2000; Eby et al., 2013; Fogarty, Reinstein, Heath, & Sinason, 2017; Kahle-Piasecki, 2011; Park, Newman, Zhang, Wu, & Hooke, 2016). See below for further explanation of mentorship programs, evidence of their effectiveness across several sectors, and cost information.

The Heitman Staff Learning Center at the University of California at Davis specifies that mentorship is “an interactive relationship which involves both teaching and learning between the mentor and the person being mentored” (Sdps.ucdavis.edu). The Center also clarifies that mentorship is not a “fix.” Mentorship programs cannot respond effectively to crises or difficult situations at work if there is no previous mentor relationship (Vardarli, 2016). Mentorship programs, therefore, should begin before conflict has a chance to take root. The Heitman Staff Learning Center also clarifies that successful mentorship programs do not need to keep the same employees with the same mentors forever; as personal goals and preferences shift, it is best to change mentors (Sdps.ucdavis.edu).

Research to-date shows that mentorship programs can be effective at reducing job turnover and increasing satisfaction for clinical nurses (Leners, Wilson, Connor, & Fenton, 2006), teachers (Smith & Ingersoll, 2004), accountants (Scandura & Viator, 1994), other financial services workers (Park et al., 2016), the U.S. Army (Payne & Huffman, 2005), and university students (Sanchez, Bauer, & Paronto, 2006).

Not all mentorship is successful, though. In fact, bad mentorship situations tend to reduce employee satisfaction and increase likelihood of turnover (Kumar & Blake-Beard, 2012). Bad mentorship situations are usually marked by competition between mentors and mentees, lack of trust, and a lack of commitment (Jones, 2017; Park et al., 2016; Straus, Johnson, Marquez, & Feldman, 2013). According to organizational management literature, there are several features of good mentorship programs. Below are six key features:

- (1) Providing mentorship from within the company. Outside mentors cannot as readily or effectively engage on discussions without knowing the work context (Jones, 2017; Park et al., 2016).

¹¹ These prices and application titles are as of 5.1.2018.

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- (2) Good matching. Mentors and mentees should fit well together. Three helpful predictors of a good match are being the same gender, having similar or compatible Myers Briggs Personal Type Indicators, and simply liking each other (Kahle-Piasecki, 2011).
- (3) Pre-Training. It is essential to host a training session for mentors before they take on mentees (Kahle-Piasecki, 2011).
- (4) Promoting “Value Convergence” (VC). VC refers to the degree to which an individual's values match the values found in their work environment (Molina, 2016). In practice, this calls for mentors familiarizing mentees with the company culture and talking openly about how to align company and personal goals (Fogarty et al., 2017).
- (5) Commitment. Mentorship relationships that lack commitment from either party do not yield positive results (Straus et al., 2013). Therefore, good mentorship programs formally promote or require mentorship activities, as opposed to merely pairing mentors and mentees with no follow-up.
- (6) Clear Delineation from “Supervising”. Even if a mentor is also the direct boss of an employee, the mentor should not give job instruction or performance review during mentorship time. Mentors should maintain clear “mentorship” time to better cultivate a warm, open, and non-intimidating relationship (Fogarty et al., 2017).

There are mentorship training resources available in and near Charlottesville. For example, the Virginia Mentoring Partnership (VMP), an affiliate of the National Mentorship Partnership, hosts mentorship trainings at its location in Richmond. The trainings consist of a single 2.5-hour session at a cost of \$25 per person (VAmentoring.org). VMP also offers on-site private mentorship trainings upon request for \$300, plus travel costs (VAmentoring.org). VMP specializes in training youth mentors but does provide broader training and technical assistance for starting mentorship programs (VAmentoring.org).

Even more locally, Piedmont Virginia Community College (PVCC) offers a mentorship training program. The training is associated with the Great Expectations mentorship program for current and former foster care youth, although the familiar staff associated with the program could likely offer a flexible training solution (PVCC.edu).¹²

Employee Assistance Programs

An employee assistance program (EAP) is a “work-based program that offers free and confidential assessments, short-term counseling, referrals, and follow-up services to employees who have personal and/or work-related problems. EAPs address a broad and complex body of issues affecting mental and emotional well-being” (OPM.gov). EAPs are a nationally accepted best practice for improving many aspects of worker satisfaction and productivity, and research to-date has affirmed that EAPs are effective for low-income populations (University of Wisconsin, 2018; Handrick, 2018; Miller, Molina, Grossman, & Golonka, 2004). See below for further explanation of EAPs, evidence of their effectiveness, and cost information.

Once an employer has signed up for an EAP, employees can use the service at any time (Handrick, 2018). Employers may refer employees to their EAP following conflict or some stressful situation, but employee usage of the service is voluntary and confidential (Handrick, 2018; Miller et al., 2004). When an employee chooses to use the service, they typically contact the EAP provider via phone (Handrick, 2018). The provider will then connect the employee to a professional counselor who can

¹² As noted earlier in this report, N2W is also a project housed at PVCC.

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talk the employee through whatever challenging situation they are dealing with—related or unrelated to work (Handrick, 2018). Common topics for discussion include workplace personality conflicts, drug addiction, mental health issues, family issues, health issues, legal advice, and financial counseling (Handrick, 2018; OPM.gov). If the counselor is unable to help resolve the issue with the employee, they will refer them to other resources, such as psychiatry services or specific legal services (Handrick, 2018).¹³

There are several kinds of EAP providers. For example, some private for-profit insurers offer EAPs (Handrick, 2018; myshortlister.com). There are also standalone non-profit and for-profit EAP providers with no affiliation to larger companies (Miller et al., 2004). The state of Vermont even has a public-private partnership called Invest EAP, which offers services across the state (InvestEAP.org; University of Wisconsin, 2018).

There are also unique ways to structure EAPs in communities. Most EAPs are agreements between a provider and a single employer. However, some EAPs are “portable.” A portable EAP is a partnership between a network of employers and one provider. Portable EAPs are uncommon but apply well to low-income workforce development contexts, as in St. Paul, MN (Miller et al., 2004).

The Population Health Institute at the University of Wisconsin has compiled a thorough review of literature on EAP effectiveness (University of Wisconsin, 2018). EAP counseling services can effectively reduce emotional problems, stress, and anxiety among employees (Greenwood et al 2006; Lam et al 2011; McLeod, 2010; Richmond et al., 2014; Richmond et al, 2016). EAP counseling services also improve cognitive function and boost worker productivity (Clavelle et al, 2012; Jacobson et al 2011; Lam et al., 2011; Richmond et al., 2014; Sharar & Lennox, 2014; Straus et al., 2013). Research to-date has affirmed these conclusions for low-income workers. In fact, the National Governors Association—in conjunction with social policy research institution MDRC—has named EAPs as a best practice for improving job retention and other workforce outcomes for low-income people (Miller et al., 2004).

EAPs are low-cost, high-reward options for businesses of all sizes (Handrick, 2018; Miller et al., 2004). Employers typically pay some flat annual rate per employee covered, although the average cost of an EAP program varies by size of employer. Employers with 1-25 employees on average pay \$50 per employee per year (Handrick, 2018). The average cost for businesses more than 25 employees is between \$32 and \$37 per employee per year (Handrick, 2018). Even if those costs are difficult for a given employer, the benefits they gain from EAPs more than make up for the expense. The average return on investment for employer EAP spending is 3:1 (Handrick, 2018).

More and more employers in the U.S. are adopting EAPs. As of March 2016, about 77% of all U.S. employers have an EAP (Handrick, 2018), although that number is only 27% for employers with less than 50 employees (BLS.gov, 2016). Moreover, despite the rise in employer adoption of EAPs across the country, employees tend to underuse them. According to the American Psychiatric Association, no more than 5% of people with access to EAPs use them (APA, 2016).

Salary & Benefits

On the whole, higher salaries and increased benefits boost employee retention (Chamberlain, 2017). There is also substantial research suggesting that crafting flexible and employee-relevant benefit packages causes greater employees to remain in jobs for longer and with greater satisfaction (Bender et al, 2013; Yamamoto, 2011). With affordable housing issues common for low-income residents of Charlottesville, a housing-related benefit could be particularly attractive (Freedman, 2018; Yager, 2017).

¹³ The source used throughout this paragraph comes from Laura Handrick, a Senior Professional in Human Resources. Handrick's article on EAPs is clear and illuminating.

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“Employer-assisted housing” is an employer benefits practice wherein the employer subsidizes an employee’s housing costs (Pennsylvania Housing Finance Agency). Employers can combine these practices with “shared equity” strategies to avoid increases in rent prices due to market factors (Jacobus & Lubell, 2007). Shared equity agreements typically involve a financially strong party paying outright for a home and allowing a financially weaker party to stay there for a lower rate than a bank or landlord would require (Jacobus & Lubell, 2007).

Affordable housing is a highly complicated issue, though, so an option like this for N2W would be beyond the scope of this report. Additionally, giving additional salary or benefits of any kind likely would not fundamentally resolve root causes of issues at work for N2W participants.

V. OPTIONS FOR NETWORK-2-WORK

In this section I present five options for the Network-2-Work to boost job retention among its program participants. The options do not include all aspects of the potential interventions discussed earlier, even though the information given about those interventions might be useful for N2W in the future. See footnote for justification of why particular interventions are not featured as options.^{14 & 15}

The descriptions below provide brief summaries of the five options. The “Evaluation Criteria” section will explain the most important considerations for weighing these options, and the “Evaluating Options” section gives further detail and analysis of each option.

Option 1: Let Present Trends Continue

Do not adopt a new strategy for improving job retention; take the \$70,000 set aside for this and focus efforts on another aspect of N2W. Furnishing an additional service or program for improving job retention may provide undue financial and administrative strain for N2W.

The Network-2-Work is approximately five years old and growing quickly. N2W already provides a suite of services to low-income job-seekers and, by design, relies heavily on social networks within and between low-income residents and potential employers. While N2W has done well to boost employment during its short existence, it may not yet be realizing the full effects of its existing efforts. Social networks take time to percolate, and job retention could increase as the network strengthens.

Option 2: Cognitive Bias Modification Therapy (CBMT) for N2W Participants

Pursue a pilot CBMT program with the MindTrails Project at UVA. The MindTrails project already has a live, online platform for providing CBMT. The platform is general, but the MindTrails research team has expressed interest in working with community partners to design modules tailored to specific contexts (Teachman, personal communication, 2018). A pilot program with MindTrails would allow N2W to study the intervention and evaluate its impact before a full rollout.

Although there is no specific research to-date on CBMT’s effectiveness at boosting job retention, CBMT is emerging as a low-cost, high-gain intervention for improving cognition. After the initial design of a CBMT platform, there is no dollar cost to offering the service.

Option 3: Mindfulness Training for N2W Participants

Pursue a pilot mindfulness-based stress reduction (MBSR) program with the UVA Hospital’s Mindfulness Center. The Center already offers MBSR courses, so N2W could request a private offering of the course to N2W participants. A pilot private course offering would allow N2W to track outcomes for participants and evaluate the course’s impact on job retention. Research to-date suggests that mindfulness training is highly effective reducing job turnover by improving employee workplace satisfaction and reducing feelings of burnout or workplace.

¹⁴ There is no option overtly for CBT because, unless N2W uses an experimental online tool (limited research backing) or has services covered by Medicaid (unlikely), there would be prohibitive costs of scaling the program. Based on the estimates mentioned earlier, financing CBT for 200 participants annually would cost \$200,000 for services only. This does not include time or administrative costs and still exceeds the \$70,000 that N2W currently has set aside for a new job retention strategy. Additionally, EAP counselors often connect employees to CBT services that are covered by employee health plans.

¹⁵ There is also no option related to salary and benefits because (1) many employers may not be in a position to offer additional benefits, (2) the most innovative benefits practices are beyond the scope of this report, and (3) modifying benefit packages would not solve the root causes of problems at work for N2W participants.

Analysis

Option 4: Mentorship for N2W Employers

Offer mentorship training seminars to N2W partner employers and encourage those employers to provide workplace mentors for new N2W hires. If partner employers can provide their new hires with strong mentors, then the new hires will be less likely to leave their jobs due to workplace stresses or dissatisfaction. Research to-date suggests this is true across various professions. PVCC and the Virginia Mentoring Partnership already offer mentorship training seminars and could serve as partners on this endeavor.

Option 5: Portable Employee Assistance Program (EAP) for the N2W Network of Employers

Organize a portable EAP for the whole N2W network of partner employers. EAPs are a highly cost-efficient way for employers to provide counseling, referrals, and other services to employees. Research to-date suggests that EAPs are highly effective at reducing workplace stresses and dissatisfaction, reducing job turnover, improving employee productivity, and improving overall employee well-being and cognitive function. However, most small businesses do not have EAPs. N2W could follow the model of the St. Paul Port Authority¹⁶ and Employer Solutions Inc., who worked together to successfully organize an EAP for employers of low-income workers as a workforce development strategy in St. Paul, MN. Under such a model, N2W would work with a provider to offer EAP services to all of its partner employers. There would be some administrative cost to N2W, but partner employers would still pay the flat per-worker rate for EAP coverage.

¹⁶ The St. Paul Port Authority—unlike the well-known Port Authority of New York and New Jersey—is an economic development organization. It is not an operator of ports or other transportation infrastructure.

VI. EVALUATIVE CRITERIA

Below are the main the criteria used to evaluate each option.

- 1) *Dollar Cost*: This criterion refers to the expected dollar cost of an option. See Appendices B-D for various assumptions and calculations used to estimate cost for each option. A spreadsheet for N2W to calculate costs according to different assumptions is available upon request.
- 2) *Administrative Complexity*: This criterion combines several factors relating to the ease of implementation. These factors include: (1) how difficult it would be N2W to plan and organize the option, (2) how quickly N2W could administer the option, (3) likelihood of participants willingly engaging with the option¹⁷ and (4) extent to which N2W maintains control over the option, as opposed to employers. By maintaining control over an option, N2W can modify or adapt as needed. Once an option is in the hands of employers, there is no central hub to make changes.
- 3) *Ease of Evaluation*: Before scaling any of these options to cover all or most participants, N2W must have some metric of whether or not a pilot program worked. Additionally, if N2W wishes to receive grant funding to finance an option, it is important that the option can generate some generalizable insight. This criterion gauges the extent to which N2W could rigorously measure the effect an option on job-retention.
- 4) *Proven Efficacy in Workforce Context*: This criterion refers to how well an option has been studied and confirmed as a viable method to improve retention for new, low-income employees. Some options have been studied in many contexts including workforce development, and some have not. In practice, this criterion seeks to estimate how well a program will work.
- 5) *Long Term Support*: This criterion refers to how well an option gives N2W participants long-term support in their new workplace.

¹⁷ Even if N2W or an employer requires participation, the participants may perceive a given intervention as patronizing or a waste of time. N2W experienced an outcome like this previously. The program received a grant to perform Moral Reconation Therapy (Little & Robinson, 1988) as a method for job-readiness training, and participants thought the sessions were irrelevant and unproductive (Schuyler, personal communication, April 4 2018).

VII. EVALUATING OPTIONS FOR N2W

This section includes an analysis of each option and concludes with a matrix summarizing the overall merits of each.

Option 1: Let Present Trends Continue

N2W could choose not to spend additional time or money developing a new strategy to improve job retention. There is no dollar cost associated with this option, only the opportunity cost of not pursuing other action. There is no administrative complexity to this option beyond normal day-to-day operations.

N2W can evaluate this option by continuing to stay engaged with partner employers about employee performance and retention, although it would be difficult to changes in retention to any one particular reason. If retention improves, that could be a product of N2W peers identifying better job seekers, of stronger support within the growing social network, or employers learning from experience and internally developing strategies for better supporting N2W participants.

N2W already meets many best practices of community-based workforce development and is already improving employment outcomes for low-income residents of Charlottesville and Albemarle county. However, without a new strategy to boost job retention, it is unclear if this issue will resolve itself going forward.

Option 2: Cognitive Bias Modification Therapy (CBMT) for N2W Participants

Overall: In the long-run, CBMT is a low-cost option with minimal administrative hassle. In the short-run, though, working with MindTrails to develop a N2W-specific module will be expensive and time-consuming. It would be easy to evaluate the impact of the program on job retention using a simple randomized control study, but there is no existing basis for research on what sort of results N2W should expect. No research to-date has explicitly CBMT's effectiveness in a low-income workforce development context.

Dollar Cost: It would cost about \$51,340 over the course of two years to develop a N2W-specific CBMT training module with MindTrails. After those initial years, though, there will be minimal cost to maintain the program. Once the online platform exists, there is no marginal cost to adding additional users. Going forward, the main future costs will likely come only from time spent by N2W administrators (1) explaining the program to N2W peers and job-seekers or (2) working with MindTrails to update the platform as needed. If this option were successful, N2W and CBMT could even sell platform licenses to other workforce development organizations.

Administrative Complexity: At the outset, this option would require a substantial amount of coordination with the MindTrails project. The CBMT platform probably would not be ready for months, or perhaps not even a full year. Once the online platform is ready, though, N2W could embed it into their web platform and require job-seekers to complete the modules. By workshopping the modules during development, N2W and MindTrails could build a platform that is accessible and relevant to N2W participants.

Ease of Evaluation: It would be very easy to evaluate the impact of this option. Before rolling out the platform to all job-seekers, N2W could randomly assign some to the training module. By examining their job retention outcomes versus a control group, N2W could evaluate the platform's effectiveness at boosting job retention. The Frank Batten School could likely offer support in conducting this evaluation, too.

Analysis

Proven Efficacy in Workforce Context: Despite a fast-growing body of evidence that CBMT is generally effective at improving cognition and reducing anxiety in adults, there is no evidence specific from a low-income workforce development context. Therefore, it is possible that this option could fail to cause any improvements in job retention.

Long-Term Support: As CBMT is a one-time training, this option does not offer long-term or flexible support to N2W participants once they are in their new jobs. Plus, even if MindTrails and N2W build follow-up modules to reinforce the effects of CBMT, no online module will ever be able to respond to the dynamic needs of particular workers in particular workplaces.

Option 3: Mindfulness Training for N2W Participants

Overall: Mindfulness training is a highly effective option with limited administrative burden. Once an N2W administrator organizes a mindfulness class and disseminates the details, there is no additional work. It would be easy to evaluate the effect of this option, too. However, the dollar cost of this option could be very high. Even with grant funding to study the effect of mindfulness on low-income workforce development, the long-term costs of enrolling job-seekers in classes could exceed N2W's budget.

Dollar Cost: It would cost approximately \$50,000 to pilot a mindfulness training program. N2W could likely find grant funding for this pilot program to assist with that cost. For example, the UVA Center for Contemplative Sciences offers \$15,000 grants to local projects that use mindfulness exercises. However, scaling a mindfulness training program could have a high annual dollar cost. If N2W has to pay the standard rate the UVA Mindfulness Center charges per person for its MBSR class (\$460), then scaling the program to N2W's growing job-seeker pool would be very expensive. The average annual cost of providing the program to 400 N2W participants each year, over a period of ten years, is over \$125,000. That would exceed N2W's current budget for a job retention project.

Administrative Complexity: There is limited administrative complexity to this option. Once an N2W administrator organizes a mindfulness class and disseminates the details, there is no additional work. Especially if N2W organizes trainings for N2W participants only (recommended), N2W administrators can request that course instructors tailor sessions and assignments to include some focus on workplace issues and entering novel situations. The only potential administrative concern for this option, is that some N2W participants will not want to participate in MBSR class. Research to-date suggests that low-income populations respond enthusiastically to MBSR classes, but that research has only studied female populations.

Ease of Evaluation: It would be very easy to evaluate the impact of this option. Before rolling out the platform to all job-seekers, N2W could randomly assign some to MBSR classes. By examining their job retention outcomes versus a control group, N2W could evaluate the platform's effectiveness at boosting job retention. The Frank Batten School could likely offer support in conducting this evaluation, too.

Proven Efficacy in Workforce Context: There is ample research in low-income and workforce development contexts—although never both at the same time—suggesting that mindfulness training is highly effective at boosting job-retention.

Long-term Support: Mindfulness training equips N2W job-seekers with a universal tool for dealing with stressful or novel situations in the workplace. However, this option does not offer any other means for meeting the dynamic future needs of particular workers in particular workplaces.

Analysis

Option 4: Mentorship Training for N2W Employers

Overall: Mentorship training is a low-cost and low-maintenance option that will likely yield strong improvements for job retention. Once an N2W administrator organizes a mentorship training and disseminates the details, there is no additional work for them. There are three main downsides to this option, though. First, beyond offering an initial training, N2W will have limited ability to detect or help with poor mentorship situations within workplaces. Bad mentorship typically reduces workplace satisfaction and increases likelihood of turnover. Second, it would be difficult to quantitatively evaluate the impact of mentorship on job retention. Third, partner employers may not be interested in starting workplace mentorship programs.

Dollar Cost: It would cost approximately \$3,700 per year for N2W to operate a mentorship training program. This assumes one session each month for about 20 employees of N2W partners at the advertised private session rate from the Virginia Mentoring Partnership (approximately \$350/session). The 12 annual sessions would therefore train about 250 new mentors annually across the N2W partner employers.

Administrative Complexity: Once an N2W administrator organizes a mentorship training and disseminates the details, there is no additional work for them. The Virginia Mentorship Partnership is an established and experienced provider of mentorship training, so N2W could likely organize an initial session soon. Still, there are administrative concerns with this option. Beyond hosting an initial training, N2W will have limited ability to help with poor mentorship situations within workplaces. Bad mentorship causes poor workforce outcomes. Additionally, partner employers may not be interested in starting workplace mentorship programs in the first place.

Ease of Evaluation: It would be difficult to quantitatively evaluate the impact of this option. In practice, randomly assigning office mentorship trainings to N2W partners is not possible. Therefore, it would be difficult to evaluate effects to compare a treatment and control group.¹⁸ Additionally, because N2W does not have retention data for its employees, other quasi-experimental evaluations are not possible either. N2W's only method for evaluating the impact of mentorship is communicating with partners post-hoc and qualitatively gathering information on retention. That evaluation method is not ideal, but it still may suffice for N2W.

Proven Efficacy in Workforce Context: There is a substantial body of research suggesting that mentorship programs are an excellent strategy for boosting employee retention, productivity, and satisfaction.

Long-Term Support: Mentors are excellent for meeting the dynamic needs of mentees over time.

Option 5: Portable Employee Assistance Program (EAP) for N2W Network of Employers

Overall: EAPs are a national best practice for meeting employee needs, improving job satisfaction, and boosting job retention. The option is low-cost and flexible to employee needs in the long-term. The option will also benefit new and existing participants in N2W. After an initial hurdle of establishing the EAP, there is limited administrative hassle associated with the option. The main downside of this option is the potential for low employee usage of the EAP. Low usage is the norm nationally, but N2W could take steps to prevent that in its network.

Dollar Cost: The initial cost of starting an EAP would be about \$4,250. The primary component of that cost is time spent by N2W administrators finding an EAP provider and gathering support from

¹⁸ Random assignment is impossible because N2W likely cannot require such training for their partner employers. N2W could endeavor to study this option using an instrumental variables framework (i.e. randomly assigning the offer of mentorship training to N2W partners), but N2W would likely need a bigger sample size to produce statistically powerful results. The "Statistics Done Wrong Blog" explains this concept well: <https://www.statisticsonewrong.com/power.html>.

Analysis

the N2W network of partner employers. The initial cost does not include employee coverage fees. Once an N2W job-seeker finds employment, their employer should cover the flat, per worker annual rate for EAP coverage. After the initial year, maintaining an EAP should require significantly less time from N2W administrators. Therefore, the average annual cost of providing an EAP after an initial startup year is about \$1,100.

Administrative Complexity: After initially finding an EAP provider and gathering support from the N2W, there is minimal administrative hassle associated with this option. The main activity administrative activities in subsequent years for N2W will be adding new employment partners to the network and promoting employee usage of the EAP.

Ease of Evaluation: The analysis here matches the analysis for Option 4. It would be difficult to quantitatively evaluate the impact of this option. In practice, randomly assigning office mentorship trainings to N2W partners is not possible. Therefore, it would be difficult to evaluate effects to compare a treatment and control group.¹⁹ Additionally, because N2W does not have retention data for its employees, other quasi-experimental evaluations are not possible either. N2W's only method for evaluating the impact of mentorship is communicating with partners post-hoc and qualitatively gathering information. That evaluation method is not ideal, but it still may suffice for N2W.

Proven Efficacy in Workforce Context: EAPs are a national best practice backed by a large body of research. The portable EAP program in St. Paul, MN even provides a model case-study for N2W.

Long-Term Support: Continuous confidential coverage makes EAPs an excellent long-term option that is flexible to the needs of specific people.

¹⁹ Random assignment is impossible because N2W likely cannot require such training for their partner employers. N2W could endeavor to study this option using an instrumental variables framework (i.e. randomly assigning the *offer* of mentorship training to N2W partners), but N2W would likely need a bigger sample size to produce statistically powerful results. The "Statistics Done Wrong Blog" explains this concept well: <https://www.statisticsonewrong.com/power.html>.

Analysis

VIII. OUTCOMES MATRIX

This outcomes matrix summarizes the relative merits of each option. It is based off my evaluations from above and does not include Option 1, presuming that N2W would like to undertake some strategy to boost retention. The scores are based on personal judgments of importance in developing a program to boost job retention. N2W may wish to modify the scoring system to meet alternative preferences.

The cost estimates come from the analysis described in Appendix B-D. The assumptions underlying that analysis may not perfectly represent the resources necessary for each option. For example, assumptions for the value of an N2W administrator's time and for the time needed to implement each option may warrant adjustment. Accordingly, my cost analysis calculation spreadsheet is available upon request.

Max. Score	Criteria	Sub-Criteria (if applicable)	Option			
			CBMT	Mindfulness	Mentorship	EAP
5	Cost	Overall Cost Rating	3	1	4	5
		<i>Annual Cost at Scale (NPV)</i>	\$5,605	\$125,380	\$3,671	\$1,111
		<i>Pilot/Start-Up Cost</i>	\$51,341	\$48,114	\$2,464	\$4,227
		<i>Likelihood of Grant Funding</i>	High	High	Low	Low
3	Ease of Evaluation		3	3	1	1
5	Administrative Considerations		4	4	3	3
4	Proven Effectiveness		1	4	3	4
4	Long-Term Support		1	2	3	4
Total Score (Max. 21)			12	14	14	17

IX. RECOMMENDATION

Based on the analysis above, I recommend that the Network-2-Work pursue **Option 5**, a portable employee assistance program (EAP) across its network of partner employers.

EAPs are a national best practice for meeting employee needs, improving job satisfaction, and boosting job retention. They are an all-in-one tool to assist with workplace personality conflicts, drug addiction, mental health issues, family issues, health issues, legal issues, and financial troubles. Whereas traditional EAPs are arrangements between one provider and one employer, “portable” EAPs provide coverage to network of employers in an area. Portable EAPs are ideal for networks of employers (particularly small employers) that would not otherwise have the bandwidth or knowledge to pursue EAPs independently.

The option is low-cost and flexible to employee needs in the long-term. It will benefit new and existing participants in N2W. After an initial hurdle of establishing the EAP, there is limited administrative hassle associated with the option.

For implementation, I suggest that N2W follow the model of the St. Paul Port Authority (Miller et al., 2004). The Port Authority worked with a private EAP provider to establish an EAP that covered a network of local employers as part of a greater workforce development initiative for low-income families. Their model closely parallels the needs and goals of N2W in Charlottesville, and they could be a rich resource for best practices or guidance in implementation. See footnote for appropriate contact information.²⁰ N2W should also seek guidance from the City of Charlottesville’s Human Resources Department. The City offers an EAP to its employees through ACI Specialty Benefits, a leading national provider of EAPs (Charlottesville.acieap.com; ACIspecialtybenefits.com).

Some N2W partner employers, such as the UVA Hospital System, already have EAPs. This should not deter N2W from organizing a portable EAP across its network. The pre-existence of EAPs among some partner employers will not have an effect on the administrative task of establishing an N2W portable EAP.

After establishing the EAP, N2W’s most important task will be promoting the service to job-seekers and employers. EAPs are underused across the U.S., so N2W should take care to explain EAP services to job-seekers during trainings and even after job-placement. Similarly, N2W should remind partner employers of the EAP every time they hire someone new from N2W.

X. CONCLUSION

Issues of job retention for N2W are likely rooted in the neurobehavioral and cognitive effects of poverty. However, N2W’s strategy to boost retention does not need to directly target cognition or executive function. EAPs offer a low-cost solution to improve retention by providing a range of services to employees, including professional counseling. Still, N2W may wish to pursue one or more of the options in this report going forward. Each one has merits for boosting job retention or other outcomes for the N2W.

²⁰ At the St. Paul Port Authority, Tonya Bauer would likely be helpful first contact. She is the director of strategic development. In this role she manages tenant relations, business attraction, retention and expansion activities, and community engagement. She is available via email at tkb@sppa.com or via phone at 651-204-6228.

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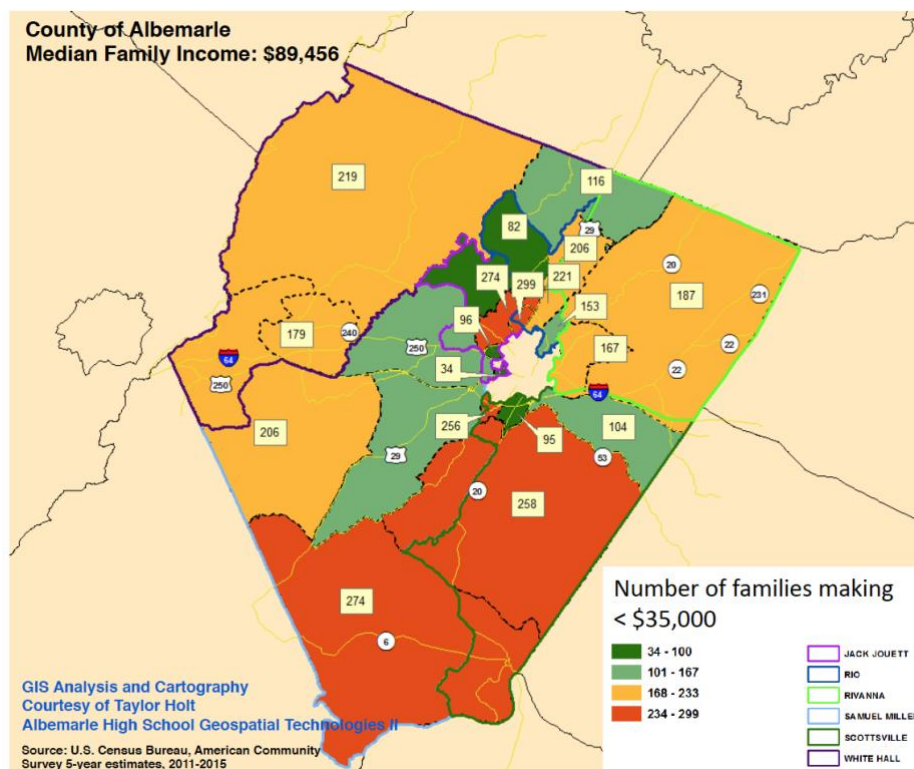
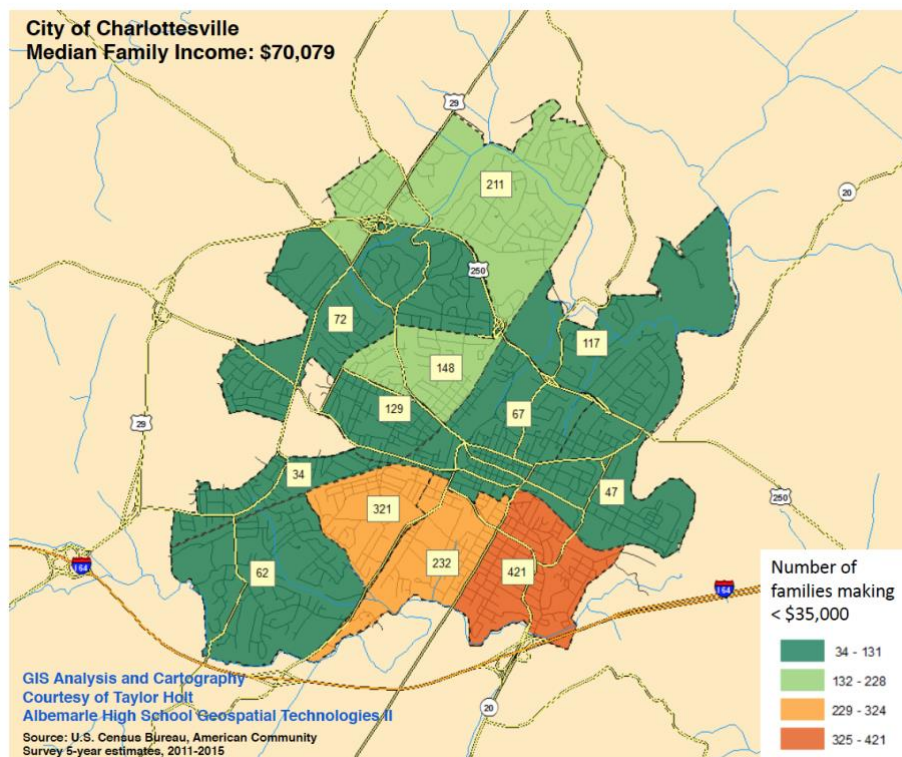
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Appendices

Appendix A: GIS Map of Charlottesville & Albemarle County Families Earning < \$35,000 Annually



Both maps accessed via: <https://www.pvcc.edu/community-self-sufficiency-programs/network2work>

Appendices

Appendix B: Discussion of Cost Analysis

The “Pilot / Start-Up Costs” reported in the outcomes matrix represent estimates of the costs to N2W for developing or piloting an option.

The “Annual Costs at Scale” represent an estimate of costs to N2W for fully implementing the program over a 10-year period, including the initial startup/pilot years. These estimates use a 7% future discount rate, as is the standard by the U.S. Office of Management and Budget (“Circular A-4,” 2003). For reference, OMB also provides a rationale for discounting in a useful 2003 Circular (“Circular A-4,” 2003) .

As mentioned previously, many assumptions underlie the cost analysis in this report. The following Appendices C & D lay out those assumptions. N2W may wish to tweak those assumptions to more accurately forecast costs. For example, my assumptions for the value of an N2W administrator's time and for the time needed to implement each option may warrant adjustment.

To conduct such forecasting, my cost analysis calculation spreadsheet is available upon request.

Appendices

Appendix C: General Plug-In Assumptions for Cost Analysis

Assumptions for All Options (Plug-Ins)			
Option	Item	Estimate	Justification/Source
All	N2W Administrator Income	\$50,727	Charlottesville Median Household Income, according to 2016 U.S. Census.
All	N2W Administrator Weeks Worked Per Year	48	Estimate based on two weeks of personal vacation time and nearly two weeks of federal holidays.
All	N2W Hours Worked Per Week	40	Standard work week.
All	Hourly Wage for N2W Administrator	\$26.42	Derived from above.
All	Discount Rate	7%	Recommended discount rate by U.S. Office of Management and Budget.
All	N2W Admin Hours Needed in First Year	Varies	Estimates based on personal guesses.
All	N2W Admin Hours Needed in Future Years	Varies	Estimates based on personal guesses.
All	Participants in First Year / Pilot Program of an Option	Varies	See each option for explanation.
All	Participants in Option "at Scale"	Varies	See each option for explanation.
CBMT	Cost of Developing One Hour of Online CBMT Module	\$10,000	Average cost for developing an hour of eLearning (i.e. interactive online education modules) from Chapman Alliance, LLC. This figure may be significantly different for online CBMT modules.
CBMT	Approximate Hour Length of Online CBMT Module	3	MindTrails' current online platform (not tailored to a specific population) includes nearly three hours of interactive modules.
Mindfulness	Mindfulness Training Registration Fee (per person)	\$460.00	Fee charged by the UVA Hospital's Mindfulness Center to attend its MBSR course.
Mentorship	Mentorship Training Seminar Cost	\$300	Fee charged by the Virginia Mentoring Partnership to conduct a private mentorship training.
Mentorship	Travel & Time Cost Charlottesville to Richmond (round-trip)	\$50	Estimated from approximate time cost for mentorship trainer (\$20/hour) and gas cost (\$3/gallon). The trip from Charlottesville to Richmond takes is 70 miles and takes about 1 hour.
EAP	EAP Cost per Employee (small scale; 0-25 employees)	\$50	Blog post from Laura Handrick, certified Senior Professional in Human Resources.
EAP	EAP Cost per Employee (medium scale; 25-100 employees)	\$36.70	Blog post from Laura Handrick, certified Senior Professional in Human Resources.
EAP	EAP Cost per Employee (large scale; 100+ employees)	\$32.70	Blog post from Laura Handrick, certified Senior Professional in Human Resources.

Appendices

Appendix D: Option-Specific Cost Analysis Tables

Option 2: CBMT

Option at scale is for “infinity” people, since there is no marginal cost to extending software access.

Cost Categories & Option-Specific Assumptions	
Admin Hours Needed (Years 1 & 2)	120
Admin Hours Needed (Other Years)	40
Year 1 & 2 Annual Admin Costs	\$ 3,170
All Other Year Admin Costs	\$ 1,057
Cost of Developing Online Modules	\$ 30,000
Total people served (pilot)	100
Total people served (at scale)	∞

Estimated Overall Costs	
Year 1 Total Cost	\$ 33,170
Year 2 Total Cost	\$ 18,170
Year 1+2 Total Cost	\$ 51,341
Total Cost at Scale	\$ 1,057
Net Present Value of Total 10-Year Program Cost	\$ 56,050
Annual Average NPV of Program Cost	\$ 5,605

Option 3: Mindfulness

Option at scale is for 400 people, which is an arbitrary guess for the maximum number of job-seekers N2W may expect to serve in a given. Additionally, the UVA Mindfulness Center may be able to offer course registration at a discounted rate for N2W. Or, N2W may find an alternative mindfulness training provider.

Cost Categories & Option-Specific Assumptions	
Admin Hours Needed (Year 1)	80
Admin Hours Needed (Other Years)	40
First Year Admin Costs	\$ 2,114
All Other Year Admin Costs	\$ 1,057
Registration Fee (per person)	\$ 460
Total people served (pilot)	100
Total people served (at scale)	400

Estimated Overall Costs	
First Year Total Cost	\$ 48,114
Total Cost at Scale	\$ 185,057
Net Present Value of Total 10-Year Program Cost	\$ 1,253,802
Annual Average NPV of Program Cost	\$ 125,380

Appendices

Option 4: Mentorship

Option at scale is for 250 people, assuming that the Virginia Mentorship Partnership can only offer one training session per month with each session accommodating about 20 people. This distinction is arbitrary, and perhaps the Virginia Mentorship Partnership can offer more / fewer sessions. Additionally, N2W may find a different mentorship training provider with different costs.

Cost Categories & Option-Specific Assumptions	
Admin Hours Needed (Year 1)	80
Admin Hours Needed (Other Years)	40
First Year Admin Costs	\$ 2,113.63
All Other Year Admin Costs	\$ 1,056.81
Mentorship Training Seminar Cost	\$ 300.00
Mentorship Instructor Travel & Time Cost (round-trip)	\$ 50.00
Number of Sessions (pilot)	1
Number of Sessions (at scale)	12
Total people served (pilot)	20
Total people served (at scale)	250

Estimated Overall Costs	
First Year Total Cost	\$ 2,464
Total Cost at Scale	\$ 5,257
Net Present Value of Total 10-Year Program Cost	\$ 36,713
Annual Average NPV of Program Cost	\$ 3,671

Appendices

Option 5: EAP

The number served for this option "at scale" is not particularly relevant. Presumably employers will pay to cover each of their employees, so there is no per-participant cost to N2W. Nevertheless, I still include cost estimates for the event that employers do not pay to provide coverage to their N2W employees. Under those circumstances, N2W would have to cover those costs.

Cost Categories & Option-Specific Assumptions	
Admin Hours Needed (Year 1)	160
Admin Hours Needed (Other Years)	40
First Year Admin Costs	\$ 4,227
All Other Year Admin Costs	\$ 1,057
Medium Scale Fee (per person)	\$ 37
Large Scale Fee (per person)	33
Total people served (pilot)	100
Total people served (at scale)	600

Estimated Overall Costs (with Employer Reimbursement)	
First Year Total Cost (w/ employer reimbursement)	\$ 4,227
Total Cost at Scale (w/ employer reimbursement)	\$ 1,057
Net Present Value of Total 10-Year Program Cost	\$ 11,113
Annual Average NPV of Program Cost	\$ 1,111

Estimated Overall Costs (without Employer Reimbursement)	
First Year Total Cost	\$ 7,897
Total Cost at Scale	\$ 20,677
Net Present Value of Total 10-Year Program Cost	\$ 142,611
Annual Average NPV of Program Cost	\$ 14,261