

2019

S.O.L.V.E. for occupational therapy practitioners: solutions to optimize the low vision experience

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BOSTON UNIVERSITY
SARGENT COLLEGE OF HEALTH AND REHABILITATION SCIENCES

Doctoral Project

**S.O.L.V.E. FOR OCCUPATIONAL THERAPY PRACTITIONERS:
SOLUTIONS TO OPTIMIZE THE LOW VISION EXPERIENCE**

by

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B.S., The Pennsylvania State University, 2014
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Submitted in partial fulfillment of the
requirements for the degree of
Doctor of Occupational Therapy

2019

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ACKNOWLEDGMENTS

I would like to thank both of my academic mentors Sue Berger and Sarah McKinnon for helping me to develop and organize my ideas for this project.

I would like to thank Karen Jacobs and all of the professors and lecturers from the Post-Professional Doctoral Program at Boston University for your ongoing support.

I would like to thank my peer mentor, Hannah Guskie, and classmates for your support throughout the completion of my doctoral project.

I would like to thank the entire Mengle family for encouraging me to work hard and supporting me through times of stress.

Finally, I would like to thank my best friend and boyfriend, Frank Diaferio III, for always supporting me in my professional and academic endeavors. I greatly appreciate your loving encouragement during all of the busy and stressful times.

The continued encouragement that I received from all of these individuals inspired and propelled me to continue with my project.

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ABSTRACT

Approximately 185 million individuals worldwide are living with low vision (WHO, 2014). Evidence suggests that individuals with low vision may have challenges with occupations such as activities of daily living (ADLs), instrumental activities of daily living (IADLs), social participation, work, functional mobility, and leisure activities (Crews & Campbell, 2004). Individuals with low vision may have difficulty adjusting to their vision loss, resulting in an increase in negative psychological outcomes such as depression (Barstow et al., 2015). Individuals with low vision may seek out support groups to connect with others with shared experiences and learn new ideas for addressing occupational performance challenges. However, evidence suggests that factors such as lack of structure and untrained peer leaders may lead to ineffective support groups (Embuldeniya et al., 2013). Occupational therapy practitioners (OTP) may be appropriately trained to address this issue. OTP have specific training to address occupational performance challenges and knowledge about group process enabling them to play a role in a support group setting. However, there are no specific and standardized guidelines to support OTP in assisting with a low vision support group.

S.O.L.V.E. for Occupational Therapy Practitioners: Solutions to Optimize the

Low Vision Experience is an evidence-based and theory-driven program designed to clearly define the role of OTP in a low vision support group. *S.O.L.V.E.* aims to make support groups immediately more productive and effective in improving occupational performance and participation outcomes for individuals with low vision in the long-term. *S.O.L.V.E.* was designed based on the Self-Efficacy Theory and best current evidence obtained through a thorough literature review. *S.O.L.V.E.* consists of six 90-minute sessions covering topics including general low vision information, use of the problem-solving approach to identify solutions to occupational performance challenges, strategies that make use of remaining vision and other senses, and information about group process and effective communication skills.

S.O.L.V.E. aims to increase satisfaction in support group experience, increase knowledge of group process and leadership, and increase perceived self-efficacy with mastery of participation/performance challenges for group members. Long-term, *S.O.L.V.E.* is expected to increase occupational performance and participation and reduce mental health challenges of individuals with low vision.

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LIST OF ABBREVIATIONS

- ADL.....Activities of Daily Living
- IADLInstrumental Activities of Daily Living
- OT.....Occupational Therapy
- OTPOccupational Therapy Practitioners
- S.O.L.V.E.....Solutions to Optimize the Low Vision Experience
- WHO World Health Organization

CHAPTER ONE: INTRODUCTION

Nature of the Problem

Vision loss increases in prevalence with age. As more people are living longer due to health care advances, more people are living with low vision. It has been estimated that about 13.5% of individuals 65 and older in the United States have low vision (Schiller et al., 2012), and approximately 185 million adults worldwide have low vision affecting their daily life (WHO, 2014). Older adults living with vision loss struggle to perform daily activities (Crews and Crews, 2004; McGrath & Rudman, 2013). It is challenging for adults with low vision to engage in typical activities that occur in their homes and in the community without adaptations geared specifically for those with vision loss. Individuals with low vision may seek out support groups in order to connect with others experiencing similar challenges and find solutions to their difficulties. One of the largest shortcomings of support groups is that peer leaders often lead them, rather than trained health professionals (Embuldeniya et al., 2013). Evidence suggests that occupational therapy interventions for older adults with low vision are effective in improving daily activities (Liu, Brost, Horton, Kenyon, & Mears, 2013), leisure, and social participation (Berger, McAteer, Schreier, & Kaldenberg, 2013). Therefore, the input of occupational therapy practitioners (OTP) may be valuable in creating a more effective support group experience. However, the role of OTP in a low vision support group is not clearly understood and defined. One contributing factor to this problem is that there is no manual or consistent approach to direct OTP on how to work effectively in a low vision support group.

Contributors to the Problem

An evidence-based and theory-driven model was used to depict the factors that contribute to the nature of the problem that S.O.L.V.E. will aim to address in *Figure 1-1*. Environmental factors, occupational performance challenges, psychological factors, and group dynamics all play a role in the need for a program such as *S.O.L.V.E.* to make a positive impact on individuals with low vision.

Prevalence of Low Vision

The primary population of this doctoral project is people with low vision. Currently there are 135 million people around the world who have low vision (National Eye Institute, 2018), which is the first piece of the left side of the problem model depicted in *Figure 1-1*. Low vision is defined as, “permanent loss of vision that cannot be corrected by eyeglasses, contact lenses, medication or surgical intervention or interferes with the performance of common age-appropriate seeing tasks” (Vision Rehabilitation Evidence-Based Review [VREBR] 2005, p. 10). Specifically, low vision is a visual acuity of 20/70 or less in the best-corrected eye (WHO, 2012). The next element of the model is that 65% of individuals with low vision are 50+ and the overall prevalence increases with age (WHO, 2012; Smith, Bennett, & Wilson, 2008).

The next element of the model is that low vision is one of 10 leading causes of disability in the United States (CDC, 2001). Thus, as age increases and visual acuity declines, the level of disability may increase (McGrath & Rudman, 2012; Watson, 2001). The leading cause of low vision is macular degeneration, with over 14 million Americans impacted (Friedman et al., 2004; Smith, Bennett, & Wilson, 2008; Watson, 2001).

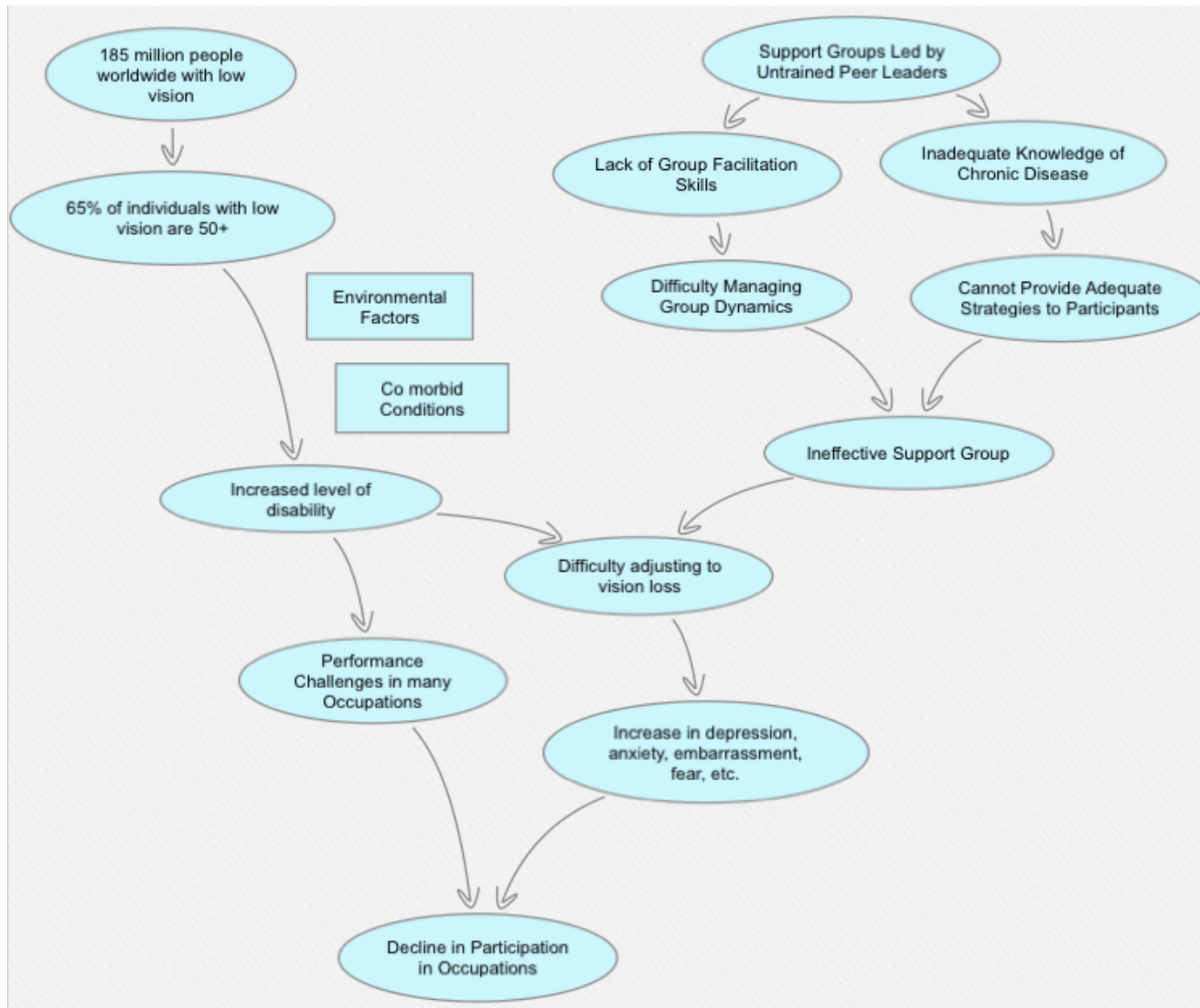


Figure 1-1. Overview of the Problem.

Glaucoma and diabetic retinopathy are also two common causes of low vision (Smith et al., 2008; Watson, 2001).

Environmental Factors

Linking 65% of people with low vision being over 50 years old leading to increased disability, there are two moderators, co-morbid conditions and environmental factors that impact this relationship. The most common co-morbid condition is diabetes (66%), followed by cardiovascular conditions (54%), arthritis (49%), hearing impairment (36%), depression (32%), and stroke (22%) (Barstow, Warren, Thaker, Hallman, & Batts, 2015). Older adults may also have multiple visual impairments (Watson, 2001) or dual-sensory impairment (Smith et al., 2008). One study found that 18.8% of participants screened positive for cognitive impairment and 27.7% had scores very near this cut-off (Whitson & al., 2010). The environment can also perpetuate the experience of disability for individuals with low vision (McGrath, Rudman, Spafford, Trentham, & Polgar, 2017). For example, inadequate lighting, glare, and low contrast can make functional mobility and meal preparation challenging (Barstow, Bennett, & Vogtle, 2011; McGrath et al., 2013; Crews et al., 2004). Visual distractions in the environment such as multiple patterns may make it difficult to engage in leisure activities and meal preparation (Barstow et al., 2011).

Low Vision and Occupational Performance

Due to the increased level of disability, perpetuated by co morbid conditions and environmental factors, individuals with low vision may experience occupational

performance challenges in nearly all areas of occupation including activities of daily living (ADLs), instrumental activities of daily living (IADLs), functional mobility, leisure, social participation, and work (Crews & Campbell, 2004). Individuals with low vision may experience performance challenges with ADLs and IADLs (Crews & Campbell, 2004; Servat, Risco, Nakasato, & Bernardino, 2011; Barstow, Warren, Thaker, Hallman, & Batts, 2015; Schoessow, 2010; Blaylock, Barstow, Vogtle, & Bennett, 2015). For example, individuals with low vision may experience challenges with ADLs such as self-feeding due to difficulty seeing the food on their plates and dressing due to difficulty with clothing selection and distinguishing between light and dark colors (Blaylock et al., 2015). Additionally, individuals with low vision may experience challenges with IADLs such as meal preparation because they cannot locate the ingredients, read the recipe, or tell when their food is cooked (Barstow et al., 2015; Blaylock et al., 2015). Individuals may also have difficulty with cleaning, laundry, financial management, and medication management (Blaylock et al., 2015; Crews et al., 2004). Individuals with low vision may also encounter difficulties with social participation due to difficulty recognizing faces and/or decreased self-efficacy or embarrassment related to their low vision status (Barstow et al., 2015; McGrath & Rudman, 2013; Servat et al., 2011; Coyle, Steinman, & Chen, 2017; Crews et al., 2004; Teitelman & Copolillo, 2005; Schoessow, 2010). Engagement in leisure activities may also be affected for individuals with low vision (Teitelman & Copolillo, 2005; Barstow et al., 2015; Blaylock et al., 2015; Schoessow, 2010; Servat et al., 2011). Engagement in outdoor activities such as cutting the lawn or doing yard work may become difficult because individuals do not feel safe (Barstow et

al., 2015; Blaylock et al., 2015). Individuals with low vision may experience challenges engaging in functional mobility both inside and outside, especially when navigating stairwells, curbs, and driveways (Barstow et al., 2015; Crews et al., 2004). In general, individuals with low vision may experience challenges engaging in various areas of occupation in relation to independence and efficiency (Barstow et al., 2015). Older adults with low vision are also at an increased risk of falling compared to individuals without low vision (Barstow et al., 2015; Crews et al., 2004; Servat et al., 2011). The next element of the problem is that these performance challenges may lead to a decline in participation in occupations. For example, Crews et al. (2004) found that a smaller percentage of older adults with low vision visit their friends compared to individuals without visual impairment. Further, older adults with low vision are at a greater risk of becoming socially isolated (Coyle et al., 2017).

Psychological Implications of Low Vision

On the other hand, the increased level of disability can also lead to difficulty adjusting to vision loss and this adjustment difficulty may lead to negative psychological consequences (Barstow et al., 2015). The most common psychological implications of having low vision are feelings of depression and anxiety (Barstow et al., 2015; Crews & Campbell, 2004; Kempen, Ballemans, Ranchor, van Rens, & Zijlstra, 2012; Servat, Risco, Nakasato, & Bernardino, 2011; Teitelman et al., 2005; Van der Aa, Hoeben, Rainey, van Rens, Vreeken, & van Nispen, 2014). Specifically, according to Crews et al. (2004), the prevalence of depression among older adults with low vision is 70%. Further, many individuals do not seek mental health services (Van der Aa et al., 2014).

Individuals with low vision may also experience feelings of anger, confusion, fear of falling, and decreased emotional security (Servat et al., 2011).

Individuals with low vision may have difficulty recognizing faces leading to feelings of embarrassment in social situations (Barstow, Warren, Thaker, Hallman, & Batts, 2015; Teitelman & Copolillo, 2005). Individuals with low vision may also be at risk becoming socially isolated due to inadequate social support (Coyle, Steinman, & Chen, 2017). According to Coyle et al. (2017), individuals with poor or fair self-reported health and low visual acuity were at a greater risk of being unmarried. Further, Coyle et al. (2017) discussed how being unmarried can put someone at a major risk of social isolation because marriage is one of the most intimate sources of emotional support that one can have. Thus, those individuals with low vision who are unmarried may be at risk of social isolation due to inadequate social support. According to Coyle et al. (2017), encouraging social participation may improve health status, quality of life, and reduce risk of isolation. The psychological implications may also lead to a decline in participation. For example, fear of falling is linked to decreased engagement in occupation (McGrath et al., 2013). Therefore, the performance challenges and the psychological implications experienced with low vision can both lead to a decline in participation in everyday occupations. For summary of psychological implications, *see Table 1-1*.

Psychological Implications of Low Vision
1) Feelings of Depression and Anxiety
2) Feelings of Anger and Confusion
3) Fear of Falling
4) Decreased Emotional Security
5) Feelings of Embarrassment in Social Situations
6) Risk of Social Isolation

Table 1-1. Psychological Implications of Low Vision.

However, some individuals with low vision are able to experience emotional adaptation by finding ways to adapt to vision loss and cope with negative associated feelings by focusing on remaining abilities and using positive thinking (Barstow et al., 2015). Some individuals with low vision are also able to reach a level of acceptance if they are able to let go through use of cognitive strategies such as comparing their situations to those who are less fortunate (Teitelman et al., 2005). Other contributors to positive adjustment to vision loss include social support, adapting daily activities, giving back to the community, having a faith outlet, and genuinely accepting their vision loss status (Teitelman et al., 2005).

Components of an Ineffective Support Group Related to Peer Leaders

In addition to the complex challenges that may be associated with low vision, ineffective support groups may further exacerbate the difficulties experienced by these individuals. Hypothetically, individuals with low vision may seek out support groups to create social ties with individuals with similar experiences and find solutions to their everyday challenges. However, not all support groups are led in an effective manner where there are strong bonds and mutual exchange of information. The first piece of the right side of the problem model is that in support groups focused on chronic disease

management, peer leaders often lead the groups versus trained health professionals (Embuldeniya et al., 2013). *See Figure 1-1*. Group peer leaders are those who are experiencing the same chronic disease as the group members. Peer leaders often do not receive any training related to leading a successful support group (Zordan et al., 2010). Further, peer leaders may lack understanding of the complexities of chronic disease, which may stem from lack of consultation or collaboration with a disease specialist (Costello, 2013; Embuldeniya et al., 2013; Finlayson & Cho, 2011; Haggman-Laitila et al., 2009; Hammarberg et al., 2014; Zordan et al., 2010). Due to inadequate knowledge of chronic disease management, peer leaders may have a lack of knowledge about how to teach chronic disease management strategies apart from their own personal experiences (Costello, 2013; Hammarberg et al., 2014; Zordan et al., 2010). Since peer leaders only have their own personal experiences to draw upon, they may not be able to provide personalized strategies or techniques that align with the participants' needs or be able to adjust with the changing needs of the group members as the disease progresses (Costello, 2013; Embuldeniya et al., 2013; Haggman-Laitila et al., 2009; Hammarberg et al., 2014; McCulloh et al., 1994; Frohlich, 2014). Further, group members may have different lifestyles and personalities from peer group leaders, which may also make it challenging for the peer leader to provide effective disease management techniques and support (Embuldeniya et al., 2013). Another issue that stems from untrained peer leaders leading support groups is that they may also have a lack of knowledge related to group process and facilitation skills. Group leaders in general, whether they are peers or health professionals, may have trouble establishing rapport with group members, due to poor

communication skills, and/or a general lack of leadership skills (Embuldeniya et al., 2013; Haggman-Laitila et al., 2009; Hammarberg et al., 2014; Hartwell, 2012; Zordan et al., 2010). Lack of group facilitation skills can impact group dynamics and make handling a domineering group member difficult (Costello, 2013; Haggman-Laitila et al., 2009; Hammarberg et al., 2014; Hartwell, 2012; Kelly & Yeterian, 2011; McCulloh, et al., 1994; Zordan et al., 2010). Peer leaders may experience difficulty establishing relational boundaries with participants and risk becoming entangled with the participants' challenges even outside of group meeting time or face a sense of personal rejection if members drop out (Embuldeniya et al., 2013; Haggman-Laitila et al., 2009; Hammarberg et al., 2014; Zordan et al., 2010).

Components of an Ineffective Support Group Related to Group Members

Separate from leadership struggles, support group difficulties may result from group member dynamics. Group members may be in crisis and unable to offer help to other members (Hartwell, 2012; Kelly et al., 2011). Additionally, there is the potential for negative social comparison, the creation of a competitive culture related to whose problems are worse, or the entire group becoming a complaining session instead of a supportive environment for chronic disease management (Embuldeniya et al., 2013; Hartwell, 2012). The problems that stem from having an untrained peer leader ultimately may lead to an ineffective support group, which then contributes to individuals with low vision's difficulty adjusting to vision loss, which leads back to the decline in participation in occupations.

Approach to Address the Problem

S.O.L.V.E. for Occupational Therapy Practitioners: Solutions to Optimize the Low Vision Experience is a theory-driven, evidence-based program designed to more clearly define the role of OTP in a low vision support group, and to highlight the unique skills that OTP can bring to the group to make the groups more effective and productive. *S.O.L.V.E.* will target OTP by providing them with a manual for assisting with low vision support groups. *S.O.L.V.E.* will also target individuals with low vision attending support groups as the program will aim to address and improve occupational performance and participation challenges that these individuals may be facing.

References

- Berger, S., McAteer, J., Schreier, K., & Kaldenberg, J. (2013). Occupational therapy interventions to improve leisure and social participation for older adults with low vision: A systematic review. *American Journal of Occupational Therapy, 67*, 303–311. doi: <http://dx.doi.org/10.5014/ajot.2013.005447>
- Crews, J. E., & Campbell, V. A. (2004). Vision impairment and hearing loss among community-dwelling older Americans: implications for health and functioning. *American Journal of Public Health, 94*(5), 823-829. doi: <http://dx.doi.org.ezproxy.bu.edu/10.2105/AJPH.94.5.823>
- Embuldeniya, G., Veinot, P., Bell, E., Bell, M., Nyhof-Young, J., Sale, J. E., & Britten, N. (2013). The experience and impact of chronic disease peer support interventions: a qualitative synthesis. *Patient Education and Counseling, 92*(1), 3-12. doi: <http://dx.doi.org/10.1016/j.pec.2013.02.002>
- Liu, C. J., Brost, M. A., Horton, V. E., Kenyon, S. B., & Mears, K. E. (2013). Occupational therapy interventions to improve performance of daily activities at home for older adults with low vision: A systematic review. *American Journal of Occupational Therapy, 67*(3), 279-287. doi: <http://dx.doi.org/10.5014/ajot.2013.005512>
- McGrath, C. E., & Rudman, D. L. (2013). Factors that influence the occupational engagement of older adults with low vision: A scoping review. *British Journal of Occupational Therapy, 76*(5), 234-241. doi: [10.4276/030802213X13679275042762](http://dx.doi.org/10.4276/030802213X13679275042762)

Schiller, J. S., Lucas, J. W., & Peregoy, J. A. (2012). Summary health statistics for US adults: national health interview survey, 2011. Retrieved from <https://stacks.cdc.gov/view/cdc/21423>

World Health Organization (2012). Visual impairment and blindness: fact sheet. Geneva, Switzerland: World Health Organization.

CHAPTER TWO: PROJECT THEORETICAL AND EVIDENCE BASE

Theoretical and Conceptual Frameworks

Evidence supporting the involvement of occupational therapy practitioners (OTP) in addressing occupational performance challenges in individuals with low vision informs *S.O.L.V.E.* The main theory informing *S.O.L.V.E.* is the self-efficacy theory, which is explained in depth below.

Self-Efficacy Theory

The low vision problem model is informed by the self-efficacy theory and is outlined in *Figure 1-1*. Self-efficacy, which is a belief in one's ability to complete both new and familiar activities successfully, explains behavior change in this model (Bandura, 1977). The self-efficacy theory proposes four different ways in which self-efficacy develops and is further pictured in *Figure 2-1*.

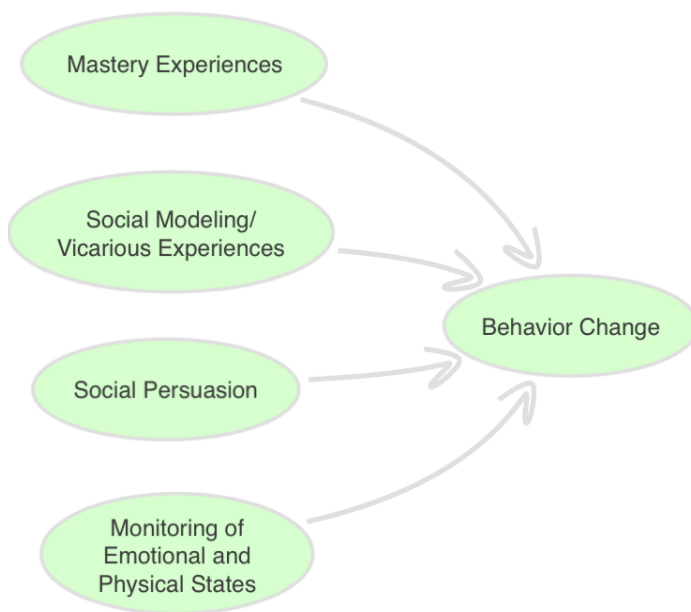


Figure 2-1. Self-Efficacy Theory: Mechanisms of Action.

The first way that self-efficacy develops is through mastery experiences, which are successful attempts at completing a certain activity. The self-efficacy theory proposes that repeated successful attempts at activity completion build the belief in one's abilities. On the contrary, repeated failed attempts at completing an activity decrease one's belief in their abilities. This piece of the self-efficacy theory is depicted in the model as the performance challenges those individuals with low vision experience as a representation of a lack of mastery experiences. The second way that self-efficacy develops is through social modeling or vicarious experiences, which occur when individuals observe others who are similar to them succeed and they then believe that they have what it takes to succeed at an activity as well. The third way that self-efficacy can develop is through social persuasion, which occurs when an individual is persuaded to believe that they can succeed at an activity (Bandura, 1977). These two pieces of the theory are depicted through the pieces of the model related to the lack of training of peer leaders who lead the support groups. Peer leaders have the opportunity to be objects of social modeling and social persuasion, but in an ineffective support group, these pieces are missing.

The fourth element that plays a role in the development of self-efficacy is the monitoring of one's internal physical and emotional states. Emotional arousal states can have an impact on an individual's motivation and likelihood to engage in an activity. The more that an individual can monitor their emotional state and reduce their levels of emotional arousal, the more that they can reduce avoidant behaviors and increase the likelihood that they will attempt a certain activity (Bandura, 1977). This piece of the theory is depicted in the portion of the model that suggests that lack of adjustment to

vision loss leads to higher levels of negative emotional states such as depression and thus, a decline in participation in activities. Self-efficacy impacts an individual's motivation, emotions, and decisions, which determine whether or not an individual will attempt an activity (Bandura, 1977). Higher self-efficacy leads to increased motivation, better emotional coping, and ease of decision making. Thus, higher self-efficacy then leads to a higher level of effort expended and persistence in the face of challenges, which ultimately leads increased activity participation. Because of this, self-efficacy theory informs the problem model since it may be challenging for the adequate development of self-efficacy to occur in many individuals with low vision and in support groups.

Previous Attempts to Address the Problem

Some evidence suggests features of a support group that may be linked to more positive outcomes. Occupational therapy interventions have been utilized to improve occupational performance and participation outcomes in individuals with low vision (Weisser-Pike & Kaldenberg, 2010). In particular, there is support for strategies that make use of remaining vision, strategies that make use of other senses, and self-management strategies (Weisser-Pike, et al., 2010). According to the evidence, there may be some mental health benefits linked to participation in a self-management program or group (Alma et al., 2013; Packer et al., 2009).

Components of an Effective Support Group

One solution to this decline in participation that individuals with low vision experience could be attendance at a support group. Current evidence suggests that there are several features present in an effective chronic disease support group. In particular,

having a group leader with strong leadership skills plays a large role in the success of a support group (Hartwell, 2012; McCulloh, Crawford, & Resnick, 1994). For example, a successful group leader has strong communication skills (Haggman-Laitila & Pietila, 2009; Embuldeniya et al., 2013; Hammarberg, Sartore, Cann, & Fisher, 2014) and has knowledge of the group process (Costello, 2013; McCulloh et al., 1994). A successful group leader is also organized and able to carry out administrative tasks as well as structure each group (Haggman-Laitila et al., 2009; McCulloh et al., 1994). Additionally, a group leader should have a clear understanding of chronic disease and may also have personal experience with the disease (Costello, 2013; Embuldeniya et al., 2013; Hammarberg et al., 2014; McCulloh et al., 1994). In addition to a strong group leader, some research suggests that a successful support group also includes the involvement of a health care professional (Haggman-Laitila et al., 2009). An effective group actively involves participants through the use of activities or homework (Haggman-Laitila et al., 2009; Hammarberg et al., 2014). Additionally, in a successful group there are strong bonds and a mutual exchange of support between members (Hammarberg et al., 2014; Hartwell, 2012; Kelly & Yeterian, 2011). For summary of components, *see Table 2-1*.

Leader-Related	General
1) Strong Leadership Skills	1) Involvement of Health Care Professional
2) Strong Communication Skills	2) Active Involvement of Participants (e.g., Homework)
3) Knowledge of Group Process	3) Strong Bonds
4) Organization	
5) Understanding of Chronic Disease	
6) Personal Experience with Chronic Disease	

Table 2-1. Components of an Effective Support Group.

Interventions for Improving Occupational Performance and Participation

Overall, there are a variety of intervention strategies available for improving occupational performance and participation in individuals with low vision. However, evidence is mixed and limited for most techniques in general (Weisser-Pike, et al., 2010; Huefner, Kaldenberg, & Berger, 2008). Strong evidence exists for use of the problem solving approach in both an individual and group setting to improve leisure and social participation. The problem solving approach involves helping the client to define the problem, set goals, find solutions, and evaluate outcomes. *See Figure 2-2.*

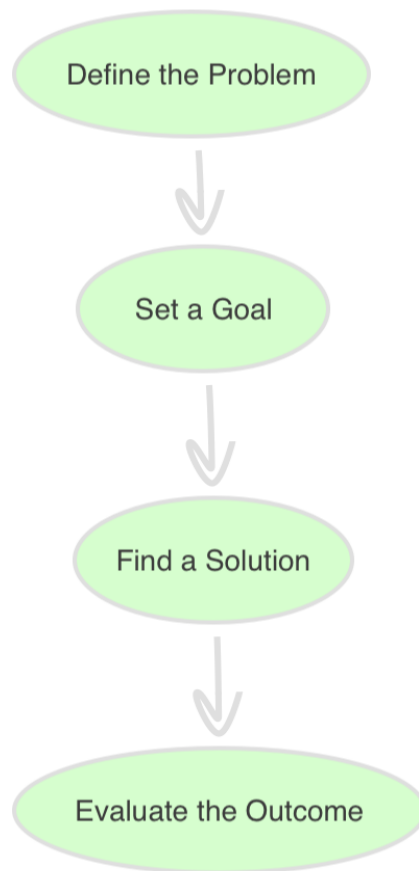


Figure 2-2. Steps of Problem Solving Approach.

Client involvement is key in use of the problem solving approach (Berger, McAteer, Schreir, & Kaldenberg, 2013). Positive effects related to activities of daily living (ADLs) and instrumental activities of daily living (IADLs) remained following intervention especially with multiple training sessions in small groups (Liu, Brost, Horton, Kenyon, & Mears, 2013).

There is moderate evidence to support combination of services in increasing leisure reading and ability to perform leisure activities (Berger et al., 2013). Further, in interventions that were personalized, participants experienced greater improvements in ADL/IADL performance (Liu et al., 2013). There is also some evidence to support training in low vision devices to lead to positive outcomes in participation (Liu et al., 2013; Berger et al., 2013; Justiss, 2013). Overall, there is mixed evidence for home visits and environmental adaptations (Berger et al., 2013).

Strategies Using Remaining Vision

Strategies that make use of remaining vision are among the most commonly used interventions for improving occupational performance and participation in individuals with low vision (Huefner et al., 2008). Making changes in natural, ambient, and task lighting can help improve quality of life and occupational performance (Huefner et al., 2008; Berger et al., 2013; Schoessow, 2010; Weisser-Pike et al., 2010). Ideal use of ambient lighting would include transitions between rooms and minimizing shadows around furniture, improving distance vision tasks such as maneuvering around the home (Huefner et al., 2008; Berger et al., 2013). Task lighting supports near tasks, and should be directed at the task and not the person, which may help with reading, writing, and

cooking (Schoessow, 2010; Weisser-Pike et al., 2010). Use of magnification may help facilitate certain tasks through use of a handheld magnifier or a variety of large print items (Huefner et al., 2008; Schoessow, 2010; Weisser-Pike et al., 2010). Some evidence supports decreasing glare with use of window shears, filters, no wax-polish, and lampshades and increasing contrast (Huefner et al., 2008; Schoessow, 2010). Eccentric viewing, which is use of remaining peripheral vision, may lead to an increase in ADL/IADL and leisure performance (Liu et al., 2013; Berger et al., 2013; Weisser-Pike et al., 2010; Huefner et al., 2008) For summary of strategies, see *Table 2-2*.

Strategies Using Remaining Vision
1) Increase/Enhance Lighting
2) Magnification
3) Increase Contrast
4) Decrease Glare
5) Eccentric Viewing

Table 2-2. Strategies Using Remaining Vision.

Self-Management Strategies

There is some evidence to support the benefits of participation in a low vision self-management group for improving quality of life such as an increase in participation, decrease in depression, overall increase in mental health, improvement in adaptation to vision loss, and improvement in domain specific self-efficacy (Packer, Girdler, Boldy, Dhaliwal, & Crowley, 2009; Perlmutter & Hussey, 2017). Use of the proper corrective lenses, another self-management strategy, can improve performance in mobility, reading, fall prevention, medication management, and facial recognition (Weisser-Pike, et al., 2010).

Strategies Using Remaining Senses

Tactile strategies such as safety pins on clothing and raised dots on appliances may be used to increase occupational performance (Huefner et al., 2008; Schoessow, 2010). Auditory strategies may also be used such as making use of a variety of talking items (Weisser-Pike et al., 2010; Huefner et al., 2008). Organizational strategies may include avoiding clutter, establishing regular schedules, and organizing items (Schoessow, 2010; Weisser-Pike et al., 2010). *See Table 2-3.* For example, individuals can utilize time of day that vision is best and break down reading into small amounts of time (Weisser-Pike et al., 2010). However, these strategies are not directly linked to evidence that suggests that they improve occupational performance. There is limited evidence related to interventions that can effectively address community mobility and driving (Justiss, 2013).

Tactile	<ol style="list-style-type: none"> 1) Use of Safety Pins 2) Raised Dots
Auditory	<ol style="list-style-type: none"> 1) Use of Talking Items
Organizational	<ol style="list-style-type: none"> 1) Avoiding Clutter 2) Establishing Regular Schedules 3) Organizing Items

Table 2-3. Strategies Using Remaining Senses.

Strategies for Improving Mental Health

In terms of improving the mental health of individuals with low vision, there is evidence to support use of a low vision self-management group for addressing adaptation to vision loss, feeling of helplessness, mental health, and vision specific fear of falling (Alma et al., 2013; Packer et al., 2009). The program explored by Alma et al. (2013)

included 20 structured weekly group 2 hour sessions that included training in practical skills, training in problem solving skills, individual/group goal setting, and home based exercise program. Other self-management programs may also lead to an increase in self-efficacy (Packer et al., 2009; Perlmutter et al., 2017). Watchful waiting may be affective for individuals with vision loss who have sub threshold levels of depression/anxiety (Van der Aa, Bruin, van Rens, Twisk, & Nispen, 2015). In watchful waiting, participants and providers decide to not treat the condition, but instead to intermittently assess status (Van der Aa et al., 2015).

Role of OTP in a Self-Management or Support Group

Overall, research suggests that there are a variety of features of self-management or support group that may benefit individuals with low vision. In general, results suggest that participation in a self-help or support group can lead to better adaptation and assist with management of chronic conditions (Brunelli, Murphy, & Athanasou, 2016). Individuals that have increased self-awareness may have increased self-management skills following participation in a program. Groups that are longer in duration may help with psychosocial aspects by providing longer time for rapport to be built. In addition to in person groups, internet support groups are associated with improved psychosocial outcomes. According to Rees et al. (2014), disease specific groups may be more effective than non-disease specific groups.

The evidence suggests that there are some specific elements that make for a successful self-management or support group. OTP could be involved in helping individuals develop self-regulation and self-awareness skills to encourage long-term

improvements. Further, it might be beneficial for OTP to be involved in a consulting-like fashion long-term in order to further promote long-term change (Brunelli et al., 2016; McCulloh, Crawford, & Resnick, 1994). However, apart from professional leadership, it may be helpful when facilitators have sustained similar losses and had success because this can inspire participants (McCulloh et al., 1994). Additionally, McCulloh et al. (1994) found that it is important for group leaders to have knowledge of group process and basic counseling skills. In a support group, 8-10 participants is an ideal size to foster group cohesion, and structure is important at the beginning, but it is helpful to be flexible as the group continues. Further, McCulloh et al. (1994) suggest using homework, starting with less personal issues, gradually moving to more personal topics, and then shifting discussion from losses to positive adaptations. Following participation, participants reported that they felt more empowered, self-confident, and able to articulate their feelings more clearly (McCulloh et al., 1994). According to the evidence, participants enjoy learning action plans, coping strategies, and communication skills, and also noted benefits of positive interactions with others increasing their feeling of not being alone (Perlmutter et al., 2017, Rees et al., 2014; Packer et al., 2009). Several groups involved empowering individuals and using skills training to increase performance, but it is unclear if these features specifically benefit adults with low vision (Tay, Drury, & Mackey, 2014; Rees et al., 2014).

Recommendations to Address the Problem

Based on the above results, the teaching and implementation of the problem solving approach has the best evidence for improving occupational performance and

increasing participation (Berger et al., 2013). There is also evidence suggesting the benefits of increasing lighting in order to increase occupational performance (Huefner et al., 2008; Berger et al., 2013; Schoessow, 2010; Weisser-Pike et al., 2010). Participation in a low vision self-management group may have positive effects on participation and mental health (Packer et al., 2009). Some features of a support or self-management group that may benefit individuals with low vision include leadership by individuals with lived experience, knowledge of group process, and counseling skills. Evidence also suggests that more structured sessions in the early stages of a support group that progress to more fluid over time may be beneficial (McCulloh et al., 1994). Use of the self-efficacy theory is also recommended to guide intervention through incorporation of mastery experiences, vicarious experiences, social persuasion, and monitoring of physical and emotional states.

References

- Alma, M. A., Groothoff, J. W., Melis-Dankers, B. J., Suurmeijer, T. P. B. M., & van der Mei, S. F. (2013). The effectiveness of a multidisciplinary group rehabilitation program on the psychosocial functioning of elderly people who are visually impaired. *Journal of Visual Impairment & Blindness*, *107*(1), 5-16. doi: <http://dx.doi.org.ezproxy.bu.edu/10.1177/0145482X1310700101>
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84* (2), 191-215. doi:10.1037/0033-295x.84.2.191
- Barstow, B. A., Bennett, D. K., & Vogtle, L. K. (2011). Perspectives on home safety: Do home safety assessments address the concerns of clients with vision loss? *American Journal of Occupational Therapy*, *65*, 635–642. doi: 10.5014/ajot.2011.001909
- Barstow, B. A., Warren, M., Thaker, S., Hallman, A., & Batts, P. (2015). Client and therapist perspectives on the influence of low vision and chronic conditions on performance and occupational therapy intervention. *American Journal of Occupational Therapy*, *69*, 1-8. doi: <http://dx.doi.org/10.5014/ajot.2015.014605>
- Berger, S., McAteer, J., Schreier, K., & Kaldenberg, J. (2013). Occupational therapy interventions to improve leisure and social participation for older adults with low vision: A systematic review. *American Journal of Occupational Therapy*, *67*, 303–311. doi: <http://dx.doi.org/10.5014/ajot.2013.005447>
- Blaylock, S. E., Barstow, B. A., Vogtle, L. K., & Bennett, D. K. (2015). Understanding the occupational performance experiences of individuals with low vision. *British*

Journal of Occupational Therapy, 78(7), 412-421. doi:

10.1177/0308022615577641

Brunelli, A. A., Murphy, G. C., & Athanasou, J. A. (2016). Effectiveness of Social Support Group Interventions for Psychosocial Outcomes: A Meta-analytic Review. *The Australian Journal of Rehabilitation Counselling*, 22(2), 104-127. doi: 10.1017/jrc.2016.9

Centers for Disease Control and Prevention, (2001). Prevalence of disabilities and associated health conditions among adults—United States, 1999. *Morb. Mortal. Wkly. Rep.* 50, 120–125.

Costello, J. F. (2013). Roles and strategies of diabetes support group facilitators: an exploratory study. *The Diabetes Educator*, 39(2), 178-186. doi: 10.1177/0145721713476347

Coyle, C. E., Steinman, B. A., & Chen, J. (2017). Visual acuity and self-reported vision status: Their associations with social isolation in older adults. *Journal of Aging and Health*, 29(1), 128-148. doi: 10.1177/0898264315624909

Crews, J. E., & Campbell, V. A. (2004). Vision impairment and hearing loss among community-dwelling older Americans: implications for health and functioning. *American Journal of Public Health*, 94(5), 823-829. doi: <http://dx.doi.org.ezproxy.bu.edu/10.2105/AJPH.94.5.823>

Embuldeniya, G., Veinot, P., Bell, E., Bell, M., Nyhof-Young, J., Sale, J. E., & Britten, N. (2013). The experience and impact of chronic disease peer support

interventions: a qualitative synthesis. *Patient Education and Counseling*, 92(1), 3-12. doi: <http://dx.doi.org/10.1016/j.pec.2013.02.002>

Finlayson, M. L., & Cho, C. C. (2011). A profile of support group use and need among middle-aged and older adults with multiple sclerosis. *Journal of Gerontological Social Work*, 54(5), 475-493. doi: 10.1080/01634372.2011.575446

Friedman, D.S., O'Colmain, B.J., Munoz, B., Tomany, S.C., McCarty, C., De Jong, P.T., Nemesure, B., Mitchell, P., Kempen, J., Eye Diseases Prevalence Research Group, 2004. Prevalence of age-related macular degeneration in the united states. *Arch. Ophthalmol.* 122, 564–572.

Frohlich, D. O. (2014). The social support model for people with chronic health conditions: A proposal for future research. *Social Theory & Health*, 12(2), 218-234. doi: 10.1057/sth.2014.3

Häggman-Laitila, A., & Pietilä, A. M. (2009). Preventive psychosocietal support groups: parents' criteria for good quality. *Scandinavian Journal of Caring Sciences*, 23(2), 211-221. doi: 10.1111/j.1471-6712.2008.00607.x

Hammarberg, K., Sartore, G., Cann, W., & Fisher, J. R. (2014). Barriers and promoters of participation in facilitated peer support groups for carers of children with special needs. *Scandinavian Journal of Caring Sciences*, 28(4), 775-783. doi: 10.1111/scs.12110

Hartwell, L. (2012). Why support groups provide help and hope. *Nephrology News & Issues*, 26(9), 30-32.

- Huefner, K., Kaldenberg, J., & Berger, S. (2008). Vision-related issues facing older adults: Occupational therapy's role. *Special Interest Section Quarterly Gerontology, 31*, 2, 1-4.
- Justiss, M. D. (2013). Occupational therapy interventions to promote driving and community mobility for older adults with low vision: A systematic review. *American Journal of Occupational Therapy, 67*(3), 296-302. doi: <http://dx.doi.org/10.5014/ajot.2013.005660>
- Kelly, J. F., & Yeterian, J. D. (2011). The role of mutual-help groups in extending the framework of treatment. *Alcohol Research & Health, 33*(4), 350.
- Kempen, G. I., Ballemans, J., Ranchor, A. V., van Rens, G. H., & Zijlstra, G. R. (2012). The impact of low vision on activities of daily living, symptoms of depression, feelings of anxiety and social support in community-living older adults seeking vision rehabilitation services. *Quality of life research, 21*(8), 1405-1411. doi: 10.1007/s11136-011-0061-y
- Liu, C. J., Brost, M. A., Horton, V. E., Kenyon, S. B., & Mears, K. E. (2013). Occupational therapy interventions to improve performance of daily activities at home for older adults with low vision: A systematic review. *American Journal of Occupational Therapy, 67*(3), 279-287. doi: <http://dx.doi.org/10.5014/ajot.2013.005512>
- McCulloh, K. J., Crawford, I., & Resnick, J. D. (1994). A structured support group for midlife and older adults with vision loss. *Journal of Visual Impairment & Blindness.*

- McGrath, C. E., & Rudman, D. L. (2013). Factors that influence the occupational engagement of older adults with low vision: A scoping review. *British Journal of Occupational Therapy*, 76(5), 234-241. doi: 10.4276/030802213X13679275042762
- McGrath, C., Rudman, D. L., Spafford, M., Trentham, B., & Polgar, J. (2017). The Environmental Production of Disability for Seniors with Age-Related Vision Loss. *Canadian Journal on Aging/La Revue canadienne du vieillissement*, 36(1), 55-66. doi: 10.1017/S0714980816000623
- National Eye Institute (2018). Retrieved from: <https://nei.nih.gov/lowvision/content/faq>
- Packer, T. L., Girdler, S., Boldy, D. P., Dhaliwal, S. S., & Crowley, M. (2009). Vision self-management for older adults: a pilot study. *Disability and rehabilitation*, 31(16), 1353-1361. doi: 10.1080/09638280802572999
- Perlmutter, M., & Hussey, G., (2017). Living life with vision loss: A community based self-management program for people with low vision. *OT Practice*, 24-26.
- Rees, G., Xie, J., Chiang, P. P., Larizza, M. F., Marella, M., Hassell, J. B., ... & Lamoureux, E. L. (2015). A randomised controlled trial of a self-management programme for low vision implemented in low vision rehabilitation services. *Patient education and counseling*, 98(2), 174-181. doi: <http://dx.doi.org/10.1016/j.pec.2014.11.008>
- Schoessow, K. (2010). Shifting from compensation to participation: A model for occupational therapy in low vision. *The British Journal of Occupational Therapy*,

73(4), 160-169. doi:

<http://dx.doi.org.ezproxy.bu.edu/10.4276/030802210X12706313443947>

- Servat, J. J., Risco, M., Nakasato, Y. R., & Bernardino, C. R. (2011). Visual impairment in the elderly: impact on functional ability and quality of life. *Clinical Geriatrics, 19*(7), 49-56.
- Smith, S. L., Bennett, L. W., & Wilson, R. H. (2008). Prevalence and characteristics of dual sensory impairment (hearing and vision) in a veteran population. *J Rehabil Res Dev, 45*(4), 597-609. doi: 10.1682/JRRD.2007.02.0023
- Tay, K. C. P., Drury, V. B., & Mackey, S. (2014). The role of intrinsic motivation in a group of low vision patients participating in a self-management programme to enhance self-efficacy and quality of life. *International journal of nursing practice, 20*(1), 17-24. doi: 10.1111/ijn.12110
- Teitelman, J., & Copolillo, A. (2005). Psychosocial issues in older adults' adjustment to vision loss: findings from qualitative interviews and focus groups. *American Journal of Occupational Therapy, 59*(4), 409-417. doi:
<http://dx.doi.org.ezproxy.bu.edu/10.5014/ajot.59.4.409>
- van der Aa, H. P., Krijnen-de Bruin, E., van Rens, G. H., Twisk, J. W., & van Nispen, R. M. (2015). Watchful waiting for subthreshold depression and anxiety in visually impaired older adults. *Quality of Life Research, 24*(12), 2885-2893. doi:
10.1007/s11136-015-1032-5
- Vision Rehabilitation Evidence Based Review Team (2005) Vision rehabilitation: evidence-based review. Toronto: Canadian National Institute for the Blind.

- Watson, G. R. (2001). Low vision in the geriatric population: Rehabilitation and management. *Journal of the American Geriatrics Society*, *49*(3), 317–330. doi: <http://dx.doi.org.ezproxy.bu.edu/10.1046/j.1532-5415.2001.4930317.x>
- Weisser-Pike, O., & Kaldenberg, J. (2010). Occupational therapy approaches to facilitate productive aging for individuals with low vision. *OT Practice*, *15*(3), CE-1.
- Whitson, H. E., Ansah, D., Whitaker, D., Potter, G., Cousins, S. W., MacDonald, H., ... & Cohen, H. J. (2010). Prevalence and patterns of comorbid cognitive impairment in low vision rehabilitation for macular disease. *Archives of gerontology and geriatrics*, *50*(2), 209-212. doi: 10.1016/j.archger.2009.03.010
- World Health Organization (2012) Visual impairment and blindness: fact sheet. Geneva, Switzerland: World Health Organization.
- Zordan, R. D., Juraskova, I., Butow, P. N., Jolan, A., Kirsten, L., Chapman, J., ... & Sundquist, K. (2010). Exploring the impact of training on the experience of Australian support group leaders: current practices and implications for research. *Health Expectations*, *13*(4), 427-440. doi: 10.1111/j.1369-7625.2010.00592.x

CHAPTER THREE: DESCRIPTION OF THE PROGRAM

Program Description

S.O.L.V.E. for Occupational Therapy Practitioners: Solutions to Optimize the Low Vision Experience is an evidence-based, theory-driven solution to the occupational performance and participation challenges of individuals with low vision. Self-efficacy theory is the main conceptual framework guiding *S.O.L.V.E.* *S.O.L.V.E.* is a detailed framework and manual designed for occupational therapy practitioners (OTP) to follow and implement in local low vision support groups. *S.O.L.V.E.* is designed to enhance low vision support groups and ultimately improve occupational performance outcomes for individuals with low vision. *S.O.L.V.E.* gives OTP the tools to facilitate the teaching of recommended low vision intervention strategies and mental health approaches to group members. *S.O.L.V.E.* is delivered by OTP with support group members in person where each individual group is normally held. A major portion of the module includes teaching of the problem solving approach to group members. In the problem solving approach, participants learn how to state their current problems, set goals for addressing these challenges, and take the action steps to solve them. Participants brainstorm potential solutions, test them out, learn to implement them, and in the end evaluate outcomes (Berger, McAteer, Schreir, & Kaldenberg, 2013). In *S.O.L.V.E.*, individuals learn to solve the personal challenges of the other group members as a team.

In *S.O.L.V.E.*, participants learn strategies that make use of other senses including use of tactile additions such as raised dots or safety pins to facilitate participation (Huefner et al., 2008; Schoessow, 2010). *S.O.L.V.E.* also covers teaching of auditory

strategies such as talking devices and organizational strategies such as avoiding clutter and organizing items (Schoessow, 2010; Weisser-Pike et al., 2010; Huefner et al., 2008). Participants learn how to make use of their remaining vision by utilizing strategies such as eccentric viewing, which involves learning to make use of one's peripheral vision during daily activities (Weisser-Pike & Kaldenberg, 2010). Additionally, participants learn how to use enhanced lighting in order to optimize performance through use of task lighting directly at the activity and ambient lighting to ease transitions around the home (Huefner, Kaldenberg, & Berger, 2008). Another taught strategy is the use of magnification in assisting with tasks that involve numbers or written text.

S.O.L.V.E. is based off the self-efficacy theory and, thus follows its main principles such as mastery experiences, vicarious experiences, social persuasion, and monitoring of physical and emotional states to increase participants' self-efficacy and self-regulation (Bandura, 1977). *S.O.L.V.E.* incorporates the use of mastery experiences, which is the successful attempt at an activity, through use of role-playing. *S.O.L.V.E.* incorporates the use of vicarious experiences, in which individuals learn that they can do something from the success of others who are similar, by delegating time for participants to share their own personal success stories during the group so that the members can learn from one another. *S.O.L.V.E.* incorporates social persuasion by encouraging participants to cheer one another on and increase their beliefs in their abilities. Another key component of the self-efficacy theory is the monitoring of physical and emotional states to promote self-regulation and self-awareness (Bandura, 1977). In *S.O.L.V.E.*, journaling and personal reflections are used to address the monitoring of emotional and

physical states. Through each of these elements, *S.O.L.V.E.* aims to increase levels of self-efficacy and self-regulation.

Another element of *S.O.L.V.E.* is the teaching of group process, counseling skills, and communication strategies. Participants learn how to structure the group for ultimate success. In particular, participants learn how to progress group sessions starting with less personal issues, moving into more personal topics, discussion of losses, and finally transition into success stories (McCulloh, Crawford, & Resnick, 1994). For general program week-by-week overview, *see Table 3-1*.

Week	Topic	Content and Activities	Research to Support the Program
Week One	What is Low Vision?	<ul style="list-style-type: none"> -Self-introduction of participants -Ice breakers -Description of program purpose and goals -Identification of participant needs -Educational presentation on low vision -Discussion of occupational performance challenges related to low vision 	Berger, McAteer, Schreir, & Kaldenberg, 2013
Week Two	Problem Solving Approach	<ul style="list-style-type: none"> -Discussion of problem solving approach -Demonstration of problem solving approach in use -Participants work in teams to problem solve through personal and hypothetical scenarios 	Berger, McAteer, Schreir, & Kaldenberg, 2013
Week Three	Strategies that Make Use of Remaining Vision	<ul style="list-style-type: none"> -Discussion of/teaching about strategies that make use of remaining vision such as eccentric viewing -Demonstration of strategies -Participation in case studies to apply strategies -Use of role-playing -Application to participants' everyday lives 	Liu et al., 2013; Berger et al., 2013; Weisser-Pike et al, 2010; Huefner et al., 2008; Schoessow, 2010
Week Four	Strategies that Make Use of Other Senses	<ul style="list-style-type: none"> -Discussion of strategies that make use of other senses -Demonstration of strategies -Participation in case studies to apply strategies -Use of role-playing -Application to participants' everyday lives 	Huefner et al., 2008; Schoessow, 2010; Weisser-Pike et al., 2010;
Week Five	Group Process and Communication Skills	<ul style="list-style-type: none"> -Educational lecture on effective group communication -Demonstration of communication strategies -Role-playing of communication strategies 	McCulloh et al., 1994; Perlmutter et al., 2017, Rees et al., 2014; Packer et al., 2009
Week Six	Review	<ul style="list-style-type: none"> -Review all topics as necessary with use of lecture, demonstration, case scenarios, and role-playing as needed -Problem solving approach -Strategies that make use of remaining vision -Strategies that make use of other senses -Communication skills 	

Table 3-1. 6-Week Module Session-by-Session Breakdown.

Methods/Process of Delivery

Occupational therapy practitioners deliver *S.O.L.V.E.* to individuals of low vision support groups. The full training is implemented in person once a week for 90 minutes for 6 weeks with support group members. Alternatively, the program could be also be implemented at 8 and ½ hour one-day in person workshops. The full training manual is available in a written document. *See Appendix A.* Portions of the program will be filmed and available for participants, other OTP, and low vision professionals to review after completion of the program.

Activities of Program

S.O.L.V.E. contains a variety of activities in order to fully enhance the low vision support group experience. Through use of educational presentations, OTP teach and explain skills such communication and problem solving strategies. OTP perform role-playing demonstrations in order to showcase the skills that they are teaching being put to use. A role-playing scenario involves both OTP and support group members, and might include the application of one of the recommended strategies to support an occupational performance challenge. Participants are given an opportunity to participate in role-playing scenarios following these initial demonstrations. With case studies, OTP and participants review case scenarios with one another to talk through how to address various situations.

Participants are given an opportunity to practice applying skills to real life scenarios by sharing real life challenges and coming up with solutions with the support group and occupational therapy practitioners. Participants are assigned homework in

order to practice thinking about how they can apply the learned skills to their real lives. Examples of case scenarios and homework are included in *Appendix A*. Finally, participants learn how to set goals and create action plans for tackling daily struggles that they may encounter.

Role of Personnel

OTP are in charge of implementing the training module to the low vision support group members. In effort to recruit the interest of other support groups, individuals with low vision who have worked with OTP speak on behalf of the benefits of doing so to encourage new support groups to have the training module implemented. Group members that do participate in the training module are responsible for taking in the presented information to the best of their abilities. Very few materials and equipment are needed to run *S.O.L.V.E.* A computer and printer that are equip with paper and ink are needed to in order to make copies of the handouts and other physical resources.

Intended Recipients of Program

The training module is meant to be implemented by OTP to adults with low vision who attend local low vision support groups in CT area and beyond as interested. Thus, the intended recipients are both OTP and low vision support group members.

Methods to Recruit/Identify Appropriate Service Recipients

Support groups are identified using online search engines and networking with local/national agencies for individuals with visual impairments. Support groups are also located through ophthalmology and optometry offices. Once the support groups are identified, flyers and promotional videos are sent to attract the interest of members. OTP

are expected to visit support groups to explain the training in person and answer any questions. Individuals with low vision who have worked with OTP and have experienced benefits from the services may also go with the OTP to the groups to promote the program.

Intended Outcomes of Program

In the short term, intended outcomes of the training module are to increase satisfaction in the support group experience, increase knowledge of group process and group leadership, increase perceived self-efficacy with mastery of participation/performance challenges, and increase vision-related self-efficacy. In the long term, intended outcomes of the training module are expected to be increased occupational performance and participation and reduced mental health challenges for people with low vision.

Potential Barriers and Challenges for the Implementation of *S.O.L.V.E.*

Despite its theoretical and evidence base, there are several potential barriers or challenges that may arise in the implementation of *S.O.L.V.E.* One potential barrier may be lack of interest of OTP and group members. OTP and group members may lack interest in the program itself or/and the time required to implement it/participate. Another potential barrier might be a lack of space to implement the program. If low vision support groups do not agree or have the ability to allow OTP to utilize the space used for meetings, then OTP may have to seek out space elsewhere.

Another potential challenge may be the generalization of concepts to each support group. Aspects of the module may or may not be relevant to every support group and

thus, may need to be modified depending on the support group participating. Another potential challenge may be ensuring that the effects of *S.O.L.V.E.* can be sustained long-term as the group carries on in the future. Further, it may be challenging for the low vision support groups to apply the concepts on their own after *S.O.L.V.E.* comes to an end. Since the program is newly developed, long-term effects are currently unknown and need to be monitored and evaluated to ensure long-term impact.

How to Address Potential Barriers and Challenges

The potential barrier of lack of interest may be addressed through extensive marketing of *S.O.L.V.E.* to attract both OTP and support group members. *S.O.L.V.E.* is to be advertised at support groups through use of physical advertisements and in person presentations given by OTP and support group members who have benefited from the module or other occupational therapy services. *S.O.L.V.E.* is also to be advertised at state and national OTP conferences to attract OTP to implement the program. Additionally, OTP are to partner with vision specialists such as optometrists and ophthalmologists to spread the word about *S.O.L.V.E.* to their clients.

The potential barrier related to lack of space to implement *S.O.L.V.E.* may be addressed by utilizing the usual locations of the support groups participating in the program vs. having the participants travel to a different location. However, if the usual support group location cannot be utilized, then OTP may attempt to partner with optometrists or ophthalmologists offices to see if they will agree to share their spaces.

The potential barrier of generalizability may be addressed by personalizing aspects of *S.O.L.V.E.* to each support group that decides to participate. Participants are

asked to share about their own personal occupational performance challenges and role-playing scenarios are modified to reflect real life struggles of the participants.

Additionally, the real life scenarios of the participants are used when they practice applying the problem skills.

In order to promote long-lasting effects, continuous program evaluation is to take place and surveys are to be used to track outcomes of the program long term. If the evaluations reveal that the outcomes are not long-lasting, changes are to be made to *S.O.L.V.E.* as necessary to improve the module and promote long-term program effects. Additionally, OTP may also take on the role of a consultant to assist the low vision support groups on an as-needed basis long term. Evidence supports the benefits of OTP involvement in a consultant like fashion (Brunelli et al., 2016; McCulloh, Crawford, & Resnick, 1994).

References

- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84 (2), 191-215. doi:10.1037/0033-295x.84.2.191
- Barstow, B. A., Warren, M., Thaker, S., Hallman, A., & Batts, P. (2015). Client and therapist perspectives on the influence of low vision and chronic conditions on performance and occupational therapy intervention. *American Journal of Occupational Therapy*, 69, 1-8. doi: <http://dx.doi.org/10.5014/ajot.2015.014605>
- Berger, S., McAteer, J., Schreier, K., & Kaldenberg, J. (2013). Occupational therapy interventions to improve leisure and social participation for older adults with low vision: A systematic review. *American Journal of Occupational Therapy*, 67, 303–311. doi: <http://dx.doi.org/10.5014/ajot.2013.005447>
- Blaylock, S. E., Barstow, B. A., Vogtle, L. K., & Bennett, D. K. (2015). Understanding the occupational performance experiences of individuals with low vision. *British Journal of Occupational Therapy*, 78(7), 412-421. doi: 10.1177/0308022615577641
- Coyle, C. E., Steinman, B. A., & Chen, J. (2017). Visual Acuity and Self-Reported Vision Status: Their Associations With Social Isolation in Older Adults. *Journal of Aging and Health*, 29(1), 128-148. doi: 10.1177/0898264315624909
- Crews, J. E., & Campbell, V. A. (2004). Vision impairment and hearing loss among community-dwelling older Americans: implications for health and functioning. *American Journal of Public Health*, 94(5), 823-829. doi: <http://dx.doi.org.ezproxy.bu.edu/10.2105/AJPH.94.5.823>

- Friedman, D.S., O'Colmain, B.J., Munoz, B., Tomany, S.C., McCarty, C., De Jong, P.T., Nemesure, B., Mitchell, P., Kempen, J., Eye Diseases Prevalence Research Group, 2004. Prevalence of age-related macular degeneration in the united states. *Arch. Ophthalmol.* 122, 564–572.
- Huefner, K., Kaldenberg, J., & Berger, S. (2008). Vision-related issues facing older adults: Occupational therapy's role. *Special Interest Section Quarterly Gerontology*, 31, 2, 1-4.
- Liu, C. J., Brost, M. A., Horton, V. E., Kenyon, S. B., & Mears, K. E. (2013). Occupational therapy interventions to improve performance of daily activities at home for older adults with low vision: A systematic review. *American Journal of Occupational Therapy*, 67(3), 279-287. doi: <http://dx.doi.org/10.5014/ajot.2013.005512>
- McCulloh, K. J., Crawford, I., & Resnick, J. D. (1994). A structured support group for midlife and older adults with vision loss. *Journal of Visual Impairment & Blindness*.
- McGrath, C. E., & Rudman, D. L. (2013). Factors that influence the occupational engagement of older adults with low vision: A scoping review. *British Journal of Occupational Therapy*, 76(5), 234-241. doi: 10.4276/030802213X13679275042762
- National Eye Institute (2018). Retrieved from: <https://nei.nih.gov/lowvision/content/faq>
- Packer, T. L., Girdler, S., Boldy, D. P., Dhaliwal, S. S., & Crowley, M. (2009). Vision self-management for older adults: a pilot study. *Disability and rehabilitation*,

31(16), 1353-1361. doi: 10.1080/09638280802572999

Rees, G., Xie, J., Chiang, P. P., Larizza, M. F., Marella, M., Hassell, J. B., ... &

Lamoureux, E. L. (2015). A randomised controlled trial of a self-management programme for low vision implemented in low vision rehabilitation services.

Patient education and counseling, 98(2), 174-181. doi:

<http://dx.doi.org/10.1016/j.pec.2014.11.008>

Schoessow, K. (2010). Shifting from compensation to participation: A model for

occupational therapy in low vision. *The British Journal of Occupational Therapy*, 73(4), 160-169. doi:

<http://dx.doi.org.ezproxy.bu.edu/10.4276/030802210X12706313443947>

Servat, J. J., Risco, M., Nakasato, Y. R., & Bernardino, C. R. (2011). Visual impairment

in the elderly: impact on functional ability and quality of life. *Clinical Geriatrics*, 19(7), 49-56.

Smith, S. L., Bennett, L. W., & Wilson, R. H. (2008). Prevalence and characteristics of

dual sensory impairment (hearing and vision) in a veteran population. *J Rehabil Res Dev*, 45(4), 597-609. doi: 10.1682/JRRD.2007.02.0023

Teitelman, J., & Copolillo, A. (2005). Psychosocial issues in older adults' adjustment to

vision loss: findings from qualitative interviews and focus groups. *American Journal of Occupational Therapy*, 59(4), 409-417. doi:

<http://dx.doi.org.ezproxy.bu.edu/10.5014/ajot.59.4.409>

Vision Rehabilitation Evidence Based Review Team (2005) Vision rehabilitation:

evidence-based review. Toronto: Canadian National Institute for the Blind.

Weisser-Pike, O., & Kaldenberg, J. (2010). Occupational therapy approaches to facilitate productive aging for individuals with low vision. *OT Practice*, *15*(3), CE-1.

World Health Organization (2012) Visual impairment and blindness: fact sheet. Geneva, Switzerland: World Health Organization.

CHAPTER FOUR: EVALUATION PLAN

Purpose

A program evaluation will be conducted in order to evaluate the program, *S.O.L.V.E.*, to be implemented by occupational therapy practitioners (OTP) in a low vision support group. The evaluation will be a mix of summative and formative methods in order to define both the “what” and the “why” of *S.O.L.V.E.* The author’s aim is to determine the degree to which *S.O.L.V.E.* is effective and well received by low vision support group members. In particular, the evaluation will allow the author to determine if *S.O.L.V.E.* enhances the support group process by improving communication styles overall and problem-solving attempts during the group. A further aim is to determine if *S.O.L.V.E.* can promote improvement in participation and performance outcomes in the long term. The intended users of the evaluation would be mainly the OTP that are in charge of making changes to *S.O.L.V.E.* and implementing any said changes as necessary.

Plan for Evaluability Assessment (EA)

The EA will consist of one to six meetings where stakeholders will come to an agreement regarding whether *S.O.L.V.E.* is ready to be launched. The EA proceeds in six stages and will take up to six meetings depending on how much time stakeholders deem appropriate in discussing *S.O.L.V.E.*’s readiness to launch. *See Figure 4-1* for complete logic model.

Stage 1: Assembling the EA team. The evaluation team will consist of OTP that will be carrying out *S.O.L.V.E.* as well as a few support group peer leaders and regular participants that will be receiving the program.

Program Title: S.O.L.V.E. for Occupational Therapy Practitioners: Solutions to Optimize the Low Vision Experience

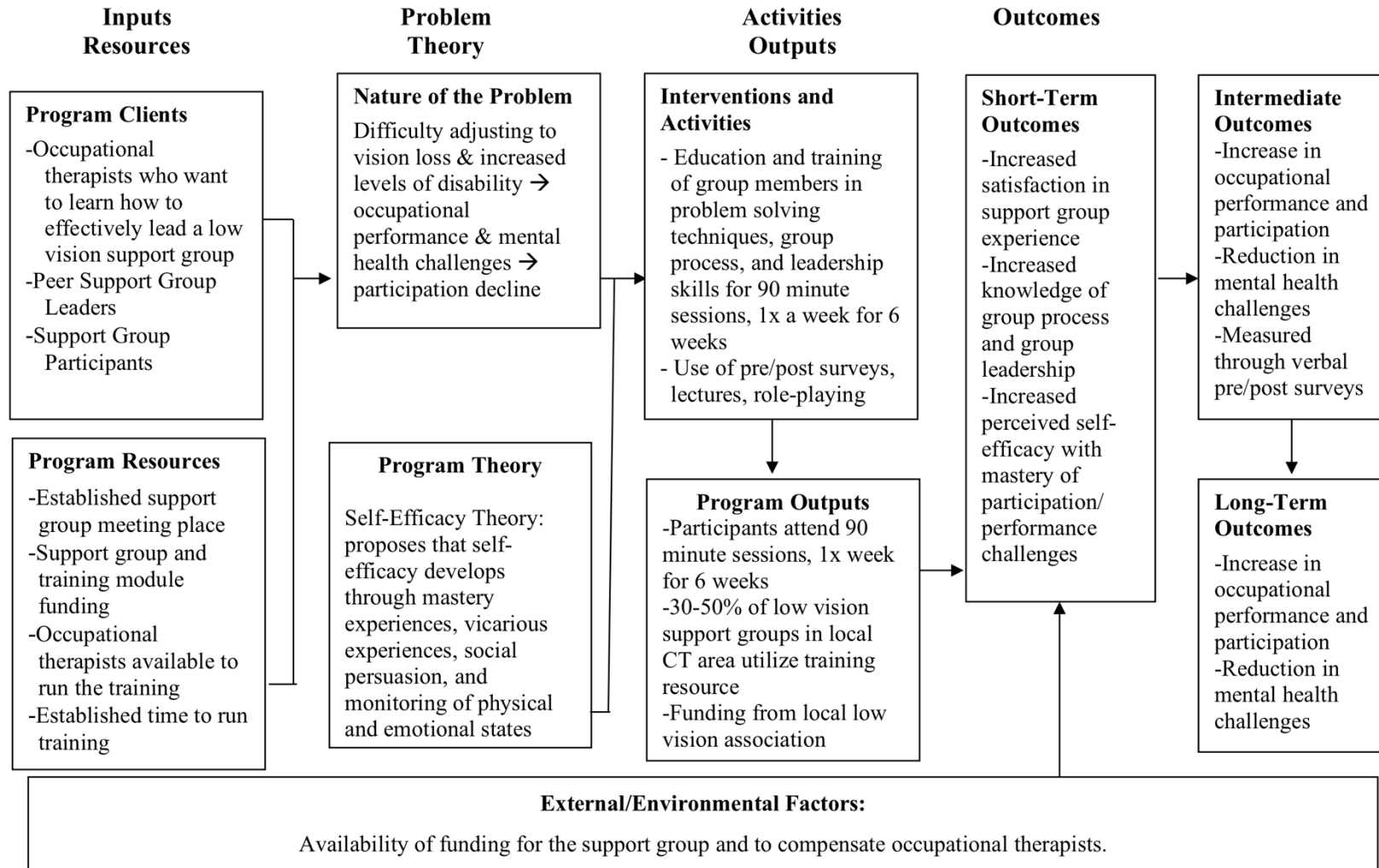


Figure 4-1. Logic Model

Stage 2: Editing of the logic model. The *S.O.L.V.E.* logic model will be edited and finalized prior to beginning the evaluability assessment in order to ensure that the program and its intended direction is depicted and described in detail. *See Figure 4-1.* The EA team will also be given relevant research articles and copies of *S.O.L.V.E.*'s budget.

Stage 3: Exploration of program realities. The first task of the EA team will be to compare and contrast the logic model with what actually has happened in the implementation of *S.O.L.V.E.* The EA team will interview *S.O.L.V.E.* participants and leaders and review records to determine how closely the program aligns with the logic model. The EA team will also conduct a literature review to assess if the *S.O.L.V.E.* model is aligning with current evidence. Based on what the EA team finds, they will make a recommendation to proceed with the evaluation, make changes to *S.O.L.V.E.* before evaluating, or take no action at this time.

Stage 4: Reaching agreement on needed changes. The EA team will reach an agreement on any needed changes prior to the start of the program evaluation.

Stage 5: Exploration of evaluation designs. The EA team will discuss any other potential program evaluation designs and begin to come up with potential evaluation questions.

Stage 6: Determination of priorities and intended use of evaluation information. The EA team will come up with a detailed plan for how the evaluation information will be used in the future.

Core Purposes of the Evaluation

Since *S.O.L.V.E.* is new and still in development, one core purpose of the author's program evaluation is descriptive. The author will aim to list out each component of the newly developed *S.O.L.V.E.* and to determine participant satisfaction. In particular, the author would like to hear from both OTP that are leading *S.O.L.V.E.* and low vision support group members who are receiving the training. This information will help determine which components of *S.O.L.V.E.* are beneficial and which pieces should be revised. The author would also like to know what proportion of participants, following participation in *S.O.L.V.E.*, engage in more effective communication behaviors during the support group to assist other members in solving their problems of interest.

Another core purpose of program evaluation is causative in order to establish if participation in *S.O.L.V.E.* can lead to increased participation in activities and improved occupational performance. In order to achieve this aim of the evaluation, *S.O.L.V.E.* will be fully implemented in a few low vision support groups, partially implemented in others, and not implemented in other groups in order to determine if there are differences in participation and performance outcomes based on participation in the module.

Scope of the Evaluation

The scope of the evaluation is described below including the time and place, number of participants, and inclusion/exclusion criteria.

Time and place. Program evaluation will take place over a 6-month period at three different low vision support groups in Connecticut.

Numbers of participants. Eight to ten individuals from each of the three support groups will be recruited, for a total of 24–30 participants in the study.

Inclusion and exclusion criteria. Inclusion criteria are perfect attendance at selected low vision support groups, 65 years of age or older, and a diagnosis of low vision.

Individuals with less than perfect attendance at selected low vision support groups, who are younger than 65 years of age, and who do not have a low vision diagnosis will be excluded from the study.

Evaluation Questions

Questions that stakeholders may ask: 1) How will *S.O.L.V.E.* improve occupational performance/participation in individuals with low vision? 2) Is there evidence to support the techniques outlined in *S.O.L.V.E.*? 3) How will *S.O.L.V.E.* improve mental health outcomes for individuals with low vision? 4) How will you measure the proposed outcomes of *S.O.L.V.E.*? 5) How will *S.O.L.V.E.* improve group member knowledge of group process? *See Table 4-1.*

Stakeholder Questions
1) How will <i>S.O.L.V.E.</i> improve occupational performance/participation in individuals with low vision?
2) Is there evidence to support the techniques outlined in <i>S.O.L.V.E.</i> ?
3) How will <i>S.O.L.V.E.</i> improve mental health outcomes for individuals with low vision?
4) How will you measure the proposed outcomes of <i>S.O.L.V.E.</i> ?
5) How will <i>S.O.L.V.E.</i> improve group member knowledge of group process?

Table 4-1. Stakeholder Questions.

Questions for OTP during semi-structured interviews: 1) Has *S.O.L.V.E.* for low vision support groups achieved the desired short-term and long-term outcomes? 2) Has

S.O.L.V.E. been well received by the program participants? 3) Which parts of *S.O.L.V.E.* appear to be most effective in achieving the intended outcomes? 4) What might need to be changed to make *S.O.L.V.E.* more beneficial for support group members in the future? 5) What differences do you notice between the support group members that received training, partial training, and no training at all? *See Table 4-2.*

Questions for Occupational Therapy Practitioners
1) Has <i>S.O.L.V.E.</i> for low vision support groups achieved the desired short-term and long-term outcomes?
2) Has <i>S.O.L.V.E.</i> been well received by the program participants?
3) Which parts of <i>S.O.L.V.E.</i> appear to be most effective in achieving the intended outcomes?
4) What might need to be changed to make <i>S.O.L.V.E.</i> more beneficial for support group members in the future?
5) What differences do you notice between the support group members that received training, partial training, and no training at all?

Table 4-2. Questions for Occupational Therapy Practitioners.

Type of Research Design and/or Methods Being Considered

Quasi-experimental or a basic-value added designs are being considered because both allow for the comparison between multiple groups in a scenario where it is hard to determine causation. Additionally, randomization is not a feasible option, as the support groups will have been already pre-established prior to *S.O.L.V.E.*'s implementation. The independent variable will be the degree that *S.O.L.V.E.* is implemented to participants. The dependent variables will include satisfaction with the support group, occupational performance, participation, and mental health symptoms. To evaluate *S.O.L.V.E.*, one support group will receive all 6 training sessions conducted by an OTP, one support group will receive 3 training sessions conducted by an OTP, and one support group will

not receive any training sessions conducted by an OTP, acting as the control group. A portion of the evaluation will also be more formative and will aim to assess if the methods used to implement *S.O.L.V.E.* were effective and well-received by participants.

Planned Approach to Data Gathering

To address the summative and quantitative portion of the evaluation, trained observers will assess participants at one support group a month. Each support group session will also be filmed and reviewed retrospectively by other trained observers. The trained observers will be looking for use of specific behaviors that signify that the concepts of *S.O.L.V.E.* are or are not being implemented. Participants will also fill out one pretest survey prior to 6-month evaluation period and one posttest survey following program implementation and 6-month program evaluation period. The pre/post test survey will assess all mentioned dependent variables using closed-ended questions. Close-ended questions may include yes/no questions and use of Likert scales. Examples of questions on a pre/post test survey include: 1) Currently, how much difficulty do you have managing your medications on a scale of 1 (none) to 5 (A lot)? 2) Prior to having a visual problem, how much difficulty do you have managing your medications on a scale of 1 (none) to 5 (A lot)? 3) Currently, how often do you participate in enjoyed leisure activities? Options: never, rarely, sometimes, regularly, frequently. 4) Prior to having a visual problem, how often did you participate in enjoyed leisure activities? Options: never, rarely, sometimes, regularly, frequently. 5) What activity is the most challenging due to your visual problem? 6) What strategy do you use in order to complete your most challenging activity that you listed above? *See Table 4-3.*

Pre/Post Test Survey Questions
1) Currently, how much difficulty do you have managing your medications on a scale of 1 (none) to 5 (A lot)?
2) Prior to having a visual problem, how much difficulty do you have managing your medications on a scale of 1 (none) to 5 (A lot)?
3) Currently, how often do you participate in enjoyed leisure activities? Options: never, rarely, sometimes, regularly, frequently
4) Prior to having a visual problem, how often did you participate in enjoyed leisure activities? Options: never, rarely, sometimes, regularly, frequently.
5) What activity is the most challenging due to your visual problem?
6) What strategy do you use in order to complete your most challenging activity that you listed above?

Table 4-3. Pre/Post Test Survey Questions.

For the formative and qualitative portion of the evaluation, OTP that conducted *S.O.L.V.E.* and support group members will participate in semi-structured interviews using a mix of open and closed-ended questions. The information gained during the summative evaluation will be used to determine if the outcomes of interest were achieved. Further, the formative data will be utilized to make changes as needed to *S.O.L.V.E.* in the future in order to make it more effective and successful.

Data Analysis and Reporting

For the quantitative and summative portion of the evaluation, Likert scales will be used for the majority of the questions on the pre/post surveys. Likert scales are a type of ordinal data, which is analyzed using nonparametric statistics. The surveys will also include use of yes/no questions, a form of categorical data, which is also analyzed using nonparametric statistics. The trained observers will also be collecting categorical data by marking whether or not support group members display certain behaviors. Since the data is causative, when looking at one single group at a time, use of a binomial or chi-square test may be appropriate. When comparing all three of the groups to one another, use of a

Kruskal-Wallis one-way analysis of variance may be appropriate (Newcomer & Conger, 2015). To analyze the qualitative data from the formative evaluation, hermeneutic methods will be used in order to find themes in the OTP and support group members' responses. To do so, the evaluation question responses will be revisited and coded. Next, patterns in the data will be identified and then narrowed down into the most important themes and then formally placed into categories to make sense of the data (Rogers & Goodrick, 2015).

Data Management Plan

To manage quantitative data, data will be entered into to a secured centralized computer system that has a backup system in another location. Survey responses will be coded into the system as categorical or ordinal depending on the type of question. A relational program such as Microsoft Access will be used to make the data easier to manage and a specific form will be designed to facilitate data entry. Research assistants will enter data from the surveys and trained observer forms directly off of the paper format at workstations within five days of the survey completion (Henry, 2015). Another research assistant will be in charge of crosschecking the entered data to reduce potential for error.

Qualitative data will be managed using an outlined protocol starting with archiving data by assigning each semi-structured interview a number. Each interview will be recorded onto a flash drive and transcribed by a research assistant onto a secure computer within five days of each interview. A copy of each flash drive will be kept in secure envelopes and the transcribed interview and recording will be backed up onto

iCloud to prevent data loss (Rogers & Goodrick, 2015). Computer-aided qualitative data analysis software will be used to analyze the data.

References

- Henry, G.T. (2015). Comparison group designs. In: Newcomer, H.P. Hatry, & J.S. Wholey. (Eds.) *Handbook of practical program evaluation* (pp. 137-157). San Francisco, CA: Jossey-Bass.
- Newcomer, K. E. & Conger, D. (2015). Using statistics in evaluation. In: Newcomer, H.P. Hatry, & J.S. Wholey. (Eds.) *Handbook of practical program evaluation* (pp. 596-635). San Francisco, CA: Jossey-Bass.
- Rogers, P.J. & Goodrick, D. (2015). Qualitative data analysis. In: Newcomer, H.P. Hatry, & J.S. Wholey. (Eds.) *Handbook of practical program evaluation* (pp. 561-595). San Francisco, CA: Jossey-Bass.

CHAPTER FIVE: FUNDING PLAN

Project Description

The funding plan outlined in this chapter is designed for the implementation of *S.O.L.V.E. for Occupational Therapy Practitioners: Solutions to Optimize the Low Vision Experience*. *S.O.L.V.E.* is an evidenced-based and theory driven solution for improving the low vision support group experience. *S.O.L.V.E.* is designed to more clearly define the role of occupational therapy practitioners (OTP) in a low vision support group and outlines a protocol for OTP to implement in a support group to improve overall success and productivity. Ultimately, *S.O.L.V.E.* aims to improve occupational performance outcomes for low vision support group members. *S.O.L.V.E.* is grounded in self-efficacy theory and the best available evidence to support occupational performance outcomes. *S.O.L.V.E.* is to be implemented by OTP once a week for 90 minutes for six weeks. By the end of *S.O.L.V.E.*, support group members will be capable of supporting one another by problem solving effectively as new occupational performance challenges arise.

Available Local Resources

The author of *S.O.L.V.E.* is an OTP working for FOX Rehabilitation several days a week at the assisted living facility, *the Hearth at Southbury*. At this facility, there is access to free Wi-Fi, printing, and other office supplies. *The Hearth* also contains usable meeting rooms that could serve as a meeting place, if needed. FOX Rehabilitation also has connections to local occupational therapy (OT) students at universities such as Quinnipiac University. Students from these universities could potentially be recruited to serve as volunteers during the implementation of *S.O.L.V.E.* Another available resource

includes a personal connection to a local Connecticut (CT) pharmacist who is willing to donate supplies to facilitate the teaching of medication management such as pill organizers, etc. Without these resources, future OTP wishing to implement the *S.O.L.V.E* program at their site or within the community would require access to a meeting place, Wi-Fi, a local OT program, and other health care providers such as a pharmacist who could deliver a guest lecture.

Needed Resources: Budget

To ensure the success of *S.O.L.V.E.*, an appropriate amount of financial resources must be in place to cover the costs of the program. In its early years, the author of the program plans to implement the program on a volunteer basis. However, as word about the program spreads and funding sources arise, OTP will be compensated for their implementation of the *S.O.L.V.E.* protocol. Table 5-1 includes all potential implementation expenses for the first two years of *S.O.L.V.E.* assuming funds may be available to compensate OTP.

The OTP salary is the first component to take into consideration for *S.O.L.V.E.*'s budget. The author of *S.O.L.V.E.* plans to implement the program on a volunteer basis until funding revenue increases. However, if funds are available, the OTP who implement *S.O.L.V.E.* will be compensated \$50-100 for each week of the six-week program for a total of \$300-600 for full program implementation. This rate was determined by a standard per diem hourly rate, per the market in Connecticut, *See Table 5-1*. In terms of equipment/supplies needed to implement *S.O.L.V.E.*, each OTP will need a computer and projector to display visual materials to participants. The author of *S.O.L.V.E.* already

owns a computer so would not need to account for this expense. The OTP that already have their own laptop computers would also not have to account for this expense. The OTP will need to account for the rental of a projector, which typically costs \$59.99. The OTP who implement *S.O.L.V.E.* will also need to have access to Wi-Fi, which may cost up to \$78 per month for a total of \$156 for the entire course of *S.O.L.V.E.* The author of *S.O.L.V.E.* will not have to pay for Wi-Fi if the program is conducted at *the Hearth*.

In terms of materials/supplies, the OTP will need to have Microsoft Word in order to present visual materials effectively and should reserve \$69.99 for rights to Word. However, the author of *S.O.L.V.E.* already owns Microsoft Word and will not have to account for this cost. The OTP will also require basic office supplies such as pens, pencils, and paper requiring appropriately \$50-60/year. If the OTP plan to provide light refreshments throughout implementation of *S.O.L.V.E.*, they should anticipate a cost of approximately \$30–40.

Budget Items	Year One	Year Two	Justification
OTP Salary	\$50-100/week x 6 weeks (90 minutes a week) Total: \$300–600	\$50-100/week x 6 weeks (90 minutes a week) Total: \$300–600	In the state of CT, OTP make at least \$30–60 per hour. Rates for the implementation of <i>S.O.L.V.E.</i> are based on average per hour rates for OTP for the time that they put aside to implement the program. Hourly OTP rates per https://www.careerexplorer.com/careers/occupational-therapist/salary/connecticut/
Equipment/Supplies -Computer -Internet Access	Laptop Computer -\$500–1500 Mac Projector - \$59.99 Wi-Fi (if conducting group in area without internet) - \$78/month x 2 months = \$156 per program implementation Total: \$637.99 – 1637.99	Laptop Computer -\$500–1500 Mac Projector - \$59.99 Wi-Fi (if conducting group in area without internet) - \$30/month x 2 months = \$156 per program implementation Total: \$637.99 – 1637.99	Cost of laptop computer per www.bestbuy.com Cost of Mac Projector per wal-mart.com The cost of Wi-Fi per month per www.xfinity.com if OTP does not have access to internet at program location
Materials -Refreshments -Paper -Pens/Pencils -Rights to Microsoft Word	Rights to Microsoft Word -\$69.99/year Paper, Pens, Pencils, etc. -\$50–60/year Refreshments:	Rights to Microsoft Word -\$69.99/year Paper, Pens, Pencils, etc. -\$50–60/year Refreshments:	Projected costs based on www.microsoft.com Projected costs based on www.staples.com Participants will be

	-\$30–40 Total: \$149.99 – 169.99	-\$30–40 Total: \$149.99 – 169.99	provided with light refreshments each group.
Dissemination Expenses	<u>Primary Audience:</u> AOTA National Conference = \$230 per day (one day registration required) Hotel Cost = ~\$150 per hotels.com Airfare = ~\$183 per google.com/flights ConnOTA State Conference = ~\$150 Stamps: \$0.55 x 50 = \$27.50 Envelopes: \$11.99 per staples.com <u>Secondary Audience:</u> Stamps: \$0.55 x 50 = \$27.50 Envelopes: \$11.99 per staples.com Total: \$791.98	<u>Primary Audience:</u> AOTA National Conference = \$230 per day (one day registration required) Hotel Cost = ~\$150 per hotels.com Airfare = ~\$183 per google.com/flights ConnOTA State Conference = ~\$150 Stamps: \$0.55 x 50 = \$27.50 Envelopes: \$11.99 per staples.com <u>Secondary Audience:</u> Stamps: \$0.55 x 50 = \$27.50 Envelopes: \$11.99 per staples.com Total: \$791.98	See Chapter Six
Total Cost	\$1830.96– \$3150.96	\$1830.96– \$3150.96	Total projected costs for OTP who do not already have any of the necessary materials.

Table 5-1. Implementation Costs

Potential Funding Sources

In order to implement *S.O.L.V.E.*, the original author of the program will pay for many of the costs out of pocket as needed in the early stages of its existence. The author of *S.O.L.V.E.* plans to create a gofundme.com effort consisting of donations from friends

and family members with the hope of raising \$500 to put towards all potential costs.

Gofundme is a crowdsourcing platform that can be accessed for free virtually and shared amongst social groups. Other funding sources may include financial support from grants at the community and national level, *see Table 5-2*.

Grant Title	Grant Description
<p>Lions Clubs International Foundation SightFirst</p>	<p>-Funding is available for projects that assist individuals with low vision at the secondary or tertiary levels.</p> <p>-In recent years, grants were awarded internationally in Mali, Kenya, and Uganda for projects to increase screening and treatment efforts for low vision in these countries (Lions Club International, 2010).</p> <p>-Awards for as much \$700,000 have been awarded in the past. Award amounts vary depending on the size of the project (Lions Club International, 2010).</p>
<p>Dudley Allen Sargent Research Fund: Doctoral Student Fund</p>	<p>-Provides funding for research efforts of post-professional doctoral students at Boston University. Max award: \$5,000</p> <p>https://www.bu.edu/sargent/research/research-administration/dudley-allen-sargent-research-fund/</p>
<p>Lavelle Fund for the Blind</p>	<p>-Provides funding non-profit efforts related to promoting independence in individuals with visual impairments</p> <p>-Provides grants of varying amounts</p> <p>-In 2013, a grant of \$500,000 was awarded for a project called VISIONS, which aims to promote employment options for individuals with low vision (Vision and Rehabilitation Resources, 2019).</p>
<p>Nedra Gillette Endowed Research Fellowship</p>	<p>-Award is available to postdoctoral occupational therapists interested in research in order to support the individual's research efforts. There are no specific restrictions on how the funds can be spent as long as they are related to research efforts (Nedra Gillette Endowed Research Fellowship, n.d.)</p> <p>-Grant total: \$5000</p>

Table 5-2. Potential Grants

Conclusion

In the early stages of *S.O.L.V.E.*, the necessary finances will be kept as low as possible to increase the feasibility of implementation. At first, *S.O.L.V.E.* will be implemented on a volunteer basis by the original author. However, as word about *S.O.L.V.E.* spreads and funding increases, OTP will be compensated for program implementation. Apart from implementation costs, a separate budget for *S.O.L.V.E.*'s dissemination is outlined in Chapter 6.

References

Lions Clubs International. (2010). Contact us. Retrieved February 16, 2019, from:

<http://www.lionsclubs.org/EN/lci-foundation/about-us/lions-lcif-staff.php>

Nedra Gillette Endowed Research Fellowship. (n.d.). Retrieved February 16, 2019, from:

<https://www.aotf.org/Grants/Nedra-Gillette-Endowed-Research-Fellowship>

Vision and Rehabilitation Services, (2019). Retrieved February 16, 2019, from:

<https://lavellefund.org/what-we-fund/vision-rehabilitation-and-resources/>

CHAPTER SIX: DISSEMINATION PLAN

Introduction

The dissemination plan outlined in this chapter is designed for the future implementation of *S.O.L.V.E. for Occupational Therapy Practitioners: Solutions to Optimize the Low Vision Experience*. *S.O.L.V.E.* is an evidenced-based and theory-driven solution for improving the low vision support group experience. *S.O.L.V.E.* is designed to more clearly define the role of occupational therapy practitioners (OTP) in a low vision support group and outlines a protocol for OTP to implement in a support group to improve overall success and productivity. Ultimately, *S.O.L.V.E.* aims to improve occupational performance outcomes for low vision support group members. *S.O.L.V.E.* is grounded in self-efficacy theory and the best available evidence to support occupational performance outcomes. *S.O.L.V.E.* is to be implemented by OTP once a week for 90 minutes for six weeks. By the end of *S.O.L.V.E.*, support group members will be capable of supporting one another by problem solving effectively as new occupational performance challenges arise.

Dissemination Goals

Dissemination will begin in *S.O.L.V.E.*'s first year and will be ongoing. A long-term goal and two short-term goals are outlined below. Further details about the primary and secondary audiences, key messages, messengers, activities, budget, and evaluation of dissemination are also described below.

Long-Term Goal: Dissemination to both the secondary and primary audiences will lead to implementation of the program by OTP to low vision support groups across the New England area.

Short-Term Goal #1: Dissemination to the primary audience will lead 4-5 OTP in Connecticut to sign up and implement *S.O.L.V.E.*

Short-Term Goal #2: Dissemination to the secondary audience will lead 4-5 low vision support groups in Connecticut to agree for *S.O.L.V.E.* to be implemented to them.

Primary Target Audience

The primary target audience for dissemination is OTP, who are needed in order to implement *S.O.L.V.E.* Dissemination efforts will aim to attract the interest of OTP so that the program can be implemented to various low vision support groups.

Key Messages

1. *S.O.L.V.E.* provides OTP with a detailed manual that guides them by defining how they can use their skills effectively in a low vision support group.
2. *S.O.L.V.E.* enhances low vision support groups and ultimately improves occupational performance outcomes for individuals with low vision using evidence-based intervention strategies. OTP will teach the problem solving approach to support group members (Berger, McAteer, Schreir, & Kaldenberg, 2013). OTP will teach strategies that make use of other senses (Huefner et al., 2008; Schoessow, 2010). OTP will teach participants how to make use of their remaining vision (Weisser-Pike & Kaldenberg, 2010).
3. *S.O.L.V.E.* improves group process and communication. OTP teach participants to progress group sessions starting with less personal issues, moving into more personal

topics, discussion of losses, and finally transition into success stories (McCulloh, Crawford, & Resnick, 1994).

Primary Influential Spokespeople

1. The author of *S.O.L.V.E.*, an occupational therapist who works primarily with older adults, will share the evidence and theory-base that supports the program.
2. Later in the dissemination efforts, OTP who have implemented *S.O.L.V.E.* will share their personal success stories.
3. Later in the dissemination efforts, low vision support group members who have participated in *S.O.L.V.E.* will share their testimonials about the program.

Primary Activities

Information will be disseminated to the primary audience in written, electronic, and face-to-face formats. The top dissemination priority will be participation in face-to-face efforts. The author of *S.O.L.V.E.* will participate in both Connecticut state and national occupational therapy conferences through both poster and lecture-style presentations. Presentations will also be given at local occupational therapy programs in Connecticut and the surrounding New England area including Quinnipiac University and Boston University. In terms of written information, the first dissemination activity will involve the primary author of *S.O.L.V.E.* sending out a newsletter to OTP across the country employed by FOX Rehabilitation, where the author currently works. Later in the dissemination process, the results of *S.O.L.V.E.* will be spread through the publishing of a journal article about the program. In terms of electronic media, the author of *S.O.L.V.E.*

will immediately aim to spread key messages through participation in FOX Rehabilitation's podcast, *FOXcast OT*. Dissemination will initially be completed by the primary author of *S.O.L.V.E.*, but will later be completed by other influential spokespeople as the program grows.

Secondary Target Audience

The secondary target audience for the dissemination of *S.O.L.V.E.* is low vision support group leaders. First, OTP must agree to implement *S.O.L.V.E.*, but low vision support groups must then consent for *S.O.L.V.E.* to be implemented for them.

Dissemination will aim to educate low vision support group leaders about the benefits of *S.O.L.V.E.* so that they will agree for *S.O.L.V.E.* to be implemented for their respective support groups.

Key Messages

1. *S.O.L.V.E.* is designed to enhance low vision support groups and ultimately improve occupational performance outcomes for individuals with low vision. In *S.O.L.V.E.*, participants will also learn strategies that make use of other senses including use of tactile additions such as raised dots or safety pins to facilitate participation (Huefner et al., 2008; Schoessow, 2010). Participants will also learn how to make use of their remaining vision by utilizing strategies such as eccentric viewing, which involves learning to make use one's peripheral vision during daily activities (Weisser-Pike et al., 2010).

2. *S.O.L.V.E.* improves support group effectiveness. Participants will learn how to structure the group for ultimate success. In particular, participants will learn how to progress group sessions starting with less personal issues, moving into more personal

topics, discussion of losses, and finally transition into success stories (McCulloh, Crawford, & Resnick, 1994).

3. *S.O.L.V.E.* teaches group members how to problem solve and work together to address occupational performance challenges. Support group members will learn about the problem solving approach. In the problem solving approach, participants will learn how to state their current problems, set goals for addressing these challenges, and take the action steps to solve them. Participants will be able to brainstorm potential solutions, test them out, learn to implement them, and in the end evaluate outcomes (Berger, McAteer, Schreir, & Kaldenberg, 2013). In *S.O.L.V.E.*, individuals will learn to solve the personal challenges of the other group members as a team.

Secondary Influential Spokespeople

1. The author of *S.O.L.V.E.*, an occupational therapist who works primarily with older adults, will share the evidence and theory-base that supports the program.
2. Later in the dissemination efforts, OTP who have implemented *S.O.L.V.E.* will share their personal success stories.
3. Later in the dissemination efforts, low vision support group members who have participated in *S.O.L.V.E.* will share their testimonials about the program.

Secondary Activities

Support groups will be identified using online search engines and networking with local/national agencies for individuals with visual impairments. Support groups will also be located through ophthalmology and optometry offices. Once the support groups

are identified, flyers and promotional videos will be sent to attract the interest of members. OTP will also visit support groups to explain the training in person and answer any questions. Individuals with low vision who have worked with OTP and have experienced benefits from the services may also go with the OTP to the groups to promote *S.O.L.V.E.*

Budget

In order to disseminate *S.O.L.V.E.*, a certain amount of funding will be allocated to the budget. However, many of the dissemination efforts will be free. The dissemination budget is outlined below.

Audience	1st Year	2nd Year
Primary	AOTA National Conference = \$230 per day (one day registration required) Hotel Cost = ~\$150 per hotels.com Airfare = ~\$183 per google.com/flights ConnOTA State Conference = ~\$150 Stamps: \$0.55 x 50 = \$27.50 Envelopes: \$11.99 per staples.com <i>Total: \$752.49</i>	AOTA National Conference = \$230 per day (one day registration required) Hotel Cost = ~\$150 per hotels.com Airfare = ~\$183 per google.com/flights ConnOTA State Conference = ~\$150 Stamps: \$0.55 x 50 = \$27.50 Envelopes: \$11.99 per staples.com <i>Total: \$752.49</i>
Secondary	Stamps: \$0.55 x 50 = \$27.50 Envelopes: \$11.99 per staples.com <i>Total: \$39.49</i>	Stamps: \$0.55 x 50 = \$27.50 Envelopes: \$11.99 per staples.com <i>Total: \$39.49</i>
Total	\$791.98	\$791.98

Table 6-1. Budget for Dissemination Plan

Evaluation

In order to measure the success of dissemination efforts, measurable criteria was selected for both primary and secondary audiences. Since the primary audience for dissemination is OTP, the number of OTP that implement *S.O.L.V.E.* as a result of these efforts will be used to evaluate successful dissemination. The number of OTP that implement *S.O.L.V.E.* will be used as evaluation criteria for written, electric, and face-to-face dissemination efforts. OTP that implement *S.O.L.V.E.* will be required to contact the original author to share that they are delivering the program to facilitate program evaluation efforts. Further, OTP that implement *S.O.L.V.E.* will fill out a brief survey about how they heard about the program in order to track which dissemination efforts are the most useful and effective. Since the secondary dissemination audience is low vision support group leaders, the number of support group leaders that consent for *S.O.L.V.E.* to be implemented at their groups will be the evaluation criteria. In order to collect this information, low vision support group leaders will fill out a survey after learning about *S.O.L.V.E.* to assess if they see the value in the program. Similar to the primary audience, support group leaders will also note how they learned about *S.O.L.V.E.* in order to track which dissemination efforts are most meaningful. In future years, dissemination efforts will focus heavily on methods that are deemed most successful based on primary and secondary audience surveys.

Conclusion

The dissemination of *S.O.L.V.E.* will target OTP as the primary audience and low vision support group leaders as the secondary audience. The main goal of dissemination

will be to increase implementation of *S.O.L.V.E.* across Connecticut and the New England region. In order to increase implementation, OTP must be available and willing to implement *S.O.L.V.E.* and low vision support groups must give their consent for the program to be implemented to them. *S.O.L.V.E.* will be disseminated through written, electric, and face-to-face formats. Dissemination efforts are expected to evolve over time based on formats that are deemed most successful. Currently, the projected yearly dissemination cost for *S.O.L.V.E.* is approximately \$791.98.

References

- Berger, S., McAteer, J., Schreier, K., & Kaldenberg, J. (2013). Occupational therapy interventions to improve leisure and social participation for older adults with low vision: A systematic review. *American Journal of Occupational Therapy, 67*, 303–311. doi: <http://dx.doi.org/10.5014/ajot.2013.005447>
- Huefner, K., Kaldenberg, J., & Berger, S. (2008). Vision-related issues facing older adults: Occupational therapy's role. *Special Interest Section Quarterly Gerontology, 31*, 2, 1-4.
- McCulloh, K. J., Crawford, I., & Resnick, J. D. (1994). A structured support group for midlife and older adults with vision loss. *Journal of Visual Impairment & Blindness*.
- Schoessow, K. (2010). Shifting from compensation to participation: A model for occupational therapy in low vision. *The British Journal of Occupational Therapy, 73*(4), 160-169. doi: <http://dx.doi.org.ezproxy.bu.edu/10.4276/030802210X12706313443947>
- Weisser-Pike, O., & Kaldenberg, J. (2010). Occupational therapy approaches to facilitate productive aging for individuals with low vision. *OT Practice, 15*(3), CE-1.

CHAPTER SEVEN: CONCLUSION

Vision loss increases in prevalence with age (National Eye Institute, 2018). As people are living longer due to health care advances, more people are living with low vision. It has been estimated that about 13.5% of individuals 65 and older in the United States have low vision (Schiller et al., 2012), and approximately 185 million adults worldwide have low vision affecting their daily life (WHO, 2014). Older adults living with vision loss struggle to perform daily activities (Crews and Crews, 2004; McGrath & Rudman, 2013). It is challenging for adults with low vision to engage in typical activities that occur in their homes and in the community without adaptations geared specifically for those with vision loss.

Individuals with low vision may seek out support groups in order to connect with others experiencing similar challenges and find solutions to their difficulties. One of the largest shortcomings of support groups is that peer leaders often lead them, rather than trained health professionals (Embuldeniya et al., 2013). Evidence suggests that occupational therapy interventions for older adults with low vision are effective in improving daily activities (Liu, Brost, Horton, Kenyon, & Mears, 2013), leisure, and social participation (Berger, McAteer, Schreier, & Kaldenberg, 2013). Therefore, the input of occupational therapy practitioners (OTP) may be valuable in creating a more effective support group experience. The role of OTP in a low vision support group has previously not clearly been understood or defined.

S.O.L.V.E. for Occupational Therapy Practitioners: Solutions to Optimize the Low Vision Experience is an evidence-based, theory-driven solution to the occupational

performance and participation challenges of individuals with low vision. Self-efficacy theory is the main conceptual framework guiding the proposed program. *S.O.L.V.E.* is a detailed framework and manual designed for OTP to implement in local low vision support groups. *S.O.L.V.E.* is designed to enhance low vision support groups and ultimately improve performance for individuals with low vision. *S.O.L.V.E.* gives OTP the tools to facilitate the teaching of recommended low vision intervention strategies and mental health approaches to group members. Another element of *S.O.L.V.E.* is the instruction of group process, counseling skills, and communication strategies. Participants learn how to structure the group for ultimate success.

S.O.L.V.E. is based off the self-efficacy theory and, thus follows its main principles such as mastery experiences, vicarious experiences, social persuasion, and monitoring of physical and emotional states to increase participants' self-efficacy and self-regulation (Bandura, 1977). *S.O.L.V.E.* incorporates the use of mastery experiences, which is the successful attempt at an activity, through use of role-playing. *S.O.L.V.E.* incorporates the use of vicarious experiences, in which individuals learn that they can do something from the success of others who are similar, by delegating time for participants to share their own personal success stories during the group so that the members can learn from one another. *S.O.L.V.E.* incorporates social persuasion by encouraging participants to cheer one another one and increase their beliefs in their abilities. Another key component of the self-efficacy theory is the monitoring of physical and emotional states to promote self-regulation and self-awareness (Bandura, 1977). In *S.O.L.V.E.*, journaling and personal reflections are used to address the monitoring of emotional and

physical states. Through each of these elements, *S.O.L.V.E.* aims to increase levels of self-efficacy and self-regulation.

Summary

S.O.L.V.E. is an evidenced-based and theory driven solution for improving the low vision support group experience. *S.O.L.V.E.* is designed to more clearly define the role of occupational therapy practitioners (OTP) in a low vision support group and outlines a protocol for OTP to implement in a support group to improve overall success and productivity. Ultimately, *S.O.L.V.E.* aims to improve occupational performance outcomes for low vision support group members. *S.O.L.V.E.* is grounded in self-efficacy theory and the best available evidence to support occupational performance outcomes. *S.O.L.V.E.* is to be implemented by OTP once a week for 90 minutes for six weeks. By the end of *S.O.L.V.E.*, support group members will be capable of supporting one another by problem solving effectively as new occupational performance challenges arise.

References

- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84* (2), 191-215. doi:10.1037/0033-295x.84.2.191
- Berger, S., McAteer, J., Schreier, K., & Kaldenberg, J. (2013). Occupational therapy interventions to improve leisure and social participation for older adults with low vision: A systematic review. *American Journal of Occupational Therapy*, *67*, 303–311. doi: <http://dx.doi.org/10.5014/ajot.2013.005447>
- Crews, J. E., & Campbell, V. A. (2004). Vision impairment and hearing loss among community-dwelling older Americans: implications for health and functioning. *American Journal of Public Health*, *94*(5), 823-829. doi: <http://dx.doi.org.ezproxy.bu.edu/10.2105/AJPH.94.5.823>
- Embuldeniya, G., Veinot, P., Bell, E., Bell, M., Nyhof-Young, J., Sale, J. E., & Britten, N. (2013). The experience and impact of chronic disease peer support interventions: a qualitative synthesis. *Patient Education and Counseling*, *92*(1), 3-12. doi: <http://dx.doi.org/10.1016/j.pec.2013.02.002>
- Liu, C. J., Brost, M. A., Horton, V. E., Kenyon, S. B., & Mears, K. E. (2013). Occupational therapy interventions to improve performance of daily activities at home for older adults with low vision: A systematic review. *American Journal of Occupational Therapy*, *67*(3), 279-287. doi: <http://dx.doi.org/10.5014/ajot.2013.005512>
- McGrath, C. E., & Rudman, D. L. (2013). Factors that influence the occupational engagement of older adults with low vision: A scoping review. *British Journal of*

Occupational Therapy, 76(5), 234-241. doi:

10.4276/030802213X13679275042762

National Eye Institute (2018). Retrieved from: <https://nei.nih.gov/lowvision/content/faq>

Schiller, J. S., Lucas, J. W., & Peregoy, J. A. (2012). Summary health statistics for US

adults: national health interview survey, 2011. Retrieved from

<https://stacks.cdc.gov/view/cdc/21423>

World Health Organization (2012) Visual impairment and blindness: fact sheet. Geneva,

Switzerland: World Health Organization.

APPENDIX A: Program Leader Agenda

Week One: What is Low Vision? (90 Minutes)

- Self-introduction of participants (10-15 minutes)
 - Participants state their name and where they are from
 - Ice Breakers
 - Participants go around and share what their favorite leisure activity is and why
 - Participants may also share their low vision diagnosis if they choose
- Description of Program Purpose and Goals (10-15 minutes)
 - The purpose the module is to enhance low vision support groups in order to help participants face any challenges that they have experienced due to their visual impairments
 - Goals
 - By the end of the module, participants will list 1-2 implementations of the problem solving approach to address their occupational performance challenges.
 - By the end of the module, participants will state 3-4 strategies that make use of their remaining vision to address their occupational performance challenges.
 - By the end of the module, participants will state 3-4 strategies that utilize their other senses to address their occupational performance challenges.
 - By the end of the module, participants will increase their vision-related self-efficacy.
 - By the end of the module, participants will implement a structured support group.
- Educational Presentation on Low Vision (10 minutes)
 - Share relevant statistics
 - Currently there are 135 million people around the world who have low vision (National Eye Institute, 2018).
 - Low vision is defined as, “permanent loss of vision that cannot be corrected by eyeglasses, contact lenses, medication or surgical intervention or interferes with the performance of common age-appropriate seeing tasks” (Vision Rehabilitation Evidence-Based Review [VREBR] 2005, p. 10).
 - Low vision is a visual acuity of 20/70 or less in the best-corrected eye (WHO, 2012).
 - The leading cause of visual impairment is macular degeneration with over 14 million Americans impacted (Friedman et al., 2004; Smith, Bennett, & Wilson, 2008; Watson, 2001).

- Glaucoma and diabetic retinopathy are also two common causes of low vision (Smith et al., 2008; Watson, 2001).
- Discussion of Occupational Performance Challenges Related to Low Vision (40-45 minutes)
 - Share evidence
 - After each category, open discussion up for participants to share about their own experience
 - Older adults with low vision may experience occupational performance challenges in nearly all areas of occupation including activities of daily living (ADLs), instrumental activities of daily living (IADLs), functional mobility, leisure, social participation, and work (Crews & Campbell, 2004).
 - ADLs
 - Individuals with low vision may experience challenges with ADLs such as self-feeding due to difficulty seeing the food on their plates and dressing due to difficulty with clothing selection and distinguishing between light and dark colors (Blaylock et al., 2015)
 - Prompt participants to share
 - IADLS
 - Individuals with low vision may experience challenges with IADLs such as meal preparation because they cannot locate the ingredients, read the recipe, or tell when their food is cooked (Barstow et al., 2015; Blaylock et al., 2015)
 - Individuals may also have difficulty with cleaning, laundry, financial management, and medication management (Blaylock et al., 2015; Crews et al., 2004)
 - Prompt participants to share
 - Functional Mobility
 - Individuals with low vision may experience challenges engaging in functional mobility both inside and outside especially when navigating stairwells, curbs, and driveways (Barstow et al., 2015; Crews et al., 2004).
 - Prompt participants to share
 - Leisure
 - Engagement in leisure activities may also be affected for individuals with low vision (Teitelman & Copolillo, 2005; Barstow et al., 2015; Blaylock et al., 2015; Schoessow, 2010; Servat et al., 2011).
 - Engagement in outdoor activities such as cutting the lawn or doing yard work may become difficult because individuals do not feel safe (Barstow et al., 2015; Blaylock et al., 2015).
 - Prompt participants to share
 - Social Participation

- Individuals with low vision may also encounter difficulties with social participation due to difficulty recognizing faces and/or decreased self-efficacy or embarrassment related to their low vision status (Barstow et al., 2015; McGrath & Rudman, 2013; Servat et al., 2011; Coyle, Steinman, & Chen, 2017; Crews et al., 2004; Teitelman & Copolillo, 2005; Schoessow, 2010)
 - Prompt participants to share
- Work
 - Prompt participants to share
- Identification of Participant Needs (20-25 minutes)
 - Participants share their most pressing 3-5 occupational performance challenges
 - Prompt: What daily activities have become the most challenging since receiving your low vision diagnosis? Please list 3-5

Week Two: Problem Solving Approach (90 Minutes)

- Question and answer about previous session (5-10 minutes)
- What is the problem solving approach? (30-40 minutes)
 - Participants state their current problems
 - Case Scenario Problem: Mary is a 65-year-old female with macular degeneration. Mary has faced multiple challenges in completing her daily activities since receiving her diagnosis. For example Mary loves to cook, but it has become increasingly challenging as her vision declines. Mary has begun to eat take-out and other prepared foods more often to avoid cooking. However, Mary misses cooking and would like to get back to cooking again.
 - Participants set goals for addressing these challenges
 - Case Scenario Goals: Mary would like to independently cook one hot meal a day by the end of her treatment.
 - Participants take the action steps to solve them
 - Case Scenario Action Steps:
 - Example of Action Step: Generate possible solutions to facilitate cooking
 - Participants are invited to share ideas for action steps
 - Participants brainstorm potential solutions
 - Case Scenario Brainstorm:
 - Example of solution: Add raised dots to appliances to facilitate use
 - Participants are invited to share ideas for brainstorm step
 - Participants learn to implement potential solutions
 - Case Scenario Implementation:
 - Example of Implementation: Raised dots are actually added to appliances and Mary cooks a meal utilizing the dots.
 - Participants are invited to share ideas for implementation step
 - Participants evaluate outcomes
 - Case Scenario Evaluation
 - Example of Evaluation: Mary assesses whether or not dot method was helpful or unhelpful in achieving her goal.
 - Participants are invited to share ideas for evaluation step
- Demonstration of problem solving approach in use (15-20 minutes)
 - One participant will share an occupational performance challenge and will work one on one in front of the group with the OTP to go through the entire problem solving approach applied to their problem.
- Participants work in teams to problem solve through personal and hypothetical scenarios (45 minutes)
 - Participants talk amongst themselves (20 minutes)

- Discussion of personal scenarios in large group (25 minutes)
- Homework (5 minutes)
 - Participants will each select one area of occupation from their lives and apply the problem solving approach to share with the group during the next session.

Week Three: Strategies that Make Use of Remaining Vision (90 Minutes)

- Question, Answer, and Review about Previous Session (15-20 minutes)
 - Question and Answer (*5-10 minutes*)
 - Participants may ask any questions that they have related to the previous module
 - Review of Homework (*10-15 minutes*)
 - Participants will share about the area of occupation that they chose to apply the problem solving approach
- Presentation on Strategies that Make Use of Remaining Vision (25-30 minutes)
 - Making changes in natural, ambient, and task lighting (Huefner et al., 2008; Berger et al., 2013; Schoessow, 2010; Weisser-Pike et al., 2010)
 - Ideal use of ambient lighting would include transitions between rooms and minimizing shadows around furniture, improving distance vision tasks such as maneuvering around the home (Huefner et al., 2008; Berger et al., 2013)
 - Task lighting supports near tasks, and should be directed at the task and not the person, which may help with reading, writing, and cooking (Schoessow, 2010; Weisser-Pike et al., 2010).
 - Use of magnification may help facilitate certain tasks through use of a handheld magnifier or a variety of large print items (Huefner et al., 2008; Schoessow, 2010; Weisser-Pike et al., 2010).
 - Some evidence supports decreasing glare with use of window shears, filters, no wax-polish, and lampshades and increasing contrast (Huefner et al., 2008; Schoessow, 2010).
- Demonstration of Strategies that Make Use of Remaining Vision (5-10 minutes)
 - Show slide show of pictures demonstrating ambient lighting
 - Show slide show of pictures demonstrating task lighting during various occupations
 - Show slide show of pictures demonstrating decreased glare
- Case Studies (10-15 minutes)
 - Review and Discussion of Case Studies (*10 minutes*)
 - Case Scenario: Ben is a 75-year old male with glaucoma. He has been struggling with getting around his home safely recently and has specifically fallen 2x in the past month. One fall resulted in an overnight hospitalization for testing after Ben hit his head on the floor.
 - Participants will then review photos of poor lighting throughout “Ben’s” home and will be asked to identify where they could make lighting changes and how that they could make lighting changes to increase overall safety
- Participants Share Personal Applications (30-35 minutes)

- Participants will be cued to generate their own ideas for applications in small groups (10-15 minutes)
- Participants will give a brief overview of applications discussed in small groups to the larger group (5 minutes)
- Participants will be given additional ideas for application from facilitator and other participants (15-20 minutes)
- Closing and Assignment of Homework (5-10 minutes)
 - Homework: Participants will take pictures around their home in the most frequently used rooms. Participants will then make a list of potential changes that they could make to their homes to increase safety.

Week Four: Strategies that Make Use of Other Senses (90 Minutes)

- Question, Answer, and Review about Previous Session (15-20 minutes)
 - Question and Answer (5-10 minutes)
 - Participants may ask any questions that they have related to the previous module
 - Review of Homework (10-15 minutes)
 - Participants will share the photos that they took around their homes and the lists of ideas for change that they developed (5-10 minutes)
 - Participants will give one another other ideas for improving safety and performance around the home environment (5-10 minutes)
- Presentation on Strategies that Make Use of Other Senses (15-20 minutes)
 - Tactile strategies such as safety pins on clothing and raised dots on appliances may be used to increase occupational performance (Huefner et al., 2008; Schoessow, 2010).
 - Auditory strategies may also be used such as making use of a variety of talking items (Weisser-Pike et al., 2010; Huefner et al., 2008).
 - Organizational strategies may include avoiding clutter, establishing regular schedules, and organizing items (Schoessow, 2010; Weisser-Pike et al., 2010).
 - Individuals can utilize time of day that vision is best and break down reading into small amounts of time (Weisser-Pike et al., 2010).
- Demonstration of Strategies (10-15 minutes)
 - Facilitator will show slide show of strategies in use
- Participation in Case Studies to Apply Strategies (15-20 minutes)
 - Review and Discussion of Case Studies
 - Participants will go through different occupations and brainstorm strategies that could be applied
 - Bathing
 - Dressing
 - Meal Preparation
 - Functional mobility
 - Self-Feeding
 - Medication Management
 - Household Management
- Participants Share Personal Applications (30-35 minutes)
 - Participants will be cued to generate their own ideas for applications in small groups (10-15 minutes)
 - Participants will give a brief overview of applications discussed in small groups to the larger group (5 minutes)
 - Participants will be given additional ideas for application from facilitator and other participants (15-20 minutes)
- Homework (5-10 minutes)

- Homework: Participants will apply a strategy that makes use of their remaining senses to at least two of their daily activities to share with the other participants during the next session.

Week Five: Group Process and Communication Skills (90 Minutes)

- Question, Answer, and Review about Previous Session (15-20 minutes)
 - Question and Answer (5-10 minutes)
 - Participants may ask any questions that they have related to the previous module
 - Review of Homework (10-15 minutes)
 - Participants will share the strategies that they chose to apply to personal occupations (5-10 minutes)
 - Participants will give one another other ideas for making use of their other senses (5-10 minutes)
- Developing Structure (15-20 minutes)
 - Recommendations:
 - Start with general topics of discussion
 - Transition to more personal topics as session progresses
 - Start with losses and transition to success stories
 - Use of learning objectives
 - Setting goals for each session
 - Setting time limits for each meeting item agenda
 - Activity: Clients will review examples of templates that demonstrate well-structured and poorly-structured session agendas
- Developing Strong Bonds (15-20 minutes)
 - Use of ice breakers
 - Drawing relational boundaries
- Demonstration of communication strategies (20-25 minutes)
 - Communication Styles
 - Passive: allowing people to meet their needs, while not meeting their own needs
 - Aggressive: meeting own needs, even if it means stomping on other people's rights
 - Assertive (recommended style): meeting own needs, while respecting other individuals' rights
 - Tips for Assertive Communication
 - Clearly state your position/request
 - Offer a reason or explanation
 - Acknowledge other person's feelings
 - How to politely interrupt:
 - Excuse me...
 - Do you mind...
 - When you are done, may I
 - I just wanted to tell you
 - Can I add something?
 - Wait until there is a natural pause in conversation

- Role-playing of communication strategies (15-20 minutes)
 - Case Scenario #1: Passive communication – have two individuals talk and a third person try to join the conversation unsuccessfully due to passive communication strategies
 - Case Scenario #2: Aggressive communication – have two individuals talk and a third person try to join the conversation unsuccessfully due to aggressive communication strategies
 - Case Scenario #3: Assertive communication – have two individuals talk and a third person try to join the conversation successfully due to assertive communication strategies
 - Excuse me...
 - Do you mind...
 - When you are done, may I
 - I just wanted to tell you
 - Can I add something?
 - Wait until there is a natural pause in conversation
- Homework (5-10 minutes)
 - Homework: Participants will be instructed to come up with ice breaker activity or question in order to develop strong bonds with other group members

Week Six: Review (90 Minutes)

- Question, Answer, and Review about Previous Session (15-20 minutes)
 - Question and Answer (5-10 minutes)
 - Participants may ask any questions that they have related to the previous module
 - Review of Homework (10-15 minutes)
 - Participants will share the ice breaker questions that they came up with and get feedback from other group members
 - Participants will be given the opportunity to do some of the ice breakers that their fellow group members developed
- Review all topics as necessary with use of lecture, demonstration, case scenarios, and role-playing as needed (40-45 minutes)
 - Problem solving approach (10 minutes)
 - Strategies that make use of remaining vision (10 minutes)
 - Strategies that make use of other senses (10 minutes)
 - Communication skills (10 minutes)
- *Activity*: Clients will share biggest success story from participating in the module
 - Participants will write success story on piece of paper and all success stories will be displayed on wall or poster board. (25-30 minutes)
- Closing thoughts and plan for post-module support group meetings (10 minutes)

References

- Barstow, B. A., Warren, M., Thaker, S., Hallman, A., & Batts, P. (2015). Client and therapist perspectives on the influence of low vision and chronic conditions on performance and occupational therapy intervention. *American Journal of Occupational Therapy*, 69, 1-8. doi: <http://dx.doi.org/10.5014/ajot.2015.014605>
- Berger, S., McAteer, J., Schreier, K., & Kaldenberg, J. (2013). Occupational therapy interventions to improve leisure and social participation for older adults with low vision: A systematic review. *American Journal of Occupational Therapy*, 67, 303–311. doi: <http://dx.doi.org/10.5014/ajot.2013.005447>
- Blaylock, S. E., Barstow, B. A., Vogtle, L. K., & Bennett, D. K. (2015). Understanding the occupational performance experiences of individuals with low vision. *British Journal of Occupational Therapy*, 78(7), 412-421. doi: [10.1177/0308022615577641](http://dx.doi.org/10.1177/0308022615577641)
- Coyle, C. E., Steinman, B. A., & Chen, J. (2017). Visual Acuity and Self-Reported Vision Status: Their Associations With Social Isolation in Older Adults. *Journal of Aging and Health*, 29(1), 128-148. doi: [10.1177/0898264315624909](http://dx.doi.org/10.1177/0898264315624909)
- Crews, J. E., & Campbell, V. A. (2004). Vision impairment and hearing loss among community-dwelling older Americans: implications for health and functioning. *American Journal of Public Health*, 94(5), 823-829. doi: <http://dx.doi.org.ezproxy.bu.edu/10.2105/AJPH.94.5.823>
- Friedman, D.S., O'Colmain, B.J., Munoz, B., Tomany, S.C., McCarty, C., De Jong, P.T., Nemesure, B., Mitchell, P., Kempen, J., Eye Diseases Prevalence Research Group,

2004. Prevalence of age-related macular degeneration in the united states. *Arch. Ophthalmol.* 122, 564–572.
- Huefner, K., Kaldenberg, J., & Berger, S. (2008). Vision-related issues facing older adults: Occupational therapy's role. *Special Interest Section Quarterly Gerontology*, 31, 2, 1-4.
- McGrath, C. E., & Rudman, D. L. (2013). Factors that influence the occupational engagement of older adults with low vision: A scoping review. *British Journal of Occupational Therapy*, 76(5), 234-241. doi: 10.4276/030802213X13679275042762
- National Eye Institute (2018). Retrieved from: <https://nei.nih.gov/lowvision/content/faq>
- Schoessow, K. (2010). Shifting from compensation to participation: A model for occupational therapy in low vision. *The British Journal of Occupational Therapy*, 73(4), 160-169. doi: <http://dx.doi.org.ezproxy.bu.edu/10.4276/030802210X12706313443947>
- Servat, J. J., Risco, M., Nakasato, Y. R., & Bernardino, C. R. (2011). Visual impairment in the elderly: impact on functional ability and quality of life. *Clinical Geriatrics*, 19(7), 49-56.
- Smith, S. L., Bennett, L. W., & Wilson, R. H. (2008). Prevalence and characteristics of dual sensory impairment (hearing and vision) in a veteran population. *J Rehabil Res Dev*, 45(4), 597-609. doi: 10.1682/JRRD.2007.02.0023
- Teitelman, J., & Copolillo, A. (2005). Psychosocial issues in older adults' adjustment to vision loss: findings from qualitative interviews and focus groups. *American*

Journal of Occupational Therapy, 59(4), 409-417. doi:

<http://dx.doi.org.ezproxy.bu.edu/10.5014/ajot.59.4.409>

Vision Rehabilitation Evidence Based Review Team (2005) Vision rehabilitation:

evidence-based review. Toronto: Canadian National Institute for the Blind.

Watson, G. R. (2001). Low vision in the geriatric population: Rehabilitation and

management. *Journal of the American Geriatrics Society*, 49(3), 317–330. doi:

<http://dx.doi.org.ezproxy.bu.edu/10.1046/j.1532-5415.2001.4930317.x>

Weisser-Pike, O., & Kaldenberg, J. (2010). Occupational therapy approaches to facilitate

productive aging for individuals with low vision. *OT Practice*, 15(3), CE-1.

World Health Organization (2012) Visual impairment and blindness: fact sheet. Geneva,

Switzerland: World Health Organization.

APPENDIX B: Handout for Participant

Example Handout For Participant



[Low Vision and Occupational Therapy]

What is Occupational Therapy (OT)?

[OT's help people do the things that they want to or need to do each day such as cooking and getting dressed]

How can OT help people with low vision?

- Add light



- Use other senses
 - ➔ Touch
 - ➔ Hear



- Keep things in the same place



- Use big letters in black and white

E

OT and Your Pills

- Use a talking pill box
- Keep pills in the same spots
- Use big letters on bottles with black and white letters
- Add dots or rubber bands to tell bottles apart



OT and Cooking

- Add lights over the stove
- Add dots or rubber bands to tell spices apart
- Keep food in the same spots
- Add thin curtains to windows to decrease glare



OT and Games Story

Mary still wanted to play the Phase 10 card game. Puffy paint was added to each card so that she could feel each card. Now Mary is still able to play the game with her family.

Resources

Spotlight Text – Get on iTunes

- Free app with eBooks and recorded books made for people with low vision

LS&S

- Explore large print and items such as talking watches and big button phones

Helpful Contacts

VisionAware

- Get advice from and meet other people with low vision

References

Berger, S., McAteer, J., Schreier, K., & Kaldenberg, J. (2013). Occupational therapy interventions to improve leisure and social participation for older adults with low vision: A systematic review. *American Journal of Occupational Therapy*, 67, 303–311. doi: <http://dx.doi.org/10.5014/ajot.2013.005447>

EXECUTIVE SUMMARY

Introduction

Vision loss increases in prevalence with age (National Eye Institute, 2018). As people are living longer due to health care advances, more people are living with low vision. It has been estimated that about 13.5% of individuals 65 and older in the United States have low vision (Schiller et al., 2012), and approximately 185 million adults worldwide have low vision affecting their daily life (WHO, 2014). Older adults living with vision loss struggle to perform daily activities (Crews and Crews, 2004; McGrath & Rudman, 2013). It is challenging for adults with low vision to engage in typical activities that occur in their homes and in the community without adaptations geared specifically for those with vision loss.

Individuals with low vision may seek out support groups in order to connect with others experiencing similar challenges and find solutions to their difficulties. One of the largest shortcomings of support groups is that peer leaders often lead them, rather than trained health professionals (Embuldeniya et al., 2013). Evidence suggests that occupational therapy interventions for older adults with low vision are effective in improving daily activities (Liu, Brost, Horton, Kenyon, & Mears, 2013), leisure, and social participation (Berger, McAteer, Schreier, & Kaldenberg, 2013). Therefore, the input of occupational therapy practitioners (OTP) may be valuable in creating a more effective support group experience. However, the role of OTP in a low vision support group is not clearly understood and defined. One contributing factor to this problem is that there is no manual or consistent approach to direct OTP on how to work effectively

in a low vision support group.

Project Overview

S.O.L.V.E. for Occupational Therapy Practitioners: Solutions to Optimize the Low Vision Experience is an evidence-based, theory-driven solution to the occupational performance and participation challenges of individuals with low vision. Self-Efficacy Theory is the main conceptual framework guiding the proposed program. *S.O.L.V.E.* is a detailed framework and manual designed for OTP to implement in local low vision support groups. *S.O.L.V.E.* is designed to enhance low vision support groups and ultimately improve performance for individuals with low vision. *S.O.L.V.E.* gives OTP the tools to facilitate the teaching of recommended low vision intervention strategies and mental health approaches to group members. *S.O.L.V.E.* is delivered by OTP with support group members in person where each individual group is normally held. A major portion of the module includes teaching of the problem solving approach to group members. In *S.O.L.V.E.*, individuals learn to solve the personal challenges of the other group members as a team.

In *S.O.L.V.E.*, participants learn strategies that make use of other senses including use of tactile additions such as raised dots or safety pins to facilitate participation (Huefner et al., 2008; Schoessow, 2010). *S.O.L.V.E.* also covers teaching of auditory strategies such as talking devices and organizational strategies such as avoiding clutter and organizing items (Schoessow, 2010; Weisser-Pike & Kaldenberg, 2010; Huefner, Kaldenberg, & Berger, 2008). In addition, participants learn how to make use of their remaining vision by utilizing strategies such as eccentric viewing, which involves

learning to make use one's peripheral vision during daily activities (Weisser-Pike et al., 2010). Additionally, participants learn how to use enhanced lighting in order to optimize performance through use of task lighting directly at the activity and ambient lighting to ease transitions around the home (Huefner et al., 2008).

S.O.L.V.E. is based off the Self-Efficacy Theory and, thus follows its main principles such as mastery experiences, vicarious experiences, social persuasion, and monitoring of physical and emotional states to increase participants' self-efficacy and self-regulation (Bandura, 1977). *S.O.L.V.E.* incorporates the use of mastery experiences, which is the successful attempt at an activity, through use of role-playing. *S.O.L.V.E.* incorporates the use of vicarious experiences, in which individuals learn that they can do something from the success of others who are similar, by delegating time for participants to share their own personal success stories during the group so that the members can learn from one another. *S.O.L.V.E.* incorporates social persuasion by encouraging participants to cheer one another one and increase their beliefs in their abilities. Another key component of the self-efficacy theory is the monitoring of physical and emotional states to promote self-regulation and self-awareness (Bandura, 1977). In *S.O.L.V.E.*, journaling and personal reflections are used to address the monitoring of emotional and physical states. Through each of these elements, *S.O.L.V.E.* aims to increase levels of self-efficacy and self-regulation.

Another element of *S.O.L.V.E.* is the instruction of group process, counseling skills, and communication strategies. Participants learn how to structure the group for ultimate success. In particular, participants learn how to progress group sessions starting

with less personal issues, moving into more personal topics, discussion of losses, and finally transition into success stories (McCulloh, Crawford, & Resnick, 1994).

Key Findings

Current evidence suggests that there are several features present in an effective chronic disease support group. In particular, having a group leader with strong leadership skills plays a large role in the success of a support group (Hartwell, 2012; McCulloh et al., 1994). For example, a successful group leader has strong communication skills (Haggman-Laitila & Pietila, 2009; Embuldeniya et al., 2013; Hammarberg, Sartore, Cann, & Fisher, 2014) and has knowledge of the group process (Costello, 2013; McCulloh et al., 1994). A successful group leader is also organized and able to carry out administrative tasks as well as structure each group (Haggman-Laitila et al., 2009; McCulloh et al., 1994). Additionally, a group leader should have a clear understanding of chronic disease and may also have personal experience with the disease (Costello, 2013; Embuldeniya et al., 2013; Hammarberg et al., 2014; McCulloh et al., 1994). In addition to a strong group leader, some research suggests that a successful support group also includes the involvement of a health care professional (Haggman-Laitila et al., 2009). An effective group actively involves participants through the use of activities or homework (Haggman-Laitila et al., 2009; Hammarberg et al., 2014). Additionally, in a successful group there are strong bonds and a mutual exchange of support between members (Hammarberg et al., 2014; Hartwell, 2012; Kelly & Yeterian, 2011).

Occupational therapy interventions have been utilized to improve occupational performance and participation outcomes in individuals with low vision (Weisser-Pike et

al., 2010). In particular, there is support for strategies that make use of remaining vision and strategies that make use of other senses (Weisser-Pike et al., 2010). Overall, there are a variety of intervention strategies available for improving performance and participation in individuals with low vision. Strong evidence exists for use of the problem solving approach in both an individual and group setting to improve leisure and social participation. The problem solving approach involves helping the client to define the problem, set goals, find solutions, and evaluate outcomes.

Strategies that make use of remaining vision are among the most commonly used interventions for improving performance and participation in individuals with low vision (Huefner et al., 2008). The most common strategies that make use of remaining vision are increase/enhance lighting, magnify text, increase contrast, and decrease glare. Strategies that make use of other senses are also commonly used by OTP (Weisser-Pike, et al., 2010). Tactile strategies that are used include the use of safety pins on clothing and raised dots on appliances (Huefner et al., 2008; Schoessow, 2010). Auditory strategies may also be used such as making use of a variety of talking items (Weisser-Pike et al., 2010; Huefner et al., 2008). Organizational strategies may include avoiding clutter, establishing regular schedules, and organizing items (Schoessow, 2010; Weisser-Pike et al., 2010).

OTP could be involved in helping individuals develop self-regulation and self-awareness skills to encourage long-term improvements. Further, it might be beneficial for OTP to be involved in a consulting-like fashion long-term in order to further promote long-term change (Brunelli et al., 2016; McCulloh et al., 1994). McCulloh et al. (1994) found that it is important for group leaders to have knowledge of group process and basic

counseling skills. In a support group, 8-10 participants is an ideal size to foster group cohesion, and structure is important at the beginning, but it is helpful to be flexible as the group continues. Further, McCulloh et al. (1994) suggest using homework, starting with less personal issues, gradually moving to more personal topics, and then shifting discussion from losses to positive adaptations. Participants may enjoy learning action plans, coping strategies, and communication skills, and also noted benefits of positive interactions with others increasing their feeling of not being alone (Perlmutter et al., 2017, Rees et al., 2014; Packer et al., 2009).

Recommendations

The teaching and implementation of the problem solving approach has the best evidence for improving occupational performance and increasing participation (Berger et al., 2013). There is also evidence suggesting the benefits of increasing lighting in order to increase occupational performance (Huefner et al., 2008; Berger et al., 2013; Schoessow, 2010; Weisser-Pike et al., 2010). Some features of a support group that may benefit individuals with low vision include leadership by individuals with knowledge of group process and counseling skills in addition to more structured group sessions to start that progress to more fluid as groups continue (McCulloh et al., 1994). Use of the self-efficacy theory is also recommended to guide intervention through incorporation of mastery experiences, vicarious experiences, social persuasion, and monitoring of physical and emotional states.

Conclusion

S.O.L.V.E. is an evidenced-based and theory driven solution for improving the low vision support group experience. *S.O.L.V.E.* is designed to more clearly define the role of occupational therapy practitioners (OTP) in a low vision support group and outlines a protocol for OTP to implement in a support group to improve overall success and productivity. Ultimately, *S.O.L.V.E.* aims to improve occupational performance outcomes for low vision support group members. *S.O.L.V.E.* is grounded in Self-Efficacy Theory and the best available evidence to support occupational performance outcomes. *S.O.L.V.E.* is to be implemented by OTP once a week for 90 minutes for six weeks. By the end of *S.O.L.V.E.*, support group members will be capable of supporting one another by problem solving effectively as new occupational performance challenges arise.

References

- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84 (2), 191-215. doi:10.1037/0033-295x.84.2.191
- Berger, S., McAteer, J., Schreier, K., & Kaldenberg, J. (2013). Occupational therapy interventions to improve leisure and social participation for older adults with low vision: A systematic review. *American Journal of Occupational Therapy*, 67, 303–311. doi: <http://dx.doi.org/10.5014/ajot.2013.005447>
- Brunelli, A. A., Murphy, G. C., & Athanasou, J. A. (2016). Effectiveness of Social Support Group Interventions for Psychosocial Outcomes: A Meta-analytic Review. *The Australian Journal of Rehabilitation Counselling*, 22(2), 104-127. doi: 10.1017/jrc.2016.9
- Crews, J. E., & Campbell, V. A. (2004). Vision impairment and hearing loss among community-dwelling older Americans: implications for health and functioning. *American Journal of Public Health*, 94(5), 823-829. doi: <http://dx.doi.org.ezproxy.bu.edu/10.2105/AJPH.94.5.823>
- Costello, J. F. (2013). Roles and strategies of diabetes support group facilitators: an exploratory study. *The Diabetes Educator*, 39(2), 178-186. doi: 10.1177/0145721713476347
- Embaldeniya, G., Veinot, P., Bell, E., Bell, M., Nyhof-Young, J., Sale, J. E., & Britten, N. (2013). The experience and impact of chronic disease peer support interventions: a qualitative synthesis. *Patient Education and Counseling*, 92(1), 3-12. doi: <http://dx.doi.org/10.1016/j.pec.2013.02.002>

- Häggman-Laitila, A., & Pietilä, A. M. (2009). Preventive psychosocietal support groups: parents' criteria for good quality. *Scandinavian Journal of Caring Sciences*, 23(2), 211-221. doi: 10.1111/j.1471-6712.2008.00607.x
- Hammarberg, K., Sartore, G., Cann, W., & Fisher, J. R. (2014). Barriers and promoters of participation in facilitated peer support groups for carers of children with special needs. *Scandinavian Journal of Caring Sciences*, 28(4), 775-783. doi: 10.1111/scs.12110
- Hartwell, L. (2012). Why support groups provide help and hope. *Nephrology News & Issues*, 26(9), 30-32.
- Huefner, K., Kaldenberg, J., & Berger, S. (2008). Vision-related issues facing older adults: Occupational therapy's role. *Special Interest Section Quarterly Gerontology*, 31, 2, 1-4.
- Kelly, J. F., & Yeterian, J. D. (2011). The role of mutual-help groups in extending the framework of treatment. *Alcohol Research & Health*, 33(4), 350.
- Liu, C. J., Brost, M. A., Horton, V. E., Kenyon, S. B., & Mears, K. E. (2013). Occupational therapy interventions to improve performance of daily activities at home for older adults with low vision: A systematic review. *American Journal of Occupational Therapy*, 67(3), 279-287. doi: <http://dx.doi.org/10.5014/ajot.2013.005512>
- McCulloh, K. J., Crawford, I., & Resnick, J. D. (1994). A structured support group for midlife and older adults with vision loss. *Journal of Visual Impairment & Blindness*.

- McGrath, C. E., & Rudman, D. L. (2013). Factors that influence the occupational engagement of older adults with low vision: A scoping review. *British Journal of Occupational Therapy*, 76(5), 234-241. doi: 10.4276/030802213X13679275042762
- National Eye Institute (2018). Retrieved from: <https://nei.nih.gov/lowvision/content/faq>
- Packer, T. L., Girdler, S., Boldy, D. P., Dhaliwal, S. S., & Crowley, M. (2009). Vision self-management for older adults: a pilot study. *Disability and rehabilitation*, 31(16), 1353-1361. doi: 10.1080/09638280802572999
- Perlmutter, M., & Hussey, G., (2017). Living life with vision loss: A community based self-management program for people with low vision. *OT Practice*, 24-26.
- Rees, G., Xie, J., Chiang, P. P., Larizza, M. F., Marella, M., Hassell, J. B., ... & Lamoureux, E. L. (2015). A randomised controlled trial of a self-management programme for low vision implemented in low vision rehabilitation services. *Patient education and counseling*, 98(2), 174-181. doi: <http://dx.doi.org/10.1016/j.pec.2014.11.008>
- Schiller, J. S., Lucas, J. W., & Peregoy, J. A. (2012). Summary health statistics for US adults: national health interview survey, 2011. Retrieved from <https://stacks.cdc.gov/view/cdc/21423>
- Schoessow, K. (2010). Shifting from compensation to participation: A model for occupational therapy in low vision. *The British Journal of Occupational Therapy*, 73(4), 160-169. doi: <http://dx.doi.org.ezproxy.bu.edu/10.4276/030802210X12706313443947>

Weisser-Pike, O., & Kaldenberg, J. (2010). Occupational therapy approaches to facilitate productive aging for individuals with low vision. *OT Practice*, *15*(3), CE-1.

World Health Organization (2012) Visual impairment and blindness: fact sheet. Geneva, Switzerland: World Health Organization.

FACT SHEET



***S.O.L.V.E.* for Occupational
Therapy Practitioners: Solutions
to Optimize the Low Vision
Experience**

Emily Mengle, MS, OTR/L
OTD Candidate

S.O.L.V.E. for Occupational Therapy Practitioners: Solutions to Optimize the Low Vision Experience is an evidence-based, theory-driven solution to the occupational performance and participation challenges of individuals with low vision. *S.O.L.V.E.* is a detailed framework and manual designed for occupational therapy practitioners (OTP) to implement in local low vision support groups and ultimately improve performance for individuals with low vision.

Low Vision at a Glance

- Low Vision: “permanent loss of vision that cannot be corrected by eyeglasses, contact lenses, medication or surgical intervention or interferes with the performance of common age-appropriate seeing tasks” (Vision Rehabilitation Evidence-Based Review [VREBR] 2005, p. 10).
- 13.5% of individuals 65 and older in the United States have low vision (Schiller et al., 2012), and approximately 185 million adults worldwide have low vision affecting their daily life (WHO, 2014).



<https://yoursightmatters.com/fight-vision-loss-during-low-vision-awareness-month/>

Low Vision and Support Groups

- Individuals with low vision may seek support groups in order to connect with others experiencing similar challenges to find solutions to their difficulties.
- One shortcoming of support groups is that peer leaders often lead them, rather than trained health professionals (Embuldeniya et al., 2013).
- Peer leaders often do not receive any training related to leading a successful support group (Zordan et al., 2010).

Evidence Basis for Occupational Therapy and Low Vision

- Evidence suggests that occupational therapy interventions for older adults with low vision are effective in improving daily activities (Liu, Brost, Horton, Kenyon, & Mears, 2013), leisure, and social participation (Berger, McAteer, Schreier, & Kaldenberg, 2013).
 - There is support for the use of a problem solving approach (Berger et al., 2013) and the use of strategies that make use of remaining vision or other senses (Weisser-Pike et al., 2010).
-

S.O.L.V.E. as a Solution to the Problem

- OTP will deliver *S.O.L.V.E.* to individuals in low vision support groups for 90 minutes once a week for six weeks.
 - Individuals will learn to solve the personal challenges of the other group members as a team using the problem solving approach, making use of remaining vision, and making use of other senses.
 - OTP will teach group members about group process, counseling skills, and communication strategies.
 - By the end of *S.O.L.V.E.*, support group members will be capable of supporting one another by problem solving effectively as new occupational performance challenges arise.
-

Implications on Occupational Therapy Services

- *S.O.L.V.E.* is designed to more clearly define the role of OTP in a low vision support group and outlines a protocol for OTP to implement in a support group to improve overall success and productivity.
- *S.O.L.V.E.* includes a detailed framework and manual to enhance OTP's ability to aid low vision support groups.
- The use of evidence-based intervention strategies through implementation of *S.O.L.V.E.* supports the provision of OTP services in the low vision population.



<http://www.ottoolkit.com/blog/low-vision-the-best-of-ot-toolkit-resources/>

References

- Berger, S., McAteer, J., Schreier, K., & Kaldenberg, J. (2013). Occupational therapy interventions to improve leisure and social participation for older adults with low vision: A systematic review. *American Journal of Occupational Therapy, 67*, 303–311. doi: <http://dx.doi.org/10.5014/ajot.2013.005447>
- Embuldeniya, G., Veinot, P., Bell, E., Bell, M., Nyhof-Young, J., Sale, J. E., & Britten, N. (2013). The experience and impact of chronic disease peer support interventions: a qualitative synthesis. *Patient Education and Counseling, 92*(1), 3-12. doi: <http://dx.doi.org/10.1016/j.pec.2013.02.002>
- Fight Vision Loss during Low Vision Awareness Month (n.d.). [Graphic Illustration from March 23, 2019]. Retrieved from: <https://yoursightmatters.com/fight-vision-loss-during-low-vision-awareness-month/>
- Liu, C. J., Brost, M. A., Horton, V. E., Kenyon, S. B., & Mears, K. E. (2013). Occupational therapy interventions to improve performance of daily activities at home for older adults with low vision: A systematic review. *American Journal of Occupational Therapy, 67*(3), 279-287. doi: <http://dx.doi.org/10.5014/ajot.2013.005512>
- Schiller, J. S., Lucas, J. W., & Peregoy, J. A. (2012). Summary health statistics for US adults: national health interview survey, 2011. Retrieved from <https://stacks.cdc.gov/view/cdc/21423>
- The Best of OT Toolkit Resources: Low Vision and Blindness (2016). [Graphic Illustration from March 23, 2019]. Retrieved from: <http://www.ottoolkit.com/blog/low-vision-the-best-of-ot-toolkit-resources/>
- Vision Rehabilitation Evidence Based Review Team (2005) Vision rehabilitation: evidence-based review. Toronto: Canadian National Institute for the Blind.
- Weisser-Pike, O., & Kaldenberg, J. (2010). Occupational therapy approaches to facilitate productive aging for individuals with low vision. *OT Practice, 15*(3), CE-1.
- World Health Organization (2012) Visual impairment and blindness: fact sheet. Geneva, Switzerland: World Health Organization.
- Zordan, R. D., Juraskova, I., Butow, P. N., Jolan, A., Kirsten, L., Chapman, J., ... & Sundquist, K. (2010). Exploring the impact of training on the experience of Australian support group leaders: current practices and implications for research. *Health Expectations, 13*(4), 427-440. doi: 10.1111/j.1369-7625.2010.00592.x

CUMULATIVE REFERENCES

- Alma, M. A., Groothoff, J. W., Melis-Dankers, B. J., Suurmeijer, T. P. B. M., & van der Mei, S. F. (2013). The effectiveness of a multidisciplinary group rehabilitation program on the psychosocial functioning of elderly people who are visually impaired. *Journal of Visual Impairment & Blindness*, *107*(1), 5-16. doi: <http://dx.doi.org.ezproxy.bu.edu/10.1177/0145482X1310700101>
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191-215. doi:10.1037/0033-295x.84.2.191
- Barstow, B. A., Bennett, D. K., & Vogtle, L. K. (2011). Perspectives on home safety: Do home safety assessments address the concerns of clients with vision loss? *American Journal of Occupational Therapy*, *65*, 635–642. doi: 10.5014/ajot.2011.001909
- Barstow, B. A., Warren, M., Thaker, S., Hallman, A., & Batts, P. (2015). Client and therapist perspectives on the influence of low vision and chronic conditions on performance and occupational therapy intervention. *American Journal of Occupational Therapy*, *69*, 1–8. doi: <http://dx.doi.org/10.5014/ajot.2015.014605>
- Berger, S., McAteer, J., Schreier, K., & Kaldenberg, J. (2013). Occupational therapy interventions to improve leisure and social participation for older adults with low vision: A systematic review. *American Journal of Occupational Therapy*, *67*, 303–311. doi: <http://dx.doi.org/10.5014/ajot.2013.005447>
- Blaylock, S. E., Barstow, B. A., Vogtle, L. K., & Bennett, D. K. (2015). Understanding the occupational performance experiences of individuals with low vision. *British*

Journal of Occupational Therapy, 78(7), 412-421. doi:

10.1177/0308022615577641

Brunelli, A. A., Murphy, G. C., & Athanasou, J. A. (2016). Effectiveness of social support group interventions for psychosocial outcomes: A meta-analytic review.

The Australian Journal of Rehabilitation Counselling, 22(2), 104-127. doi:

10.1017/jrc.2016.9

Centers for Disease Control and Prevention, (2001). Prevalence of disabilities and associated health conditions among adults—United States, 1999. *MMWR: Morbidity and Mortality Weekly Report*, 50, 120–125.

Costello, J. F. (2013). Roles and strategies of diabetes support group facilitators: an exploratory study. *The Diabetes Educator*, 39(2), 178-186. doi:

10.1177/0145721713476347

Coyle, C. E., Steinman, B. A., & Chen, J. (2017). Visual acuity and self-reported vision status: Their associations with social isolation in older adults. *Journal of Aging and Health*, 29(1), 128-148. doi: 10.1177/0898264315624909

Crews, J. E., & Campbell, V. A. (2004). Vision impairment and hearing loss among community-dwelling older Americans: implications for health and functioning. *American Journal of Public Health*, 94(5), 823-829. doi:

<http://dx.doi.org.ezproxy.bu.edu/10.2105/AJPH.94.5.823>

Embuldeniya, G., Veinot, P., Bell, E., Bell, M., Nyhof-Young, J., Sale, J. E., & Britten, N. (2013). The experience and impact of chronic disease peer support

interventions: a qualitative synthesis. *Patient Education and Counseling*, 92(1), 3-12. doi: <http://dx.doi.org/10.1016/j.pec.2013.02.002>

Finlayson, M. L., & Cho, C. C. (2011). A profile of support group use and need among middle-aged and older adults with multiple sclerosis. *Journal of Gerontological Social Work*, 54(5), 475-493. doi: 10.1080/01634372.2011.575446

Friedman, D.S., O'Colmain, B.J., Munoz, B., Tomany, S.C., McCarty, C., De Jong, P.T., Nemesure, B., Mitchell, P., Kempen, J., Eye Diseases Prevalence Research Group, 2004. Prevalence of age-related macular degeneration in the united states. *Archives of Ophthalmology*, 122, 564-572.

Frohlich, D. O. (2014). The social support model for people with chronic health conditions: A proposal for future research. *Social Theory & Health*, 12(2), 218-234. doi: 10.1057/sth.2014.3

Häggman-Laitila, A., & Pietilä, A. M. (2009). Preventive psychosocietal support groups: Parents' criteria for good quality. *Scandinavian Journal of Caring Sciences*, 23(2), 211-221. doi: 10.1111/j.1471-6712.2008.00607.x

Hammarberg, K., Sartore, G., Cann, W., & Fisher, J. R. (2014). Barriers and promoters of participation in facilitated peer support groups for carers of children with special needs. *Scandinavian Journal of Caring Sciences*, 28(4), 775-783. doi: 10.1111/scs.12110

Hartwell, L. (2012). Why support groups provide help and hope. *Nephrology News & Issues*, 26(9), 30-32.

- Henry, G.T. (2015). Comparison group designs (pp. 137-157). In: Newcomer, H.P. Hatry, & J.S. Wholey. (Eds.) *Handbook of practical program evaluation*. San Francisco, CA: Jossey-Bass.
- Huefner, K., Kaldenberg, J., & Berger, S. (2008). Vision-related issues facing older adults: Occupational therapy's role. *Special Interest Section Quarterly Gerontology*, 31, 2, 1–4.
- Justiss, M. D. (2013). Occupational therapy interventions to promote driving and community mobility for older adults with low vision: A systematic review. *American Journal of Occupational Therapy*, 67(3), 296–302. doi: <http://dx.doi.org/10.5014/ajot.2013.005660>
- Kelly, J. F., & Yeterian, J. D. (2011). The role of mutual-help groups in extending the framework of treatment. *Alcohol Research & Health*, 33(4), 350.
- Kempen, G. I., Ballemans, J., Ranchor, A. V., van Rens, G. H., & Zijlstra, G. R. (2012). The impact of low vision on activities of daily living, symptoms of depression, feelings of anxiety and social support in community-living older adults seeking vision rehabilitation services. *Quality of Life Research*, 21(8), 1405–1411. doi: 10.1007/s11136-011-0061-y
- Lions Clubs International. (2010). Contact us. Retrieved February 16, 2019, from: <http://www.lionsclubs.org/EN/lci-foundation/about-us/lions-lcif-staff.php>
- Liu, C. J., Brost, M. A., Horton, V. E., Kenyon, S. B., & Mears, K. E. (2013). Occupational therapy interventions to improve performance of daily activities at home for older adults with low vision: A systematic review. *American Journal of*

Occupational Therapy, 67(3), 279–287. doi:

<http://dx.doi.org/10.5014/ajot.2013.005512>

McCulloh, K. J., Crawford, I., & Resnick, J. D. (1994). A structured support group for midlife and older adults with vision loss. *Journal of Visual Impairment & Blindness*, 88(2), 152–156.

McGrath, C. E., & Rudman, D. L. (2013). Factors that influence the occupational engagement of older adults with low vision: A scoping review. *British Journal of Occupational Therapy*, 76(5), 234–241. doi: 10.4276/030802213X13679275042762

McGrath, C., Rudman, D. L., Spafford, M., Trentham, B., & Polgar, J. (2017). The Environmental Production of Disability for Seniors with Age-Related Vision Loss. *Canadian Journal on Aging/La Revue canadienne du vieillissement*, 36(1), 55–66. doi: 10.1017/S0714980816000623

National Eye Institute (2018). Retrieved from: <https://nei.nih.gov/lowvision/content/faq>

Newcomer, K. E. & Conger, D. (2015). Using statistics in evaluation (pp. 596–635). In: Newcomer, H.P. Hatry, & J.S. Wholey. (Eds.) *Handbook of practical program evaluation*. San Francisco, CA: Jossey-Bass.

Packer, T. L., Girdler, S., Boldy, D. P., Dhaliwal, S. S., & Crowley, M. (2009). Vision self-management for older adults: a pilot study. *Disability and Rehabilitation*, 31(16), 1353–1361. doi: 10.1080/09638280802572999

Perlmutter, M., & Hussey, G., (2017). Living life with vision loss: A community based self-management program for people with low vision. *OT Practice*, 24–26.

- Rees, G., Xie, J., Chiang, P. P., Larizza, M. F., Marella, M., Hassell, J. B., ... & Lamoureux, E. L. (2015). A randomised controlled trial of a self-management programme for low vision implemented in low vision rehabilitation services. *Patient Education and Counseling*, *98*(2), 174–181. doi: <http://dx.doi.org/10.1016/j.pec.2014.11.008>
- Rogers, P.J. & Goodrick, D. (2015). Qualitative data analysis (pp. 561–595). In: Newcomer, H.P. Hatry, & J.S. Wholey. (Eds.) *Handbook of practical program evaluation*. San Francisco, CA: Jossey-Bass.
- Schiller, J. S., Lucas, J. W., & Peregoy, J. A. (2012). Summary health statistics for U.S. adults: National health interview survey, 2011. Retrieved from <https://stacks.cdc.gov/view/cdc/21423>
- Schoessow, K. (2010). Shifting from compensation to participation: A model for occupational therapy in low vision. *The British Journal of Occupational Therapy*, *73*(4), 160-169. doi: <http://dx.doi.org.ezproxy.bu.edu/10.4276/030802210X12706313443947>
- Servat, J. J., Risco, M., Nakasato, Y. R., & Bernardino, C. R. (2011). Visual impairment in the elderly: impact on functional ability and quality of life. *Clinical Geriatrics*, *19*(7), 49–56.
- Smith, S. L., Bennett, L. W., & Wilson, R. H. (2008). Prevalence and characteristics of dual sensory impairment (hearing and vision) in a veteran population. *Journal of Rehabilitation Research and Development*, *45*(4), 597–609. doi: 10.1682/JRRD.2007.02.0023

- Tay, K. C. P., Drury, V. B., & Mackey, S. (2014). The role of intrinsic motivation in a group of low vision patients participating in a self-management programme to enhance self-efficacy and quality of life. *International Journal of Nursing Practice*, 20(1), 17–24. doi: 10.1111/ijn.12110
- Teitelman, J., & Copolillo, A. (2005). Psychosocial issues in older adults' adjustment to vision loss: findings from qualitative interviews and focus groups. *American Journal of Occupational Therapy*, 59(4), 409-417. doi: <http://dx.doi.org.ezproxy.bu.edu/10.5014/ajot.59.4.409>
- van der Aa, H. P., Krijnen-de Bruin, E., van Rens, G. H., Twisk, J. W., & van Nispen, R. M. (2015). Watchful waiting for subthreshold depression and anxiety in visually impaired older adults. *Quality of Life Research*, 24(12), 2885–2893. doi: 10.1007/s11136-015-1032-5
- Vision and Rehabilitation Services, (2019). Retrieved February 16, 2019, from: <https://lavellefund.org/what-we-fund/vision-rehabilitation-and-resources/>
- Vision Rehabilitation Evidence Based Review Team (2005) Vision rehabilitation: evidence-based review. Toronto: Canadian National Institute for the Blind.
- Watson, G. R. (2001). Low vision in the geriatric population: Rehabilitation and management. *Journal of the American Geriatrics Society*, 49(3), 317–330. doi: <http://dx.doi.org.ezproxy.bu.edu/10.1046/j.1532-5415.2001.4930317.x>
- Weisser-Pike, O., & Kaldenberg, J. (2010). Occupational therapy approaches to facilitate productive aging for individuals with low vision. *OT Practice*, 15(3), CE-1.
- Whitson, H. E., Ansah, D., Whitaker, D., Potter, G., Cousins, S. W., MacDonald, H., ... &

Cohen, H. J. (2010). Prevalence and patterns of comorbid cognitive impairment in low vision rehabilitation for macular disease. *Archives of Gerontology and Geriatrics*, 50(2), 209–212. doi: 10.1016/j.archger.2009.03.010

World Health Organization (2012) Visual impairment and blindness: Fact sheet. Geneva, Switzerland: World Health Organization.

Zordan, R. D., Juraskova, I., Butow, P. N., Jolan, A., Kirsten, L., Chapman, J., ... & Sundquist, K. (2010). Exploring the impact of training on the experience of Australian support group leaders: current practices and implications for research. *Health Expectations*, 13(4), 427–440. doi: 10.1111/j.1369-7625.2010.00592.x

CURRICULUM VITAE

