DISSERTATION

INTERVENING WITH LAUGHTER:
USING LAUGHTER/HUMOR TO CREATE POSITIVE EXPERIENCES IN DEMENTIA RELATIONSHIPS

Submitted by

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In partial fulfillment of the requirements

For the Degree of Doctor of Philosophy

Colorado State University

Fort Collins, Colorado

Summer 2024

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ABSTRACT

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Humor and laughter have various positive outcomes on people's health and relationships both within healthcare settings and in daily life. In particular, humor and laughter can be beneficial for individuals impacted by dementia. This dissertation project was an engaged, mixed methodological intervention in which a program containing humor activities was created for people with dementia and their care partners to determine whether actively engaging with humor and laughter would be associated with positive outcomes for participants' well-being, observed behaviors, and relationships. Data collection methods included real-time observations as well as pre- and post-test surveys. Results indicated that participants were able and willing to participate in the program, that they engaged in various relational maintenance strategies during the program, and that the program was enjoyable and effective at creating positive personal and interpersonal outcomes for participating dyads. This project contributes to the scholarly community by investigating the usefulness of a noninvasive intervention within an understudied dyadic and aging population while demonstrating the powerful outcomes that can result from engaged scholarship and community collaborations. Additionally, this work offers the community partner a "plug-and-play" program that can be repeated in the future and provided participants with valuable and enjoyable experiences.

ACKNOWLEDGEMENTS

My deepest gratitude goes to Dementia Together, the community partner without whom this project would not have been possible. I am so grateful for Cyndy Luzinski for working with me over the past few years, and for Andrea Scandrett and Meghan Wall for allowing me to collaborate with them on the design and implementation of this Memory Café program. Without the incredible programming, enthusiasm, and inspiration of these outstanding women and remarkable leaders, the dementia journey would be much darker for so many people.

My most heartfelt appreciation also goes to Dr. Meara Faw, who has been my mentor, role model, collaborator, and advisor for the past six years. Her encouragement, guidance, support, and general brilliance has been invaluable, and the opportunities she has given me have been life-changing. I am also incredibly grateful for the rest of my “dream team” dissertation committee. Dr. Ziyu Long’s support and recommendations on the project design, mixed methodologies, and theoretical framing, along with her feedback on the various drafts of this document have been immensely helpful. I have learned so much from her over my work with her these past six years. Dr. Katie Knobloch has been an inspiration as an engaged researcher, caring community member, and enthusiastic professor. Her encouragement to make research meaningful for communities and her practical approaches to both research and teaching are unforgettable and immensely appreciated. Finally, Dr. Rachel Lucas-Thompson’s suggestions regarding intervention design, data collection techniques, relevant literature, and setting realistic expectations and boundaries have made this project much stronger than it would have been without her. To all these incredibly intelligent individuals, thank you for your patience, encouragement, and guidance.

My appreciation also goes to Colorado State University and, specifically, to the Department of Communication Studies. This project was only possible because of the departmental funding, administrative support, and generally uplifting atmosphere that surrounded me throughout this dissertation and doctoral program. The friends I have made here have been both inspirational and fun, and I have enjoyed every academic conversation, get-together, idea-swap, board game, and laugh we've shared.

Finally, I would like to thank my family for their love, encouragement, and support over the past six years. To my parents, for the encouraging calls, fun visits, and smiling Snoopys that kept me company in Colorado, for reminding me to stay focused on Him who is most important, for being living examples of loving communicators, and for patiently walking the dementia journey with my Grandma and making it possible for me to join that walk, even from afar. I am so blessed to have such supportive parents. To Kelly and Chris, Kevin, and Jim and Kathy, for their loving check-ins, texts, visits, gifts, and for "sponsoring" so many of my meals, donuts, and ice cream sundaes during my years in grad school. To my brother, for being my inspiration to do fun things on the weekends and take advantage of living in such an amazing state—you'll always been the "cool kid" I look up to. And finally, to Ryan, for making sure I ate lunch every day, for getting me to the top of so many mountains, for being encouraging, generous, fun, and loving, for being there to celebrate my successes and support me through my setbacks, and through it all, for continuing to patiently listen, laugh, and occasionally sing along to the never-ending "Hot Dog Song." My love, respect, and gratitude for you is endless.

To all of you, from the bottom of my heart, thank you.

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CHAPTER 1 – INTRODUCTION

> A man goes for his annual checkup. The doctor comes in with the results of his tests and says, “I have some bad news: you have cancer, and you have Alzheimer's.” The man replies, “Well, at least I don't have cancer!”

Dementia is the “general term for loss of memory, language, problem-solving and other thinking abilities that are severe enough to interfere with daily life,” and Alzheimer’s disease is one of the most common forms of dementia (Alzheimer’s Association, 2023). A dementia (or cancer) diagnosis is certainly not a funny subject for most people. Yet, interestingly, research points more and more to the importance of humor in difficult situations such as aging, dealing with dementia, and dementia care (Bethea et al., 2000; Mak et al., 2018; Mak & Sörensen, 2018; Maler, n.d; Wanzer et al., 2009). Indeed, people have been found to use humor even within some very non-funny situations; for instance, funeral directors, prisoners of war, people dealing with grief, firefighters, cancer patients, and people caring for elderly individuals or people with dementia (PWD) all use humor when dealing with their situations (Booth-Butterfield et al., 2014; Demjén, 2016; Grandi et al., 2019; Henman, 2001; Mak & Sörensen, 2018; Matter, 2022; Sliter et al., 2013; Wanzer et al., 2009). In fact, even as dementia takes away a person’s memory and changes their sense of humor (Clark et al., 2015), their ability to laugh and find things funny remains intact well into the disease’s development (Mak & Sörensen, 2018; Maler, n.d.; Person & Hanssen, 2015). These findings point not to the funniness of these situations, but rather to the value of humor as a consistently utilized form of communication and coping. This study builds on prior findings about humor’s uses in difficult situations to design and test the value and initial outcomes of a humor intervention for PWDs and their care partners (CPs). Unlike the joke above, this intervention does not attempt to make light of the experience of dementia, but rather seeks to intentionally incorporate humor into the experiences of people whose lives and relationships are impacted by dementia, in order to promote positive, prosocial outcomes.

To explain the current study and its outcomes, the following pages include an overview of dementia's impact on relationships, which provides the rationale for this study; then, a summary of some of the prior research done on humor is offered, highlighting humor as a relational communication act and humor's connection to health. An overview of the current study and the theories guiding this intervention is then provided, followed by an explanation of the specific methodologies that were employed to accomplish the study's goals. The results are summarized, and a discussion of those results in light of other research is offered. Overall, the goal of this dissertation project was to design and evaluate a humor engagement program for CPs and PWDs to promote pleasant feelings and outcomes, and this humor program was largely successful at accomplishing that goal.

CHAPTER 2 – LITERATURE REVIEW

Dementia, Care Partners, and Study Rationale

In the United States, an estimated one in nine people over the age of 64 currently lives with Alzheimer's dementia, a highly burdensome disease due to the impacts it has on daily life, the increased mortality rates for the person diagnosed, and the farther-reaching effects dementia carries into that person's social network (Alzheimer's Association, 2023). Dementia is the umbrella term for a variety of brain diseases that bring about losses of memory, language, thinking skills, and (eventually) other bodily functions such as mobility and eating (Alzheimer's Association, 2023). The experience of living with dementia has been described as a person trying to use a photo album; the photo album is intended to help them communicate with others about their life experiences, but memory loss is akin to a photo album which is missing many of the relevant photos (Contended Dementia Trust, 2012; James, 2008). In this analogy, an aura of feelings around the missing photos remains, but the reason for those feelings has disappeared, leaving the person to try to explain their feelings and experiences with a similar intact photo (Contented Dementia Trust, 2012; James, 2008). In other words, a person with dementia knows how they are feeling, but they do not always know *why* they are feeling that way and must find a suitable explanation from their remaining intact memories (Contented Dementia Trust, 2012; James, 2008). Thus, living with dementia involves experiencing an increasing lack of explanations for the things a person experiences, resulting in greater confusion and a constant search for meaning and understanding. As such, the community partner associated with this project encourages people to focus on creating positive experiences for PWDs, as maintaining positive or pleasant emotional states allows PWDs to experience pleasant feelings and, if necessary, to explain those experiences by recalling past positive memories. Moreover, avoiding negative or unpleasant experiences for PWDs decreases the likelihood that they will try to explain their current feelings with past negative or unpleasant memories (Contented Dementia Trust, 2012). Importantly, as the disease progresses, PWDs not only benefit from maintaining pleasant or neutral feelings and experiences, but they also require increasing levels of assistance in accomplishing routine tasks and activities of daily living, relying more and more on their loved ones and CPs to live well and safely (Alzheimer's Association, 2023).

More than 11 million Americans serve as unpaid (informal) care partners for a friend or family member with dementia, while many others work as paid professional caregivers (Alzheimer's Association, 2023); these individuals assist the PWD with daily living tasks such as mobility, dressing, bathing, cooking/eating, and entertainment (Alzheimer's Association, 2023). For unpaid CPs, these efforts are associated with a variety of challenges and negative health outcomes; CPs face economic burdens related to the PWD's medical needs and care time requirements, emotional and social challenges due to increased levels of stress, and, for many CPs, various physiological changes and worsened physical health as they care for the PWD over time (Alzheimer's Association, 2023).

In spousal, friend, or family relationships impacted by dementia, people often face decreased feelings of intimacy as their shared experiences and treasured memories are threatened by cognitive loss and functional impairment of the PWD (Alzheimer's Association, 2023). However, CPs also report many positive feelings and experiences, pointing to the rewarding nature of helping their loved one throughout the disease's progression and the positive experiences they continue to create by spending time with the PWD (Alzheimer's Association, 2023; Faw et al., 2022; Monin et al., 2015). Thus, while dementia can and often does negatively impact PWDs, CPs, and their relationships, positive outcomes and experiences are possible and can be highly rewarding for the individuals in those relationships. Interestingly, various organizations encourage the network members of PWDs and CPs to actively engage those individuals in positive experiences and activities in order to maintain feelings of contentedness and happiness for both the PWD and their loved ones (Alzheimers.gov, n.d.; Contented Dementia Trust, 2012; Maler, n.d.; Person & Hanssen, 2015).

Clearly, PWDs benefit from being surrounded by positive experiences and emotions to feel content (Contended Dementia Trust, 2012), and CPs benefit from effective coping strategies and positive experiences to maintain satisfaction in their relationships (Alzheimer's Association, 2023); in other words, for both CPs and PWDs, finding ways to bring joy and positivity into their daily experiences and relationships is a valuable quest. As PWDs' interaction patterns and needs change over time, CPs may struggle to remain satisfied with their role and their relationship with the PWD (Alzheimer's Association, 2023; Alzheimers.gov, n.d.). Informal CPs have already been found to use humor in interactions with others (Matter, 2022), as humor serves as one strategy to help them cope with difficult struggles (Bethea et al., 2000). Indeed, past research shows that humor is broadly linked to coping efficacy, greater satisfaction between interacting individuals, and positive feelings towards tasks (Booth-Butterfield et al., 2007), but research which measures humor's impact on dementia-impacted relationships is limited and varies in demonstrated effectiveness (e.g., Brodaty et al., 2014; Clark et al., 2015; Low et al., 2014; Person & Hanssen, 2015; Raviv, 2014; Walter et al., 2007). Together, these findings point to the need for additional work on *whether* and *how* humor can be intentionally used to enhance the lives of PWDs and their CPs, which is the foundation for this project. Due to the prevalence of dementia and the uniqueness of the changes that occur in dementia-impacted relationships

(Alzheimer's Association, 2023), this study aims to discover humor strategies which promote positive relational outcomes for PWDs and their loved ones.

More specifically, the goal of this study is to design and test a set of humor-engagement activities to determine if CPs and PWDs are able and willing to engage in these activities, to evaluate which activities are enjoyable for CPs and PWDs, and to determine whether those activities are associated with positive outcomes for CPs and PWDs as individuals and dyads. To accomplish this task, CPs and PWDs were invited to engage in a series of activities which were designed in close collaboration with a community partner; these activities utilized positive, non-targeting humor (e.g., humor that does not put others or self down; Martin et al., 2003) within a group setting, seeking to promote pleasant emotions, prosocial relationship interactions, and increased well-being for the participants. To more fully explain the study design, a summary of how humor operates as a valuable communicative technique is summarized below.

Humor as Relational Communication

The findings from prior research on humor form the basis for this study. Much academic research on humor falls into one of three categories: considering what makes something funny (humor theories), evaluating the content of select instances of humor (humor types), or considering how humor intersects with other factors to impact relationships (humor's relational outcomes). Each of these areas of research is briefly summarized along with an explanation of the approaches that were taken in the current study.

Defining Humor

When considering humor's usefulness within dementia-impacted relationships, defining humor is an important first step. Scholars from various fields have evaluated humor, and these evaluations can be categorized into two groups: viewing humor as an internal personality trait, or considering humor as an externally identifiable communicative event. The first categorization often involves investigations into people’s abilities or tendencies to find or produce humor in various situations. Studies that follow this approach seek to uncover how having a humorous outlook on life aligns with other factors such as popularity or loneliness (Wanzer et al., 1996), coping efficacy (Wanzer et al., 2009), gaining compliance from others (Wrench & Booth-Butterfield, 2003), recovering from disease (Lockwood & Yoshimura, 2014), or using specific cues in online spaces (Pennington & Hall, 2014), to name a few. These studies often measure someone’s humor orientation (Booth-Butterfield & Booth-Butterfield, 1991), which captures a person’s tendency to use humor across situations, or they evaluate a person’s humor style (Martin et al., 2003), which is a person’s tendency to use certain types of humor across situations. Together, this set of humor studies points to the potential value or harm of humorousness as general individual quality and communicative strategy.

The second group of humor studies focuses on individual instances of humor. These studies tend to categorize cases of humor to assess, for example, how certain types of humorous utterances are linked to specific emotional experiences for relational partners (Hall, 2010), the connections between humor attempts and perceived status (Bitterly et al., 2017), whether exposure to certain types of humorous videos impacts supportive behaviors (Gelkopf et al., 1994), the ways humorous utterances operate within conversational contexts (Holmes, 2006), or to identify what is laughable or not in various contexts (Demjén, 2016). As a set, these studies reveal the value of considering the content of specific humor attempts (e.g., videos, jokes, images, etc.) and the impacts that individual instances of humor can have on the context in which they occur.

Although the current study is built with consideration towards both angles, this project aligns more closely with the second category of humor research, utilizing specific types of humorous content to create and measure immediate outcomes. Previous research points to the benefits of maintaining a humorous outlook within dementia care (Kounti-Zafeiropoulou, 2014; Mak et al., 2018; Person & Hanssen, 2015), but little work looks at individual instances of humor and the more immediate positive or negative outcomes that can result from specific uses of humor in dementia-impacted relationships. To investigate this issue in more detail, a humor program was designed which incorporated various activities selected based on the content of that humor; any humorous instances or content included in the program (i.e., videos, jokes, activities) were limited to those which carried low potential for creating immediate unpleasant feelings or reactions, based on research into the different types of humor (described in more detail below). In addition to these considerations, the activity and humor selections were guided by several theories which explain what makes something funny.

Humor Theories

Four prevailing theories describe what makes things funny within the fields of humor and communication studies. These theories have gained widespread acceptance throughout decades of research on humor (Lynch, 2002; McGraw & Warren, 2010; Meyer, 2000; Warren et al., 2021). The first theory, *relief theory*, was born out of the work of Sigmund Freud (1905/1960) and suggests that humor is useful for reducing stress or tension, operating like a valve releasing internal pressure (Lynch, 2002). According to this theory, the joke at the beginning would be viewed as comical if the person who read it was experiencing tension and needed a release of that tension. For example, a dementia CP might laugh at this joke after a long day of stressful care-related events; relief theory suggests that throughout the day, that negative energy or pressure builds up from a CP’s efforts to keep their loved one safe and comfortable, putting their own interests “on hold” (Alzheimer’s Association, 2023), so when they can take a step back and hear a joke, they may laugh out of relief, essentially releasing that built-up tension as they momentarily relax. For this theory, the content of the joke is less important than the context in which the joke is told, as the context determines whether a person can release tension by laughing or not.

The second theory—*superiority theory* (see Lynch, 2002)—suggests that humor is linked to power and the human need to conquer others (Meyer, 2000); people laugh when they feel triumphant or superior to another person. For example, to explain the opening joke, superiority theory might point to the feelings of power inherently involved in dementia. PWDs slowly lose capabilities over time, placing them at a lower cognitive level than CPs or other individuals not dealing with dementia (Alzheimer’s Association, 2023). According to this theory, the uneven power level allows some people to laugh at the joke because in the joke, they recognize a memory problem with which they are not struggling. As a result, they feel a sense of superiority over the person in the joke. Importantly, this superiority laughter is not always malicious. Like a parent lovingly laughing at or about a child’s innocent mistakes, people can have feelings of superiority over the knowledge and capabilities of PWDs, finding PWDs’ actions amusing in a loving way which can result in laughter (Lynch, 2002; Matter, 2022).

Both relief theory and superiority theory are helpful for offering explanations for past research which has found that care partners do sometimes laugh at and about their loved ones; this laughter can bring about positive relational outcomes with others in CPs’ networks, can improve the relationship with the PWD, and can result in improved coping for CPs themselves (Bethea et al., 2000; Hickman et al., 2020; Matter, 2022). According to the above theories, CPs in these instances may laugh to release the tension inherent to caregiving, or they may laugh *at* the PWD because they naturally feel superior to that individual even while caring for and loving them.

The third humor theory that describes what makes something funny is *incongruity theory* (Kant, 1952; Lynch, 2002), which focuses on internal cognitions. This theory claims that people laugh when they hold multiple competing or ambiguous ideas, and the simultaneous holding of those ideas results in surprising outcomes or inconsistent and unexpected experiences (Lynch, 2002). According to this theory, the opening joke would be deemed funny by a person because there are several incongruent concepts that are included in the joke's wording, and if a person picks up on those concepts, they will find the joke amusing. The reader likely carries the assumption that bad news will be met with a sad or disappointed reaction, yet the man in the joke reacts in a positive or optimistic way (presumably because he has immediately forgotten the first diagnosis due to his dementia). Similarly, upon being told some information, most people remember that information for a period of time, but in this case, the implication that the man has immediately forgotten half of the information is incongruent with most people's understandings of memory. The lack of immediate memory and the man's joy rather than disappointment or devastation are both inconsistencies for the reader, and those inconsistencies are held by the reader and deemed amusing when the logical cause for them (dementia) is discovered.

These three theories help explain some connections between humor and dementia care. Incongruity theory might explain dementia-related humor as an outcome of competing ideas. For instance, we often expect people to behave in certain ways (see Burgoon & Jones, 1976), but PWDs do things that are abnormal, illogical, or unexpected due to the nature of the disease (Alzheimer's Association, 2023). According to incongruity theory, it is this inconsistency in behavior versus expectations that leads to the experience of humor or amusement. Similarly, when CPs get through a particularly stressful situation and laugh about it later (e.g., Matter, 2022), relief theory suggests that the laughter stems from a release of tension after a period of stress. Superiority theory identifies why CPs can laugh about PWDs' behaviors which are unexpected and illogical yet heartwarming and amusing. As such, these three theories explain how humor fits into dementia-impacted situations, reflecting the varied range of emotions and experiences that appear in dementia care, and pointing to the reasons for humor in interactions involving PWDs and CPs.

Benign Violations Theory. The fourth and most recent theory to gain traction in the academic humor community is *benign violations theory* (McGraw & Warren, 2010), which is the guiding theory for this project. This theory suggests that for something to be funny, a situation must violate a person's expectations (similar to incongruity theory), but also that the unexpected occurrence must be appraised as being benign or harmless rather than carrying a legitimate threat (McGraw & Warren, 2010). A recent review of empirical humor data supported the benign violations theory, revealing that a humor instance is most likely to be perceived as funny if it includes three elements: simultaneity/incongruity (holding multiple dissimilar ideas at the same time), violation of norms or expectations (expecting one outcome but experiencing something different), and harmlessness (non-threatening content or situation; Warren et al., 2021). In other words, this theory takes the concepts from the previous theories and goes one step further, pointing to the need for the perception of harmlessness in addition to the other factors.

More specifically, benign violations theory states that people will only laugh at a situation or humor instance if the incongruencies or inconsistent behaviors described or depicted in the humor attempt are determined to be harmless. This explains why a caregiver might laugh about a care-related situation after it is over (e.g., in recounting the experience to other care partners; Bethea et al., 2000; Matter, 2022) but would not laugh during the actual experience or struggle, as during the experience, there is still the potential for harm or damage (physical, mental, or relational). Similarly, according to this theory, if an individual or loved one has recently been diagnosed with dementia, they may find the opening joke offensive or not funny, as it reminds them of the diagnosis's very real threat to their current reality and way of life and is therefore not harmless.

This theory incorporates elements of the three preceding theories while offering a more specific explanation for why some humor attempts are deemed funny and other humor is not. Thus, the benign violations theory provides the most helpful theoretical basis for this study. Humor is only funny if there is some kind of violation that involves no major threat to the interacting individuals, so the selection of safe and non-offensive or non-hurtful humor for use in this intervention was one key to its success.

Importantly, not all scholars focus on the theoretical underpinnings of humor; some humor researchers focus more on categorizing specific instances of humor to identify the types of humor that can be used (Martin et al., 2003). These scholars often highlight humor's content and evaluate the implied or direct target of the humor instance. This study was backed by the theoretical requirement that the humor used in the program be both benign and unexpected, and the program design was guided more specifically by past work that shows how humor instances can differ in content or type, each of which carries various the potential for relational risks or rewards.

Humor Types

A large body of research focuses on identifying and considering specific types of humor. These studies tend to categorize humor instances as either relationally prosocial or antisocial (Martin et al., 2003). Generally, when used in interactions or relationships, antisocial humor (sometimes called negative humor) is associated with detrimental relationship outcomes such as reduced relational satisfaction, decreased social support, worsened mood, and fewer productive reappraisals of difficult situations (Fritz, 2020; Hall, 2010; 2013; Howland & Simpson, 2014). Conversely, prosocial or more positive forms of humor are associated with beneficial outcomes such as improved mood, increased relational satisfaction, greater social support, situational reappraisal, and reduced stress (Booth-Butterfield & Wanzer, 2016; Fritz, 2020; Hall, 2013; Miczo & Averbeck, 2020). Yet, scholars also acknowledge that various factors influence these associations between humor types and relational outcomes, including aspects such as context (Booth-Butterfield & Wanzer, 2016), perceived confidence and competence of the humorous person (Bitterly et al., 2017; Fritz, 2020), attachment styles of the interacting individuals (Howland & Simpson, 2014), and relational uncertainty (Miczo & Averbeck, 2020). However, overall, positive or prosocial forms of humor are generally connected with positive outcomes, and antisocial or negative types of humor often result in interpersonal harm.

More specifically, humor has been categorized into four different types: affiliative and self-enhancing (prosocial forms), or aggressive and self-defeating (antisocial forms; Martin et al., 2003). These categorizations highlight the target of the humor as being either the self (self-enhancing or self-defeating) or another person (affiliative or aggressive), portraying that target in positive (self-enhancing or affiliative) or negative ways (self-defeating or aggressive; Martin et al., 2003). The current research project considered these types of humor, incorporating only positive or prosocial humor, and utilizing harmless (benign) content in the formal humor activities selected for the program. In making these selections, this study is built on the research-supported assumption that humor is a relational act, or a communicative behavior which impacts the relationship in which it is used.

Humor's Relational Outcomes

Humor and laughter carry the potential to benefit or harm relationships between individuals. Humor can be detrimental to relational well-being if negative types of humor are used (Lockwood & Yoshimura, 2014), but when positive humor is used within a relationship, relational partners report higher levels of satisfaction (Hall, 2013, 2017; Lockwood & Yoshimura, 2014). Additionally, a person's humor orientation (HO) can have measurable impacts on a relationship (Booth-Butterfield & Booth-Butterfield, 1991); HO is a person's general tendency to use humor in a variety of situations, and in general, positive outcomes are connected to higher levels of HO. For instance, high HO is associated with increased popularity, greater social attractiveness, and decreased loneliness (Wanzer et al., 1996), and people with a higher HO feel better equipped to deal with stress (i.e., report greater coping efficacy; Wanzer et al., 2009; Wanzer et al., 2005). Moreover, higher HO is also associated with positive outcomes in specific contexts, such as teaching (Aylor & Oppliger, 2003; Goodboy et al., 2015), management (Rizzo et al., 1999), and physician-patient interactions (Wrench & Booth-Butterfield, 2003). Dyads in which at least one member reportedly uses humor regularly (i.e., has a high HO) often report better relational health (Maki et al., 2012). Thus, regular, prosocial humor can benefit not only the person employing it, but also their partner and the relationship as a whole.

These findings serve as a call to recognize humor as one possible relationship-maintaining behavior that can be performed to promote the health and closeness of relationships

(Stafford & Canary, 1991). However, past research on humor within relationships strained by dementia is scarce, so this study investigates more specifically how humor and laughter operate in that unique relational context. Overall, humor and laughter can have various positive impacts within relationships, but those impacts vary based on the type of humor used and whether that instance of humor is deemed to be harmless and unexpected. The current study drew on these previous humor findings as the basis for the humor intervention in which participants in dementia-impacted relationships were invited to actively engage with positive, benign, and non-memory-related types of humor and laughter to promote pleasant emotions and beneficial relational outcomes. Given humor's positive impacts in non-dementia-affected relationships as described above (e.g., Booth-Butterfield et al., 2007; Goodboy et al., 2015; Hall, 2013), it seems likely that humor would also benefit relationships impacted by dementia. Therefore, the first hypothesis guiding this study is:

> *H1: Engaging in this humor program will promote relational closeness and feelings of positivity among PWDs and CPs.*

Research has shown that humor can positively impact relationships, but humor has also been studied more specifically within healthcare settings, and various health outcomes have been linked to humor. Due to the nature of dementia as a health- and healthcare-related disease, considering the links between humor and health is important. These findings, summarized below, point to the potential of humor engagement to bring about immediate and longer-term health benefits. The following findings inform the selection of activities for this program and point to health outcomes that may be promoted by the incorporation of humor activities into the lives of CPs and PWDs.

Humor and Health

Humor in Healthcare Settings

As dementia is a physical brain disease, considering humor's impacts in health-related contexts is important. Within healthcare settings, numerous studies have assessed the outcomes of humor. Dean and Gregory (2004) explored how humor is used in interactions between patients, practitioners, and family members in palliative care (i.e., end-of-life) units. These scholars point to the benefits of humor for building relationships, relieving tension, creating or protecting feelings of dignity, and maintaining healthy perspectives or outlooks during difficult medical experiences (Dean & Gregory, 2004). These findings are particularly relevant when considering humor's connections to individuals affected by dementia, as age is the greatest risk factor for developing Alzheimer's disease, and dementia is one of the top causes of death among individuals aged 65 or older (Alzheimer's Association, 2023). Therefore, it seems likely that the findings on humor in palliative care might overlap (at least partially) with humor in dementia-related contexts. Furthermore, looking at the impacts of humor on both patients and practitioners provides additional insights into how humor intersects with health outcomes.

Patients & Humor

The use of humor by patients in healthcare settings is associated with various outcomes and functions. Research on humor's physical health benefits is somewhat inconclusive, and study results occasionally conflict with one another, underscoring the complexity of the relationship between humor and physical health (Bennett & Lengacher, 2007a; Bennett & Lengacher, 2007b). Yet, across various studies, humor is repeatedly found to be associated with physical outcomes such as increased pain tolerance (Pérez-Aranda et al., 2019) as well as immediate increases in heart rate, respiratory rate, and oxygen consumption, followed by increased relaxation, decreased heart and respiratory rate, and lower blood pressure (Bennett & Lengacher, 2007a). This means that humor can create positive health outcomes through the resulting relaxation from humor use, but those outcomes may differ by individual and context (Bennett & Lengacher, 2007b). Indeed, humor can have beneficial outcomes for people diagnosed with various physical illnesses or ailments, including cancer (Demjén, 2016), cardiovascular disease (Lockwood & Yoshimura, 2014), and chronic pain (Pérez-Aranda et al., 2019).

In addition to these physical connections, scholars have also linked humor to various psychological outcomes for patients. Generally, higher HO is linked to greater mental well-being and increased perceived psychological health (Lockwood & Yoshimura, 2014); higher HO is also connected to greater self-perceived coping efficacy among older adults (Wanzer et al., 2009). Humor can reduce the negative psychological impacts of patients' health-related experiences (Demjén, 2016) and is associated with greater purpose in life (Mak & Sörensen, 2018). Healthcare patients also use humor to bolster their relationships and social well-being, using humor to connect with others and create a cohesive and supportive community (Demjén, 2016). Thus, prior research on humor use by patients reveals the power of humor in healthcare settings for patient-specific outcomes. PWDs are one subset of healthcare patients who often receive healthcare and assistance in both formal settings (e.g., nursing homes, medical establishments) and from informal sources (e.g., family members). Some research on humor's connection to these individuals has been conducted, revealing interesting and promising findings.

Humor & People with Dementia. Several studies have focused on the intersection of humor and dementia. As the nature of dementia involves a loss of memory and decreases in psychological functioning, certain patterns of reasoning and understandings of humor are also lost as the disease progresses (Alzheimer's Association, 2023; Clark et al., 2015). As part of this decline, PWDs' sense of humor tends to change over time because certain humor forms require awareness of events, norms, or factual knowledge and those humor instances lose their funniness without an understanding of the referent (Clark et al., 2015; Maler, n.d.). For instance, the opening joke in this document requires a basic understanding of what the terms "doctor," "Alzheimer's," and "cancer" mean, and to understand the joke, one must come to the logical conclusion that the man's relief is caused by dementia. Without any of those pieces of knowledge, the joke loses its meaning and therefore its funniness, a problem with which PWDs must contend.

Despite these changes, dementia experts and scholars argue that humor and laughter can, in fact, be hugely beneficial for PWDs, so they encourage the incorporation of humor into interactions with PWDs (Mak & Sörensen, 2018; Maler, n.d.; Person & Hanssen, 2015; Takeda et al., 2010). Takeda and colleagues (2010) adamantly advocate for the use of humor as a medical intervention or treatment technique due to its potential benefits for PWDs. Similarly, in an Alzheimer's Association newsletter, Maler (n.d.) encourages dementia CPs to find ways to use humor in their interactions with PWDs, pointing to benefits such as mental stimulation, dignity maintenance, and decreased negative affect, depressive symptoms, and stress. These arguments are bolstered by findings from scholars such as Mak and Sörensen (2018) and Person and Hanssen (2015), who discovered that PWDs still reportedly enjoy humor and that a PWD's continued sense of humor is related to greater purpose in life. Thus, although their understandings of humor and preferences for certain types of humor may shift with dementia's progression, PWDs still can enjoy humor, and many scholars argue that humor is a beneficial interaction technique to promote well-being.

Taking these concepts into account, the current study intentionally brings humor to PWDs with the goal of adding some levity to their experiences. The above findings point to the potential of humor to bring value to PWDs' lives, and dementia organizations recommend finding ways to maintain pleasant feelings for PWDs (Contented Dementia Trust, 2012; Dementia Together, 2024). This program aims to accomplish those goals through the use of a humor interventional program. However, patients and PWDs are not the only people in healthcare contexts that benefit from humor; another subset of research focuses more on practitioners' or care providers'—including dementia CPs'—uses of humor.

Practitioners & Humor

Healthcare practitioners use humor, often with beneficial and interesting outcomes. First, individuals in various health-related professions use humor which can result in positive outcomes (Fogarty & Elliot, 2020; Tuttman, 1991; Wrench & Booth-Butterfield, 2003). Tuttman (1991) specifically advocates for practitioners (therapists) to use humor due to the benefits humor can bring to patients. Social care workers, who frequently work within the healthcare system, also have been found to use humor to help themselves cope, to assist coworkers in difficult moments, and to communicate or engage with patients and service-users in a comfortable way (Fogarty & Elliot, 2020). Other studies focus on physicians with a high HO, showing that those physicians bring about increased patient compliance and satisfaction, perceived credibility, and job satisfaction for nurses (Wanzer et al., 2009; Wrench & Booth-Butterfield, 2003). These findings reveal that humor can have beneficial outcomes when used by healthcare practitioners in various contexts.

Moreover, a large body of research assesses humor in the nursing profession, with studies pointing to nurses' use of humor to cope with difficult situations and/or stress (Beck, 1997;

Buxman, 2000; Wanzer et al., 2005). Humor can be beneficially used by these healthcare workers to combat the high levels of stress they often face (Beck, 1997), and nurses with a higher HO have been found to have greater self-perceived coping efficacy and increased job satisfaction (Wanzer et al., 2005), revealing the internal benefits that humor can bring to these medical care providers. These findings are particularly relevant for dementia CPs, as decreasing stress, increasing perceived coping ability, and boosting satisfaction in their role as caregiver would all benefit individuals working with dementia patients and coping with their loved one's continued decline over a long period of time (Alzheimer's Association, 2023). Fortunately, some research does point to CPs' uses of humor, confirming these positive outcomes.

Care Partners & Humor. Much of the U.S. healthcare system is dedicated to caring for ailing individuals, and both formal and informal CPs contribute to this process. In the past, various studies have acknowledged and evaluated the experiences of CPs, with a few of those projects assessing CPs' uses of humor. Informal CPs are uniquely positioned between the role of practitioner and patient, as they provide care for others but do so outside of formal medical institutions. Additionally, CPs often seek support from the medical community and serve as ambassadors for their PWDs (Alzheimer's Association, 2023; Faw et al., 2022). CPs, like medical practitioners, have been found to use humor, and that humor has been linked to some beneficial outcomes.

Person and Hanssen (2015) conducted a qualitative study confirming that humor can be a source of happiness for both PWDs and CPs, and Mak and colleagues (2018) used survey data to demonstrate that when dementia CPs use affiliative humor and avoid using self-defeating humor, improved quality of life in the PWD results. Again, Maler (n.d.) encourages dementia CPs to use humor due to the potential benefits for the PWD but also for the levity and positive outcomes that can result for the CPs themselves.

Fortunately, a few studies have found that informal CPs do, in fact, use humor (Bethea et al., 2000; Hickman et al., 2020; Matter, 2022), suggesting that they may be reaping some of these beneficial health outcomes. Just as humor allows nurses and other practitioners to cope with their difficult situations, humor seems to have the same outcomes in care-related situations (Bethea et al., 2000). Overall, then, humor has the potential to improve the lives of CPs and practitioners, even as it also positively impacts the patients receiving health-related assistance and care.

In light of these findings which point to the uses of humor in healthcare settings and the benefits that can result from those uses, a research question that guides this study investigates whether PWDs and CPs will actually participate in the humor-related activities in the program. When they engage with humor, positive outcomes tend to result, but due to the changes that dementia causes in PWDs and the limited research that investigates CPs' use of humor *with* the PWD (versus on their own or with other CPs), this pilot program assesses the involvement of participants in the various activities, asking:

RQ1: Will participants (CPs and PWDs) engage in the activities of the humor program?

Thus far, this review of the literature has summarized the types of humor, some of the impacts humor has on relationships, and the ways humor is used within healthcare settings and by CPs and PWDs. To more fully understand the humor activities used in this intervention, the final set of literature that must be summarized explores the broader health outcomes associated with uses of humor.

Humor's Health Outcomes

Because CPs and PWDs face increased health risks (Alzheimer's Association, 2023), considering the physical and mental health outcomes that are linked to humor engagement is an important consideration for this study, providing evidence that this project carried low levels of risk or danger for participants and high potential for positive health outcomes. These effects have been documented by studies from a variety of fields and include both immediate and long-term outcomes of humor and laughter.

Immediate Outcomes of Humor & Laughter

First, positive experiences with humor and laughter seem to promote several relatively immediate health benefits. Laughter is linked to various physical outcomes such as increased heart rate, respiratory rate, and oxygen consumption, followed by increased relaxation, decreased heart and respiratory rate, and blood pressure (Bennett & Lengacher, 2007a). Laughter is also linked to increased pain threshold or tolerance and decreased stress (Pérez-Aranda et al., 2019; Yim, 2016). Broadly speaking, laughter has been described as a form of exercise that is beneficial for various physical bodily functions, but laughter alone is not sufficient to entirely replace aerobic exercise in a healthy lifestyle (Bennett & Lengacher, 2007a; Yim, 2016). Similarly, laughter can increase positive thoughts, which can help strengthen the immune system by releasing certain neuropeptides, or "messenger molecules" that help the immune system function effectively; Seaward (2009) helpfully explained, "In effect, laughter causes the body to produce its own pain killers" (p. 271). However, other research suggests the impacts of laughter and humor on the immune system are limited, the studies are somewhat inconclusive, and the outcomes have not been proven to be always beneficial or consistent (Bennett & Lengacher, 2007b). Therefore, claims about laughter's immune-boosting powers must be read carefully, but there is some evidence to suggest that laughter and humor engagement has some internal health impacts and that those impacts are typically either neutral or positive, not harmful. For these reasons, the interventional program used in this study included some humor instances (e.g., funny videos, jokes, etc.), but also included specific laughter exercises.

In addition to these internal health outcomes, engagement with humor has also been linked to some externally observed improvements in others and personally reported benefits in study participants; humor is associated with decreased agitation in nursing home residents (Low et al., 2014), decreased aggression and agitation in dementia care residents (Kontos et al., 2016), and improvements in quality of life, mental functioning, and stress levels (Yim, 2016). Although these immediate outcomes likely result for most people engaging in positive humor and laughter behaviors, gathering proof of these impacts on PWDs can be difficult, as Kontos and colleagues (2016) discovered in their pilot test of a humor intervention for PWDs. Self-reports can be tricky to collect when memory impairment is involved, and systematically collecting observational data on groups is difficult.

Furthermore, PWDs may be one population that would benefit most from humor and laughter engagement, as laughter and smiling are preserved even when an individual is impacted by dementia (Takeda et al., 2010), PWDs have demonstrated their continued enjoyment of humor (Person & Hanssen, 2015), and maintaining pleasant feelings and experiences is particularly important for PWDs (Contented Dementia Trust, 2012). Importantly, PWDs seem to know and recognize their current feelings and mood, even if they do not understand why they are feeling that way or cannot make sense of those feelings based on their recent experiences (Contented Dementia Trust, 2012). Thus, because laughter or smiling are connected to immediate, present-focused feelings, these become crucial behaviors and experiences for PWDs (Takeda et al., 2010). For these reasons, this study encourages those behaviors through specific activities for PWDs and CPs, collecting data on participants' behaviors using unique methodologies designed for dementia-impacted communities and ultimately offering a glimpse into the power of humor and laughter for both PWDs and CPs.

Long-Term Outcomes of Humor & Laughter

Humor and laughter produce various immediate health outcomes for people engaging in those behaviors, but they also promote some longer-lasting impacts. In particular, individuals with a high HO tend to also report better mental well-being through increased coping efficacy, job satisfaction, cheerfulness, social support, and reduced stress (compared to their low-HO counterparts; Booth-Butterfield & Wanzer, 2016; Fritz, 2020; León-Pérez et al., 2021; Wanzer et al., 2005). This is particularly true for older individuals, as humor is associated with improved mental health and life satisfaction in aging adults (Marziali et al., 2008; Wanzer et al., 2009). Additionally, recent research suggests that affiliative and self-enhancing humor are linked to increased well-being and overall health. When people report using those positive humor styles, they also report fewer health difficulties and less psychological distress (Fritz, 2020). Exciting work by Svebak and colleagues (2006) points to the potential of humor to serve as a protective mechanism against the detrimental effects of diseases, increasing a person's chances of survival due to improved coping behaviors. Moreover, positive psychological affect and well-being are associated with reduced mortality for both healthy individuals and people living with various diseases (Chida & Steptoe, 2008). Overall, then, regular uses of humor and laughter have positive impacts on a person's long-term well-being, satisfaction, and even mortality, so asking participants to engage in an intentional humor program should bring about positive health benefits. Although data on long-term outcomes or short-term physical health outcomes was not collected in this initial program evaluation, these prior studies suggest that some exciting and positive benefits are connected to humor engagement in programs such as this one.

In summary, this study strives to promote positive health outcomes as well as positive relational outcomes for CPs and PWDs in attendance. To accomplish this task, the program utilized positive or prosocial forms of humor and laughter activities which would reasonably be considered harmless to participants. The program also involved activities that would be possible for someone with memory loss to complete, aiming to create some of the positive outcomes that have been found from humor's use in health contexts. To further bolster the theoretical basis for this work, this dissertation project was guided by the concept of *relational maintenance*, defined as strategies employed by people to maintain satisfaction and stability in their relationships (Stafford & Canary, 1991). This theory is described in more detail below, and the implications for dementia-impacted relationships are discussed.

Relational Maintenance in Dementia-Impacted Relationships

Humans are social creatures who require interaction for psychological well-being (Waytz, 2014). As such, people seek and form relationships with other humans. Various scholars have focused their attention on how people begin, maintain, and end relationships, assuming that relationships cease to exist if people do nothing to promote their continuation. In other words, people in relationships engage in *relational maintenance* behaviors to keep their relationships satisfying and stable (Stafford & Canary, 1991). Relational maintenance strategies are behaviors used by people to maintain stability in their relationships and keep their relational partners at a desired degree of closeness (Ayres, 1983; Stafford & Canary, 1991). Ayres (1983) noted that people use certain behaviors to maintain stability in an already-stable relationship and engage in other behaviors to re-achieve stability if a relationship is deteriorating or developing undesirably.

Maintenance behaviors are present in both romantic and non-romantic relationships, although the specific behaviors enacted often look different in different relationships. For any type of relationship, if maintenance behaviors are not used, that relationship will likely deteriorate (Canary & Stafford, 1994). Maintenance behaviors are strategically or routinely used to accomplish one or more relational goals: 1) maintain the relationship's *existence*, or prevent it from ending; 2) maintain a relationship's *current state*, ensuring the continuation of the desirable qualities and patterns of interaction; 3) maintain *satisfaction*, or keep both partners content in the relationship rather than looking for something different; and 4) *repair* the relationship, fixing some aspect that has gone wrong to re-establish normalcy (Canary & Stafford, 1994; Dindia & Canary, 1993). Each of these goals contributes to the overall continuation, stability, and satisfying nature of the relationship (Ayres, 1983).

Literature on relational maintenance often categorizes behaviors that are used to maintain a relationship's stability and satisfaction, such as *positivity* (cheerful, optimistic, uncritical interactions), *openness* (direct discussions about the nature of the relationship and one's own desires), *assurances* (communicated messages about continuing the relationship), *social networks* (interactions with shared associations), *sharing tasks* (performed responsibilities such as chores), *joint activities* (time spent together), *cards/letters/calls* (mediated communication), *avoidance* (evasion of the other person or certain topics), *anti-social behaviors* (unfriendliness or coercive acts), and *humor* (joking or sarcastic communication) (Canary et al., 1993; Canary & Stafford, 1992; Stafford & Canary, 1991). Importantly, each of these categories contains a variety of specific actions that people can perform in their relationships, and those specific actions can be either *routine* or *strategic* in nature (Canary & Stafford, 1994). A routine strategy is one which is regularly performed within the relationship, whereas a strategic behavior is out of the ordinary, performed on a special occasion or for a particular reason (Canary & Stafford, 1994).

When dementia begins to affect a person's mind and behaviors, various changes happen to that person's relationships. Their network connections often change their communication habits and interaction patterns, adjust their understandings of what is considered "normal," alter their expectations for the PWD's contributions to the relationship, and redefine relational roles (Alzheimer's Association, 2022; Bute et al., 2007; Contented Dementia Trust, 2012; Faw et al., 2022; Griggs et al., 2020). Unsurprisingly, then, relational maintenance must (and does!) look different in a dementia-impacted relationship, but the concept of relational maintenance suggests that the individuals still desire satisfaction and stability in that relationship as long as the relationship continues to exist. This means that it is likely that maintenance behaviors will still be used or attempted, even in dementia-impacted relationships, as a way to promote the relationship's continuation. One strategy that can be increasingly used in those contexts is that of humor.

Relational Maintenance, Humor, & Dementia

Many dementia CPs report that they find meaning and enjoyment in their relationship with their PWD (Faw et al., 2022; Monin et al., 2015). However, even as CPs change their communication patterns and their understandings of the relationship with the PWD, they are also encouraged to maintain their own hobbies, values, and sense of individuality (Alzheimer's Association, 2022; Contented Dementia Trust, 2012). Together, these findings show that even as CPs spend more and more time caring for their loved one as the disease progresses, CPs also need to find fulfillment and satisfaction in their own life and in their ongoing but changing relationship with the PWD.

Importantly, as noted by Griggs and colleagues (2020), relationships involving dementia can still be fulfilling, despite changes in activities, understandings, and experiences. To maintain the relationship's value for both individuals, relational maintenance behaviors can still be performed, even as they, too, look different in dementia-impacted relationships (Griggs et al., 2020). These authors point to arts-based activities as one option in which both relational partners can find fulfillment and enjoyment together, which can promote feelings of satisfaction and stability within the relationship (Griggs et al., 2020). Besides arts engagement, another option available to CPs and PWDs is to engage in humorous activities together, which may promote similar feelings of satisfaction and relational stability.

Humor provides mental stimulation and can help PWDs and CPs redirect unpleasant emotions, maintain dignity, and improve social interactions, thus supporting and promoting healthy relational functioning (Maler, n.d.). Humor's health-promoting and relationship-boosting outcomes may become even more important in relationships involving dementia, as laughter can provide a sense of togetherness and create positive experiences for both partners (Kurtz & Algoe, 2006). In other words, engaging with humor and laughter in a dementia-affected relationship creates positive moments and memories, boosting each person's perception of the other and the relationship, and ultimately promoting relational satisfaction and well-being. Taking all these findings into account, then, this study adds onto the first hypothesis which suggests that humor will operate as a relational maintenance strategy to promote feelings of closeness; this study also investigates the relationship-maintaining experiences promoted by this interventional humor program, asking:

> *RQ2: What relational maintenance techniques will be displayed by participants during the event?*

To explore the first two research questions and the study's guiding hypothesis, a formal humor program was created for informal CPs and PWDs, and their behaviors during the program were observed and analyzed. As a whole, this study carries the assumption that participants will, in fact, demonstrate various relational maintenance behaviors, as the theory suggests that all relationships involve maintenance behaviors (Stafford & Canary, 1991), but those behaviors likely look different in dementia-impacted relationships as the role and abilities of each partner changes over time (Bute et al., 2007). Thus, this study seeks to capture more specific information about which relational maintenance strategies are used by people in dementia-affected relationships and to confirm that humor engagement can have relationship-maintaining effects in those relationships.

In summary, the current study draws on the theory of relational maintenance, attempting to create unique opportunities for PWDs and CPs to maintain their relationships using humor and other strategies during the interventional program. The program itself carries the potential to serve as a relationship-maintaining experience for participants, as the proven relational benefits that come from humor engagement suggest that humor can make people feel closer and more satisfied in their relationships (e.g., Booth-Butterfield & Wanzer, 2016; Fritz, 2020; Hall, 2013; Lockwood & Yoshimura, 2014; Miczo & Averbeck, 2020). Furthermore, to create these relational outcomes, this program was designed based on the benign violations theory (McGraw & Warren, 2010) in order to increase the likelihood that personal and relational outcomes would be positive. The two guiding theories—relational maintenance and benign violations theory—provide the scholarly backdrop for the current study, but to select the specific programmatic elements, the reported successes and drawbacks of previous humor interventions were considered. A selection of these interventions and their outcomes are described below.

Humor Interventions

Perhaps due to the vast research pointing to the potential benefits that arise from positive humor and laughter, several scholars and practitioners have started to implement specific humor engagement techniques in health settings. These humor interventions are associated with some exciting and successful results, although the context, target populations, and outcomes vary across studies. After reviewing a set of humor studies, Takeda and colleagues (2010) note that humor and laughter are specifically beneficial for PWDs and should be encouraged in that context: “Laughter and smiling associated with pleasant feelings… and laughter induced by the release of tension… can be a good and effective complementary and alternative intervention in the treatment of dementia patients” (p. 6). Yet, humor interventions in that population have varied in implementation success and have shown mixed results. To design a relevant and useful humor/laughter program for the community of PWDs and CPs, previous humor interventions were closely considered.

Elder/Medical Clowns

One common technique for incorporating humor into health-related contexts and experiences is to use medical clowns or elder clowns. These trained individuals engage in one-on-one interactions with patients in medical settings (e.g., hospitals). A medical clown “treats the patient’s emotional side” (Raviv, 2014, p. 226), aiming to decrease distress in patients (often children) (Raviv, 2014; Stephson, 2017). These trained professionals use humor and improvisation techniques to improve patients’ well-being. For PWDs, clowns can provide a unique form of patient-centered care, as clowns are able to step into the patient’s version of reality for some time and simultaneously engage the PWD’s past experiences and current abilities through playful interactions (Raviv, 2014). One autoethnographic article describes some approaches used by clowns to bring individualized attention and positive, humorous experiences to care recipients such as PWDs (Raviv, 2014); for example, a clown-PWD interaction might look something like this:

> In the early days of our acquaintance, [Michael (the PWD) and I (the elder clown)] would dance together to the sounds of Turkish songs he loved. He also loved jokes, so I would tell him joke after joke, one leading to another, and he would always ask for "just one more." But when his condition began to deteriorate, he no longer remembered the jokes I told him in the past. Now I had no need to think up new jokes, since he would laugh at jokes he had heard in the past as if he were hearing them for the first time. He would sit on a chair, staring ahead and looking confused, but when he saw me he would gesture weakly with his hand, as if to say that everything in this world is transient and we are guests here for a short time only. I would mirror his gesture in response, and we would exchange smiles. Later, he would make a sign to me to come closer and tell him some jokes (Raviv, 2014, p. 229).

As described here, when interacting with PWDs, elder clowns step into the PWD's world and abilities, engaging with them on a level both interactants can enjoy, and, in doing so, clowns bring levity, humor, and positivity into the PWD's day.

The heartwarming stories presented by Raviv (2014) provide qualitative evidence of the externally observable outcomes that have been documented by other studies. For example, work by Kontos and colleagues (2016) evaluated usage of clowns in long-term elderly care facilities, revealing some positive impacts of humor on aging individuals such as decreased behavioral and psychological symptoms of dementia, fewer outbursts, reduced agitation, increased mood for a short time, and increased quality of life. Other studies similarly offer empirical evidence of medical clowns' positive impacts on patients, such as decreased anxiety, lessened resistance to medical procedures, and improved mood and communication (Stephson, 2017). Nursing home residents specifically showed various improvements when exposed to elder clowns for several weeks, experiencing reduced depression, decreased agitation, increased happiness duration, and improved neuropsychiatric scores (Brodaty et al., 2014; Low et al., 2014).

Moreover, studies show that PWDs are able to actively engage with medical or elder clowns in face-to-face contexts (Kontos et al., 2017), even as their mental faculties deteriorate. Additionally, although most studies have assessed the impacts of on-site or in-person medical clowns, one recent article points to the potential for medical clowning to be effective in online or virtual spaces (Holland et al., 2022). Overall, then, medical or elder clowns are one interventional technique that uses humor to improve patients' well-being in healthcare settings, including within dementia care. However, this type of intervention requires high levels of one-on-one interaction to be effective (Raviv, 2014) and is therefore limited in its applicability and scope.

Humor Therapy

In addition to professional medical clowns, another formal program that has been incorporated into some healthcare contexts is often referred to as humor therapy or laughter therapy. These programs encourage participants to intentionally engage with humorous material and information, to laugh with or without a stimulus, and, sometimes, to learn about the benefits of humor (Kim et al., 2015; León-Pérez et al., 2021; Leow et al., 2016; PeaceHealth, 2022; Walter et al., 2007). Humor therapy programs almost always involve various activities, with some programs being more leader-centered as a moderator reads funny stories or jokes and interacts with participants (Walter et al., 2007). Other programs involve more extended and creative engagement by participants. For example, one program asked people to create and share a humor portfolio which contains elements that make a person smile or laugh (Tse et al., 2010). Still other programs call themselves "humor therapy" programs but align more closely with elder or medical clown sessions, as trained performers interact and engage with participants through music, play, comedy sketch performances, or conversations (Leow et al., 2016).

Additionally, some programs are termed *laughter therapy* (rather than humor therapy) and forefront the behavior of laughing, as opposed to programs which work with and utilize funny or humorous material (Kim et al., 2015). Laughter therapy programs involve activities such as intentionally laughing aloud for a period of time, engaging in goofy behaviors such as dancing and smiling, uttering specific sounds or statements, and stretching (Hsieh et al., 2014; Kim et al., 2015). An interesting variation of laughter therapy which has recently been developed is called *laughter yoga* (DeCaro & Constantine Brown, 2016; Yazdani et al., 2014); in these programs, laughter exercises (e.g., performing uncontextualized laughter for a period of time) are combined with yoga breathing techniques to create various positive health outcomes (Laughter Yoga International, 2022; Yazdani et al., 2014).

These different forms of therapy—humor therapy, laughter therapy, and laughter yoga—bring about various measurable and beneficial outcomes for a variety of populations. Pediatric inpatients show lower cortisol levels and decreased stress after engaging in a humor therapy program (Sánchez et al., 2017). On the other end of the age spectrum, nursing home patients decreased their use of psychotropic medications following a humor therapy intervention (Leow et al., 2016). Other older adults who participated in a humor therapy program benefitted from decreased pain and perceived loneliness, and increased happiness and life satisfaction (Tse et al., 2010). Similarly, ambulance service workers reported increased cheerfulness, decreased seriousness, and decreased psychological distress after engaging in a humor training program which incorporated elements of humor therapy such as sharing funny stories, co-creating positive humor, and engaging in communication-specific exercises to improve sense and use of humor (León-Pérez et al., 2021).

Specific laughter therapy programs have also been found to create positive outcomes such as improved mental state, improved mood, and decreased depression (Hsieh et al., 2015). For cancer patients, laughter therapy lowered mood disturbance and improved self-esteem (Kim et al., 2015). Similarly, nursing students who engaged in a one-month laughter yoga program showed improved health in several areas of life, including anxiety/sleep disorders, social function, and depression (Yazdani et al., 2014). Adults with Parkinson's disease and their caregivers also benefited from a laughter yoga program, showing improved well-being after just one 45-minute session (DeCaro & Constantine Brown, 2016). Thus, humor and laughter therapy programs seem to be beneficial in various ways, and although their implementation is still relatively recent and research is limited, they reflect the potential of humor/laughter interventions to bring about positive and powerful health outcomes.

Unfortunately, research on these types of humor/laughter therapy programs in dementia care settings is nearly non-existent, despite the recent increase in elder clown research in that same context (e.g., Brodaty et al., 2014; Low et al., 2014). Even more surprisingly, in contrast to the positive outcomes described above, one of the few published studies that assessed a humor therapy program in a dementia care facility (as a pilot study) found no significant outcomes on PWDs' quality of life, although the program was beneficial for other individuals (Walter et al., 2007). This may have been the result of methodological and program implementation choices, or it may reflect the ineffectiveness of programs like humor therapy for individuals affected by dementia. Either way, the use of humor in dementia contexts lacks sufficient research to satisfactorily determine its benefits and drawbacks.

In summary, the discrepancy in findings or proven outcomes of humor on dementia-impacted populations and the lack of studies on humor/laughter interventions in dementia care settings points to the need for more research in this area, particularly considering the prior findings which suggest humor and laughter are beneficial for both CPs and PWDs. Thus, the use of noninvasive treatments such as humor/laughter therapy for PWDs and their CPs is ripe for further research. To evaluate whether a humor intervention program is appropriate for PWDs and CPs, the final research questions guiding this project are:

RQ3: How do participants (PWDs and CPs) react to the humor program?

RQ4: Which activities are most (a) enjoyable and (b) effective at producing positive outcomes for participants (PWDs and CPs)?

This project provides insights for both academic and medical communities regarding the practicality and effectiveness of noninvasive treatments such as humor/laughter programs for individuals connected to and affected by dementia. Practically, this program provides positive experiences for PWDs and CPs engaging in intervention activities while showcasing the powerful outcomes that can result when practitioners and researchers join efforts and knowledge bases. Theoretically, this project exists at the intersection of humor and relational maintenance and applies humor theory to dementia contexts to determine theory fit and, more specifically, the feasibility and appropriateness of activities. Overall, this program was created using previous humor therapy interventions as the basis for the activity designs while being guided by the theoretical claims of both relational maintenance (Stafford & Canary, 1991) and benign violations theory (McGraw & Warren, 2010). Ultimately, the goal of this project was to promote prosocial feelings and positive relational outcomes for CPs and PWDs through engagement in humor and laughter activities.

This Study

This study aimed to assess the impacts of positive humor and laughter experiences on participants' well-being and relationships. This is a mixed methods project (i.e., the project relies on both quantitative and qualitative data) in which CPs and PWDs voluntarily attended and participated in a one-time humor/laughter intervention program. Participants' experiences and reactions were assessed before, during, and after the session to capture data on their personal and relational well-being, their feelings, and their reactions to the program.

Although several humor programs have been previously implemented in dementia care communities, those interventions have mostly utilized one particular strategy—formally trained clowns (Kontos et al., 2016; Kontos et al., 2017; Raviv, 2014; Stephson, 2017). Additionally, prior interventions rarely or never involved both PWDs and CPs in the same sessions, and those that took place in dementia settings offer mixed or inconclusive results and varied in effectiveness at achieving the desired outcomes (e.g., Brodaty et al., 2014; Low et al., 2014; Walter et al., 2007). Considering that humor and laughter are inherently social and occur most often in the presence of others (Provine, 2000), and because humor impacts relationships (e.g., Booth-Butterfield et al., 2007; Goodboy et al., 2015; Hall, 2013), this study invited PWDs and CPs to engage in humor-related activities together and captured data on that co-engagement experience and the changes that occurred in participants during the program.

To summarize, unlike previous interventions, this particular program is uniquely designed for *both* CPs and PWDs and utilized a selective set of activities that did not rely on short-term memory capabilities (e.g., stand-up comedy), making this intervention more applicable to PWDs. This intervention also avoided the use of highly individualized interactions with trained professionals (e.g., medical clowns), relying on techniques that can be more easily implemented in a variety of contexts and communities. Finally, this study involved several different data collection methods and assessment techniques to gather information about the program's outcomes. This unique humor program, the participants, and the data collection and analysis processes are described in more detail below.

CHAPTER 3 – METHODS

Methods

To evaluate how people in dementia-impacted relationships engage with humor/laughter, a 60-minute interventional program was collaboratively designed by the researcher and the leadership team from a local nonprofit dementia care organization (the community partner). The program included a series of activities in which participants were invited to engage with humor passively (e.g., simply watch and enjoy) or actively (e.g., play along, share stories, or chat with each other). Before, during, and after the program, quantitative and qualitative data were used to evaluate participants' reactions to and engagement with the program.

Event Design

The followings sections will summarize the overall design of the events and programs where this study took place. In particular, below, the community context in which these programs were implemented—called "Memory Cafés"— are described first, along with a summary of the locations and layouts of the places where the humor Memory Cafés occurred, followed by an overview of the activities included in this interventional program.

Memory Cafés

This study took place at four separate in-person monthly Memory Café programs offered by the community partner for PWDs and their CPs or loved ones. According to the community partner, "Memory Cafés are social gatherings for people with mild to moderate cognitive impairment AND their care partners who want to remain engaged with others traveling the dementia journey. Memory Cafés show that there is a lot of joyful living to do even when dementia is part of the journey" (Dementia Together, 2024). These gatherings involve “intergenerational reminiscing, games, inspiration, laughter, music, and snacks” (Dementia Together, 2024), and often focus on a particular theme. Memory Cafés are open to the community and are free of charge for attendees. Moreover, the community partner recruits volunteers to help facilitate Memory Cafés. These individuals often sit at tables with participants, lead attendees in activities, or assist with tasks such as serving snacks, distributing materials, filling out paperwork, or writing out name tags. The study being described here took place in September, 2023, and the theme for the month’s Memory Café gatherings was humor and laughter.

Locations and Layout

These events occurred at four community locations in Northern Colorado. The four locations included large meeting rooms in a community recreation center (Café 1), a public library (Café 2), a large church (Café 3), and a community grief center (Café 4). The first three events took place in rooms with separate tables for participants. Café 1 and 3 provided round tables at which up to six people could sit, while Café 2 involved banquet (rectangular) tables that could fit up to eight people. Café 4 took place in a slightly smaller room and had a set of five banquet tables arranged in a “U” shape, with participants sitting on the outside and the program leaders standing in the middle. This created the feeling of a large group which included all participants as opposed to the several small groups created by the table arrangements at the previous events. Each event’s layout was organized by the community partner based on typical attendance and on the location’s floorplan and available space; through the seating arrangement in each room, the community partner aimed to facilitate interactions among participants while still allowing leaders to take charge and hold attendees’ attention throughout the Memory Café. Each Memory Café had a projector with a screen for displaying videos, although the sound quality differed by event. Cafés 2 and 4 had in-room audio systems, whereas for Cafés 1 and 3, the community partner brought a handheld speaker to use for playing audio. The handheld speaker, while quieter than the in-room audio systems, was large enough that participants could hear and react to the audio.

Program Activities

The specific activities for this humor program were selected by the community partner and the researcher and were based on the community partner's prior experiences and the researcher's knowledge of past publications and interventions. The community partner for this dissertation project noted that prior humor programs within their community had fallen short of expectations for their attendees in the past, creating little or no laughter due to memory impairment difficulties (personal communication, June 20, 2023); that attempt at implementing a humor program included several stand-up comedy components which were intended to be funny but were not perceived as such by some participants. The current program differed from that event by limiting the humor types to positive, benign humor, incorporating only humor that requires little to no contextual or background knowledge, and utilizing some laughter techniques that did not rely on participants' feelings towards the content. In these ways, the current program was designed specifically for PWDs and CPs based on both the community partner's lived experiences and the researcher's knowledge of empirical evidence of safe and effective humor. As such, the program provided participants with a physical experience of humor and laughter which was only partially linked to subjectively funny material.

More specifically, the activities included in the program were selected based on published humor interventions which proved to be effective at increasing happiness and general satisfaction/well-being for aging adults (Low et al., 2014; Tse et al., 2010). One such program brought “humor therapy” into a nursing home in Hong Kong over an eight-week period and included activities for residents such as creating a collection of funny findings (e.g., jokes, photos, video clips, cartoons, etc.), sharing funny stories in a group setting, engaging in laughter exercises, and receiving formal training and education on how to incorporate more humor into everyday life (Tse et al., 2010). Generally following that multi-activity design, the current study’s humor session included activities such as *humor education* (Kim et al., 2015; León-Pérez et al., 2021; Tse et al., 2010), *artificial* or *uncontextualized laughter* (Hsieh et al., 2015; Kim et al., 2015; Rezaei et al., 2018; Yazdani et al., 2014), *joke-telling* (Tse et al., 2010; Yazdani et al., 2014), *dance* (Kim et al., 2015; Sánchez et al., 2017), *musical engagement* (Sánchez et al., 2017; Kolb, 2021), and *humorous media viewing* (Rezaei et al., 2018; Tse et al., 2010). The program also included activities designed by the nonprofit leaders based on their knowledge of previous Memory Café programming. These included balloon volleyball, topical discussions, and outfit/costume sharing. A pilot test of some elements of the humor program was conducted by the nonprofit leaders at another local Memory Café, after which the researcher and the nonprofit leaders met to adjust and finalize the activities.

At the program, participants were formally welcomed by one of the nonprofit leaders and were allowed to choose their seating location. They were given a survey (described in more detail below) by the researcher and then were left alone to complete the survey and chat with other attendees. The community partner began the Memory Café activities by addressing the whole group and welcoming them to the Memory Café, and the nonprofit leader and researcher alternated leading activities for the next hour; the community partner led several activities throughout the program (e.g., balloon volleyball, topical discussions, sing-along songs, video viewing), and other activities were introduced and led by the researcher (e.g., humor education, laughter yoga, joke-telling). As such, these events utilized a co-leadership structure in which both the researcher and the community partner were closely involved in running the events. More details about the intervention program activities, descriptions, and timing can be found in Appendix A.

Mixed Methods and Engaged Research Rationale

This engaged research study utilized mixed data collection methods. Mixed methodologies allow researchers to gather data from multiple sources, providing more in-depth and varied information about a topic than would be possible through just one methodological approach (Creswell & Creswell, 2018). The goal of mixing methods is not to simply gather *more* data but rather to gather multiple or *different kinds* of data which, when viewed as a set, provide more insight into a particular problem than either individual dataset would on its own (Creswell & Creswell, 2018). For this study, a convergent mixed methods design provided new and exciting insights into humor's impacts in a particular context while requiring relatively little effort from participants. In a convergent mixed methods research study, the researcher collects multiple types of data simultaneously, analyzes them separately, and then compares and merges results to offer a complex and thorough understanding of a phenomenon (Creswell & Creswell, 2018). This project benefitted from this type of research design, providing insight into the intersection of humor, dementia, and the caregiving context broadly while also gathering specific feedback about the intervention design and its outcomes.

Moreover, as a highly engaged research project (Fisher, n.d.), this study not only collected data from these CPs and PWDs but also gave back to those individuals in practical and beneficial ways. In particular, the intervention program's design was co-constructed with the community partner, as they are a practical expert on dementia training and support for PWDs and

CPs. This partner (a local dementia nonprofit called Dementia Together), their leader, and several community members were highly involved in the intervention design, implementation, and research process. In creating and carrying out this engaged research project, useful data was collected that advances the academic research community, and the community partner also benefitted from receiving programmatic feedback about a potentially reusable intervention for future Memory Cafés or other community gatherings. Additionally, participants gained beneficial experiences and practical takeaways which were consistent with the goals of the community (Contented Dementia Trust, 2012; Faw et al., 2022).

Finally, Afifi and Cornejo (2020) recently articulated the need for more communication research on middle- to late-adulthood experiences. This project not only answered that call, but it did so in an engaged way which benefitted the communication field and dementia community both theoretically and practically. This study increases academic knowledge about various topics and provides practical experiences for the participants and the broader dementia-impacted community while also offering valuable insights into the experiences of PWDs and CPs. In summary, this engaged research project utilized a mixed methods approach which captured various complex aspects of dementia-related experiences and situations while answering the call for more research on the aging process.

Data Collection

To answer the four research questions and evaluate the hypothesis guiding this study, this project involved implementing a 60-minute humor intervention program for PWDs and CPs during four pre-selected Memory Café meetings in four different cities in Northern Colorado. Each Memory Café was scheduled for 90 minutes, so the intervention was designed to include about 60 minutes of formal programming. The program occurred in the middle of the scheduled time window, leaving time before and after for participants to arrive/depart, complete the evaluation measures, and chat with one another. One hour was deemed a sufficient amount of time to engage in several different humor- and laughter-related activities with instructions, as previous interventions by other scholars lasted about that long and had various successful outcomes (e.g., Tse et al., 2010; Walter et al., 2007); furthermore, the community partner's other Memory Cafés are typically scheduled for 90 minutes (Dementia Together, 2024), so community participants were familiar with that time commitment and program length.

Quantitative and qualitative data collection processes allowed the researcher to gather information about participants' experiences and feedback while tracking programmatic outcomes. As such, data collection included administering several paper surveys (one survey before the program and two surveys after the program) which contained both open-ended questions and several measurement scales (see Appendices B, C, and D). CPs and PWDs were invited to collaborate on survey responses when possible, or, for PWDs with more advanced dementia, CPs were invited to simply complete the survey for both individuals. Additionally, data collection included formal observations of participants' behaviors during the intervention, which was accomplished through the use of trained observers taking extensive field notes at the events (see Appendix E). Each of these techniques is described in more detail below.

Pre- and Post-Test Surveys

Participants in this study completed several survey measures to capture their experiences. At each Memory Café, CPs and PWDs were asked to consent to participating in the research study. When necessary, CPs consented on behalf of their PWD. Following consent and study explanation procedures, participants were handed a pre-survey to assess their feelings such as their current mood (Rosenberg, 2009; Watson et al., 1988), subjective happiness (Lyubomirsky &

Lepper, 1999), and sense of connection to others (self-created). Several questions were also included which assessed participants' quality of life (Smith et al., 2007; The WHOQOL Group, 1998), relationship closeness between the CP and PWD (Aron et al., 1992), and other demographic information (see Appendix B).

After the program concluded, a similar survey was administered to participants which included questions about their feelings as well as some additional questions about their experiences in the intervention itself (see Appendix C for these survey measures). Finally, participants were invited to complete an anonymous survey after the event's formal activities concluded but before they departed from the Memory Café location. This survey allowed them to share any additional thoughts or feedback on the intervention and asked them to summarize the event in a single word (see Appendix D).

Across the four events, 43 pre-test surveys and 31 partial or complete post-test surveys were collected. Each survey had two sections, one for the CP and one for the PWD in each pair. The number of surveys collected from each event are shown in Table 1.

Table 1
Surveys Collected by Event

Memory Café Number	Total Attendees	Pre-Test Surveys	Post-Test Surveys
Café 1	9	5	4
Café 2	24	13	9
Café 3	26	16	9
Café 4	19	9	9
Total	**78**	**43**	**31**

Pre-Test Survey Measures. On the pre-program survey, participants were asked a series of questions which included background questions about the participants (e.g., age, race, relationship, dementia diagnosis, etc.) as well as several scales which assessed participants' characteristics and history. These measures are described in more detail below.

Inclusion of Other in the Self Scale (IOSS). The Inclusion of the Other in the Self Scale (IOSS) measures perceived relationship closeness and similarity, utilizing seven images of two overlapping circles labeled "self" and "other" (Aron et al., 1992). The circles increase in the amount of overlap, serving as a visual representation of closeness. When completing a survey with this measure, respondents choose the circle which they feel best represents their relationship with another individual. For this study, participants responded about their relationship with the person attending the Memory Café with them, with higher numbers indicating greater closeness. Survey respondents (n = 27) scored above the midpoint of 3.5 (M = 5.41, SD = 1.99). This suggests that overall, participants reported being relatively close to their loved one, although all levels of closeness (1-7) were represented at least once in these surveys.

Humor Orientation. The humor orientation scale (HOS) measures a person's self-reported tendency to use humor in a variety of situations (Booth-Butterfield & Booth-Butterfield, 1991). The 17-item scale asks participants to rate their general communication tendencies from 1 (strongly disagree) to 5 (strongly agree). To keep the pre-program survey as short as possible, six of the original 17 items were selected to provide insight on participants' humor tendencies while limiting reading and writing requirements for participants; sample statements included, "People usually laugh when I tell jokes or funny stories" and "My friends would say I am a funny person." Higher scores indicate a greater tendency to use humor.

For the 38 CPs who completed the scale, the average score for humor orientation was 3.12 (*SD* = .63), and the average score for the 29 PWDs was 2.99 (*SD* = .80). This suggests that most participants indicated that they have some ability to produce humor and make others feel amused, although few considered themselves very funny or highly humor-oriented.

Subjective Happiness Scale. The four-item subjective happiness scale assesses a person's self-reported perceived happiness levels (Lyubomirsky & Lepper, 1999). This scale uses a 7-point Likert-style response, ranging from 1 (not at all) to 7 (a great deal), with higher scores indicating greater perceived happiness. Sample items include, "Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you?" and "In general, I consider myself a very happy person." Participants in this study generally reported greater happiness than non-happiness. Scores from CPs (*n* = 35) averaged 5.34 (*SD* = 1.19), suggesting that most perceived themselves to be more happy than unhappy. For PWDs (*n* = 30), the mean score was 4.89 (*SD* = 1.37), suggesting that most reported being slightly more happy than unhappy.

Quality of Life. Two scales were used to estimate participants' quality of life. For CPs, a modified version of the World Health Organization's Quality of Life Brief (WHOQOL Brief) was used (The WHOQOL Group, 1998), and for PWDs, a shortened version of the Dementia Quality of Life Scale (DEMQOL) was used (Smith et al., 2007). CPs responded to six questions about their quality of life in the areas identified on the original WHOQOL Brief (i.e., general, physical health, psychological health, daily living, relationships, and safety). Sample questions included: "How satisfied are you with your health?" and "How safe do you feel in your daily life?" When summed, scores can range from 6-30, with higher scores indicating higher perceived quality of life. In this study, CPs' (*n* = 33) scores averaged 24.64 (*SD* = 4.14), suggesting that their reported quality of life was relatively high.

PWDs' quality of life was assessed using 22 of the original 29 items on the Dementia Quality of Life questionnaire (DEMQOL). The DEMQOL assesses the health-related quality of life of a person with dementia and can be administered to either the individual with dementia or someone familiar with the PWD (Smith et al., 2007). The scale asks about the extent to which the PWD has felt or experienced certain things within the past week, including sample items such as, "In the last week, have [you/the PWD] felt cheerful?" and "How worried have [you/the PWD] been about forgetting what day it is?" For this study, the survey did not include the six questions on the memory sub-scale or the question about toileting.

More specifically, PWDs were scored on one overall question and two sub-scales (feelings and worry) of the DEMQOL (Smith et al., 2007). Scores on the overall question ranged from 1 (poor) to 4 (very good). Of the participants who responded (*n* = 21), PWDs' average overall score was 2.74 (*SD* = .81), indicating that participants generally felt their quality of life was fair to good. On the feelings sub-scale, possible summed scores range from 13 to 52, with higher scores indicating that the participant often experiences more pleasant and fewer unpleasant feelings. Of the PWD scores received on this survey, participants averaged 33.27 (*SD* = 9.38), which is slightly positive but very close to the middle of possible scores, which could be read as generally neutral. Summed scores on the worried sub-scale can range from 8 to 32, with higher scores indicating higher contentment and fewer worries or concerns. Of the scores reported for PWDs in this study (*n* = 21), participants' average score was 23.50 (*SD* = 5.11), indicating general but not extreme contentment.

Pre- and Post-Test Measures. The above-described scales were asked only on the pre-test survey. However, several questions were asked on both the pre- and post-program survey to capture evidence of any changes that occurred in participants' feelings as a result of their participation in the program. Specifically, both surveys included two image-based assessments (mood and feelings of connectedness/loneliness) and a series of emotion words to evaluate participants' feelings; these measures are described now, and scores are summarized in the "Results" section of this report.

Mood Assessment Scale (Smiley-Face Scale). To evaluate participants' current mood, the single-item Smiley-Face Assessment Scale was used. The assessment asks participants to mark the image (smiley-face) that most closely matches their current mood, ranging from 1 (Very Sad) to 5 (Very Happy). This assessment was used by Rosenberg (2009) to assess the feelings of PWDs and CPs after engaging with art, and by Pérez-Sáez and colleagues (2020) to evaluate PWDs' mood before and after participating in a pottery workshop.

Connectedness to Others Rating. To evaluate participants' feelings of connection to others in a quick way, a single-item image-based question was designed in a way that mimicked the Smiley-Face Scale. The assessment asked participants to mark the image that most closely matched their current feelings of connectedness. Images showed a stick-figure-like character standing far away from (1), slightly separate from (2), or standing close to (3) a group of other figures. Higher scores indicate greater feelings of connectedness to others.

Positive & Negative Affect Schedule. The Positive and Negative Affect Schedule (PANAS; Watson et al., 1988) is designed to capture participants' feelings, affect, and emotions. The 20-item scale measures positive and negative affect scores, asking participants to use a 5-point Likert-style rating system for how much they feel a certain emotion. To shorten the response time for participants on these surveys, the original scale was modified to a 10-item binary questionnaire. Ten terms were pulled from the original PANAS list (i.e., alert, attentive, distressed, enthusiastic, excited, interested, irritable, nervous, proud, upset), and participants were asked to mark the words that described their current mood.

Post-Test Survey Measures. On the post-program survey, participants were asked to respond to several additional questions about their feelings and the program itself. These measures are described now, and scores are summarized in the "Results" section of this report.

State Social Connection Scale. The UBC State Social Connection Scale (UBC-SSCS; Lok & Dunn, 2022) measures participants' momentary, state-like feelings of connectedness and belonging. On this scale, participants respond to 10 self-report items asking how much they feel a certain way, using a 7-point Likert-style response ranging from 1 (strongly disagree) to 7 (strongly agree). Sample items include "I felt distant from people," "I saw people as friendly and approachable," and "I felt accepted by others." After reverse-scoring several items, higher scores indicate greater sense of belonging and connectedness. For this study, participants were instructed to think about their experiences during the program and respond accordingly.

Program Assessment. An 8-item questionnaire was designed by the researcher and the nonprofit organization to capture feedback on the program. Participants responded using a 5-point Likert-style response ranging from 1 (strongly disagree) to 5 (strongly agree). Sample items included, "Today's program was enjoyable," "This program was a good use of my time," and "I am more stressed than I was before participating in this program." After reverse-scoring several items, higher scores indicate higher satisfaction with the program.

Additionally, participants were asked to complete five open-ended statements about the program, including "The best part of this program was…", "In the future, I would change this program in the following ways", and "During this program, I did not enjoy…", as well a question asking respondents to indicate both the CP's and PWD's favorite activity.

Program Rating. Participants were asked to rate the program by choosing a single description term from a list of five terms (i.e., terrible, poor, okay, good, excellent).

Anonymous Survey Measures. Finally, after the humor program concluded, participants were invited to write responses to a three-question anonymous survey about their experiences. Questions included: "What one word would you use to describe today's Memory Café?" (a question often used by the community partner to assess their programming), "What critiques do you have about the program?", and "What else would you like the program leaders to know about your experiences in this Memory Café session?"

Observations

In addition to gathering data through the use of pre- and post-program surveys, this project utilized observational data collection techniques. To record participants' engagement with the activities and reactions during the humor program, trained observers attended each Memory Café and recorded field notes for pairs of participants. Specifically, observers took both quantitative and qualitative notes about behaviors and engagement demonstrated by pre-assigned pairs of participants. Observers' field notes were divided according to the activities in the program, so observers recorded specific notes during each activity. Observers quantitatively estimated the amounts of engagement/participation and agitation/frustration/confusion that they saw from their assigned participants for each activity, using a 3-point scale from "Low" to "High" amounts of that behavior. Observers also estimated the time spent engaging in different behaviors along a percentage scale from 0% to 90(+)% of the activity duration: smiling/laughing, interacting with partner, and interacting with other pairs. Finally, for each activity, observers responded to a single yes/no question, “Was this a good activity for creating positive feelings and interactions for the participants at your table?”

In addition to these pre-defined, quantitative notes, observers also recorded open-ended comments about participants’ behaviors, reactions, emotional displays, and other general observations about the room or the program. Together, these open- and closed-ended notes provided the researcher with insight into how pairs of participants engaged with and reacted to the intervention program and activities.

Observers. Observers were purposefully recruited by the researcher from her educational institution and through snowball recruitment techniques. Individuals with past qualitative research experience, training on communication concepts and theories, and/or experience with PWDs were invited to serve as paid observers for the study. Observers were paid an hourly wage for attending a one-hour training session and for the time they spent at events. Nine observers were hired for the four events and were assigned to events based on availability and anticipated numbers of participants as shared by the community partner prior to the events. For thorough notetaking, the estimated number of observers needed for each event included one observer for every three pairs of participants, as tables at each event typically had room for six to eight people (two or three pairs of participants, plus one volunteer and one observer at each table).

Observers spoke fluent English and were either graduate students (n = 6) at the researcher’s university or undergraduate students with a recent history of high achievements on research projects or within classes taught by the lead researcher (n = 3; observer numbers 1, 5, and 6). A summary of which observers attended each Memory Café is shown in Table 2.

Table 2
Observers & Participants by Event

Memory Café Number	Participants Expected (Actual)	Observers Needed (Actual)	IDs of Attending Observers
Café 1	12 (9)	3 (3)	1, 5, 6
Café 2	30 (24)	6 (4)	2, 3, 5, 7
Café 3	25 (26)	6 (5)	1, 4, 5, 6, 8
Café 4	18 (19)	4 (3)	4, 8, 9

Observation Training. Prior to the Memory Café events, each observer was trained on notetaking and on appropriate communication techniques—which are taught and practiced by the community partner—for speaking to PWDs with mild cognitive impairment. Training sessions lasted one hour and included an overview of best practices for dementia-friendly communication, an explanation of the program agenda, a discussion about the observation sheets (see Appendix E) that would be provided, and a practice round of observations using a video of PWDs engaging in an activity.

For the practice observation, observers took quantitative and qualitative notes on the sample video to mimic their experience at the actual Memory Café events. Then, notes and quantitative estimates were compared among observers and the lead researcher. In most cases, observers quantitatively rated behavior levels similarly (e.g., each observer circled “50%” or “60-80%” for time spent smiling/laughing when watching the same video clip), but when necessary, adjustments were made to re-align an individual observer’s estimates within the group of observers. For example, in one training session, one observer’s rating of the video participant’s engagement was much lower than the other observers’ ratings, and this observer explained the rating by saying that the person did not succeed at the game in the video; the lead researcher and the other observers then discussed the difference between success and engagement/participation, clarifying that engagement does not mean the participant had to “win” the activity, merely that they need to be playing the game and actively invested in the activity. A second video clip was then shown, and the observer’s engagement/participation ratings were similar to others at the training.

Furthermore, observers were also informed on what full engagement would look like for each activity planned for the program, and they were instructed to score based on possible engagement levels for that activity, with ratings scored internally and not compared across activities. For example, full engagement/participation for the video viewing activity involved watching the screen the entire time, whereas full engagement/participation for the sing-along involved actively singing for the entire song. In these activities, a participant could score very highly on engagement for both, but the actual behaviors that constitute “full engagement” would look very different.

Importantly, observers only recorded vastly different estimates on three occasions. One situation was described above and was caused by a misunderstanding about what engagement meant. In the second instance, there was a miscommunication about the pair of participants being observed in the sample video (i.e., one observer was recording scores for the wrong pair of participants). In the third instance, the observer was confused about what bounds to place around their estimations; in this case, the observer scored their assigned participants across *total program* time instead of across *activity* duration. Once clarified, each of these observers’ scores was closely aligned with the other observers’ scores and the researcher’s scores.

In addition to the training on quantitative ratings and estimations, observers were also trained in writing open-ended comments or notes. They were advised on the kinds of notes they should be taking, including writing down reporting-style notes on individual behaviors (e.g., what people were doing during the activity), notes on pairs' interactions (e.g., if dyad members did something together or communicated verbally or nonverbally), and notes to explain why they selected certain quantitative estimates. Observers were also encouraged to write down any recommendations or feedback regarding the program itself, based on what they were observing from participants (e.g., if something worked poorly for their table). As most observers had some training in or knowledge of communication-related research, the comments and notes recorded by observers during the sample video were similar and included some of each of the above three categories. In one instance, an observer's notes were very limited, as she only wrote notes which were connected to the categorical estimates, rather than also making general observations. In this instance, the researcher re-clarified the other types of notes that were needed and showed her other observers' notes. When a second video clip was shown, that observer's notes were much more detailed and included each category of observation.

After completing the training session tasks and practice observation, observers were given a chance to ask any questions, and upon leaving, all observers felt confident in their ability to observe participants, interact with attendees, and take good notes at the Memory Café events.

Participants

A total of 78 participants attended the four Memory Café events (38 PWDs, 40 CPs). These individuals lived in the local communities where the Memory Cafés took place or were active members of the nonprofit organization. According to the community partner, Memory Cafés tend to attract some regular attendees (i.e., people who attend every month) and some new individuals from the community. More information about attendees is summarized below, including recruitment efforts and background information on the study participants.

Recruitment

PWDs and informal CPs were recruited for this study from a local dementia care nonprofit organization (the community partner). This nonprofit offers regular programs and gatherings for people with dementia and their care partners. Participants were recruited purposefully (Tracy, 2020) and were invited to participate voluntarily in one of the pre-scheduled, in-person regional meetings. The nonprofit advertises their Memory Cafés for PWDs and CPs (Dementia Together, 2024), so participants for this study included any individuals who chose to attend one of these meetings in September 2023. Recruitment was accomplished by using the current advertising techniques of the nonprofit organization, which included word-of-mouth advertising in other programs and postings on their website. The events took place in four locations in Northern Colorado, and the community partner noted that the sample of people who attended the humor Memory Cafés was representative of previous months' events, with many regular or recurring attendees and some new attendees (personal communication, September 21, 2023). Demographic information about the participants was collected via the pre-program survey.

Participant Demographics

A total of 78 participants attended the four Memory Café events (38 PWDs, 40 CPs). Demographic data was collected from participants on the pre-program survey (37 PWD surveys, 40 CP surveys). At these events, CPs ranged in age from 33 to 88 years old ($M = 73.8$, $SD = 11.7$), and PWDs ranged from 66 to 91 years old ($M = 79.3$, $SD = 6.6$). Most CPs identified as female ($n = 32$; 74.4%), and most PWDs were male ($n = 27$; 62.8%). Almost all CPs identified as White ($n = 40$; 93.0%), and most PWDs identified as White ($n = 37$; 86.0%).

In general, participants were highly educated. Most surveyed CPs had earned a 4-year college degree ($n = 15$, 34.9%), with 9 participants (20.9%) holding a master's degree (20.9%), and 8 CPs (18.6%) holding an associate's degree. PWDs were also highly educated; most PWDs (*n* = 11; 25.6%) had completed a 4-year college degree in their lifetime, and many held a master's degree (*n* = 9; 20.9%).

Various relationship types were present in the pairs who attended these Memory Cafés. Most pairs were married (*n* = 31; 72.1%), although some dyads identified as friends, parent/child, or other (i.e., formal caregiver, care worker, and girlfriend) (for each of these categories, *n* = 3; 7.0%). Most CPs were the primary support partner (*n* = 34; 79.1%) for their loved one with dementia, and years spent caring for their loved one ranged from 0 to 62 years (*M* = 10.68; *SD* = 17.18) (note: four participants listed time providing care as more than 50 years; each of these CPs identified as the spouse of the PWD, suggesting that they possibly considered their role as spouse as one that consists of providing care). On average, PWDs had been showing signs of memory difficulties for 6.84 years (*SD* = 4.93), and dementia diagnoses ranged from 1 to 14 years prior to the Memory Café events (*M* = 4.52, *SD* = 2.97). A summary of demographics by event (i.e., participants' age, relationship type, and gender) based on the surveys collected can be found in Table 3.

Table 3
Participant Demographics by Event

Event	Care Partners				People with Dementia		
	Survey Responses	Relationship to PWD	Age Range (M, SD)	Gender	Survey Responses	Age Range (M, SD)	Gender
Café 1	5	3 spouse 1 friend 1 dating	46-80 years (66.9, 13.2)	5 female	4	71-80 years (75.2, 4.3)	4 male
Café 2	13	11 spouse 1 friend 1 solo CP	60-88 years (79.5, 7.1)	3 male 10 female	11	73-88 years (82.8, 4.5)	8 male 3 female
Café 3	14	11 spouse 1 friend 2 professional	33-85 years (71.7, 14.2)	3 male 11 female	16	67-86 years (77.4, 5.8)	11 male 4 female 1 missing
Café 4	10	6 spouse 3 child	61-85 years (73.2, 8.1)	3 male 6 female	8	66-91 years (80.3, 9.4)	4 male 4 female

Note: Two PWDs attended Café 3 without CPs

Data Analysis

Collected data was analyzed using both quantitative and qualitative techniques. Surveys and observation forms (field notes) were each analyzed via statistical tests and qualitative coding to provide insight into the program's effectiveness and into how participants engaged with the activities.

Surveys

A total of 95 surveys were collected from participants at the event. 43 pre-test surveys, 31 post-test surveys, and 21 anonymous post-test surveys were collected. Pre- and post-test data was compared using statistical tests to reveal trends and differences in participants' responses before versus after the Memory Cafés. Participant responses on open-ended questions were coded using Tracy's (2018) phronetic iterative approach to coding, with the researcher identifying initial/open codes and comparatively moving back and forth between open codes, research questions, and prior theoretical knowledge or research. These results are described in more detail in the "Results" section below.

Observer Field Notes

A total of 119 pages of field notes were collected from observers, which included both closed-ended or quantitative estimations and open-ended comments. To analyze the ratings portion of the field notes, specific estimations by observers regarding participants' amount of time spent engaging and displaying certain behaviors were converted to numerical data and summarized to produce a coherent picture of how participants engaged in the humor program.

To analyze the open-ended comments, the observer utilized Tracy's (2018) phronetic iterative approach to coding. A total of 863 individual comments were made by observers across all four events. Those comments ranged from one word (e.g., "Engaged") to longer, more elaborate comments (e.g., "PWD seemed caught off-guard when asked a question about his grandchild in front of group. Perhaps didn't remember & was confused."). The beginning and end of each comment was determined by page spacing or observer writing techniques (i.e., line breaks, capitalization, bullet-points) and by content (i.e., distinct behaviors, activities, or participants). The lead researcher spent over 15 hours familiarizing herself with the data, open-coding and sorting the data into categories. In doing so, she followed Tracy's (2018) phronetic iterative coding technique, starting with open-coded data, then grouping those initial codes by themes or patterns based on uniqueness, fit within the research question, and existing categories from other research. Most codes fit within categories identified by other scholars (e.g., previously identified relational maintenance behaviors), so categorizations were adjusted to be consistent with language used by other researchers. For codes that did not have a clear category in other research reports, themes were noted and new categories were created.

After completing this process, the lead researcher then engaged in a conversation with one of the observers to check the researcher's interpretations of the written observer comments and to determine whether those interpretations aligned with the observer's Memory Café experiences and understandings of the original data (Lincoln & Guba, 1985). An example of the coding process is shown below, in Table 4.

Table 4
Qualitative Analysis: Open Codes, Second-Level Codes, Final Themes

Original Comment (Observers' Field Notes)	Open/Initial Code(s)	Second-Level Code(s)	Final Theme(s)
"Read through book together, read jokes to one another and smiled at one another" (404, Joke-telling)	Completing the activity with pleasant emotions	Positive participation	Active engagement; Positive experiences
"CP is holding lyrics up for PWD" (407, Sing-along)	CP offering assistance	Active participation; Helping others	Neutral experiences; Sharing tasks

CHAPTER 4 – RESULTS

Results

RQ1, RQ3, & RQ4: Program Feedback & Engagement

The first set of research questions asked how participants would respond to the humor program, whether participants would engage in the activities, and which activities would be most enjoyable for participants. Both quantitative data and qualitative data provide insights into these questions.

Measured Program Outcomes

Mood. Participants responded to a survey question showing a series of five faces (sad to happy) to assess their overall mood before and after the Memory Café (Rosenberg, 2009). A paired samples *t*-test was performed to evaluate whether there was a difference between participants' overall mood before versus after the Memory Café activities. Higher scores represent greater happiness, and CPs' mood scores after the Memory Café activities (M = 4.54, SD = .58) were significantly higher than before the Memory Café activities (M = 3.93, SD = .90); $t(27) = 3.51$, $p = .002$. The effect size, as measured by Cohen's *d*, was $d = .66$, indicating a medium effect (Cohen, 1988). Similarly, PWDs' mood scores after the Memory Café activities (M = 4.32, SD = .69) were significantly higher than before the Memory Café activities (M = 3.68, SD = .99); $t(24) = 3.22$, $p = .004$. The effect size, as measured by Cohen's *d*, was $d = .64$, indicating a medium effect. These results show that participants' moods improved over the Memory Café time.

Connectedness to Others. Before and after the Memory Café, participants responded to an image-based survey question assessing feelings of connectedness to others. Participants were shown three images which illustrated individuals at different levels of closeness (proximity) to one another, and participants were asked to select the image which most represented their current feelings, with higher scores representing higher feelings of connectedness. A paired samples *t*-test was performed to evaluate whether there was a difference between participants' feelings of connectedness to others before versus after the Memory Café activities. CPs' social connectedness scores after the Memory Café activities ($M = 2.75$, $SD = .53$) were significantly higher than before the Memory Café activities ($M = 2.58$, $SD = .58$); $t(23) = 2.145$, $p = .043$. The effect size, as measured by Cohen's *d*, was $d = .44$, indicating a small effect. Similarly, PWDs' social connectedness scores after the Memory Café activities ($M = 2.67$, $SD = .58$) were significantly higher than before the Memory Café activities ($M = 2.19$, $SD = .68$); $t(20) = 3.21$, $p = .004$. The effect size, as measured by Cohen's *d*, was $d = .70$, indicating a medium effect. This reveals that both CPs and PWDs experienced significantly higher feelings of social connectedness after the Memory Cafes when compared with their feelings before the events.

PANAS Mood Terms. A paired samples *t*-test was performed to compare participants' self-reported negative and positive affect before versus after the Memory Café activities. CPs' unpleasant emotions were significantly lower after the Memory Café ($M = .00$, $SD = .00$) than before the Memory Café ($M = .25$, $SD = .75$); $t(23) = -2.15$, $p = .043$. The effect size, as measured by Cohen's *d*, was $d = .44$, indicating a small effect. However, the results indicated that there was no significant difference in PWDs' unpleasant feelings after ($M = .00$; $SD = .00$) versus before the Memory Café activities ($M = .30$, $SD = .73$); $t(19) = -1.83$, $p = .083$. The effect size, as measured by Cohen's *d*, was $d = .41$, indicating a small effect. Although not statistically significant, PWDs reported some unpleasant mood terms before the Memory Café, whereas afterwards, they selected no negative mood terms. This suggests a trend of mood improvement.

Additionally, the results indicated that there was no significant difference in CPs' positive terms or pleasant feelings after (*M* = 2.96, *SD* = 1.43) versus before the Memory Café activities (*M* = 2.58, *SD* = 1.35); *t*(23) = 1.30, *p* = .205. The effect size, as measured by Cohen's *d*, was *d* = .27, indicating a small effect, and participants' scores tended to be more positive after the Memory Café. PWDs' pleasant emotions after the Memory Café activities (*M* = 2.80, *SD* = 1.44) were significantly higher than before the Memory Café activities (*M* = 1.85, *SD* = 1.31); *t*(19) = 3.87, *p* = .001. The effect size, as measured by Cohen's *d*, was *d* = .86, indicating a large effect. Thus, overall, for these participants, moods tended to be more positive and less negative after participating in the event, although statistical significance differed by group.

Engagement & Willing Participation

Observers' Quantitative Ratings of Engagement & Agitation. During each activity, observers estimated the amount of engagement and agitation along a three-point scale, from low (1) to high (3). For engagement, "low" indicated that, overall, the participants being observed were hesitant, unwilling, or unable to complete the activity (for any reason). Scoring "high" indicated that the set of attendees being observed was actively participating in the activity. Every activity measured had an average engagement score between 2 and 3, indicating overall high levels of engagement. Balloon volleyball had the highest engagement score overall (approximately 2.93), and the sing-along songs averaged the lowest observed engagement (approximately 2.11, still reflecting higher levels of engagement). See Figure 1 for a visual representation of the average ratings by observers.

Agitation scores also ranged from low (1) to high (3), with "low" indicating few expressed unpleasant emotions from the set of participants and "high" indicating increased unpleasant emotions or more visibly upset individuals or expressions (see Figure 1). All agitation scores were very low, with the topical discussion scoring the highest level of agitation (approximately 1.13), yet still scoring very close to the minimum score possible. Balloon volleyball and humor education had the lowest reported amounts of agitation across all activities (approximately 1.01 and 1.00, respectively).

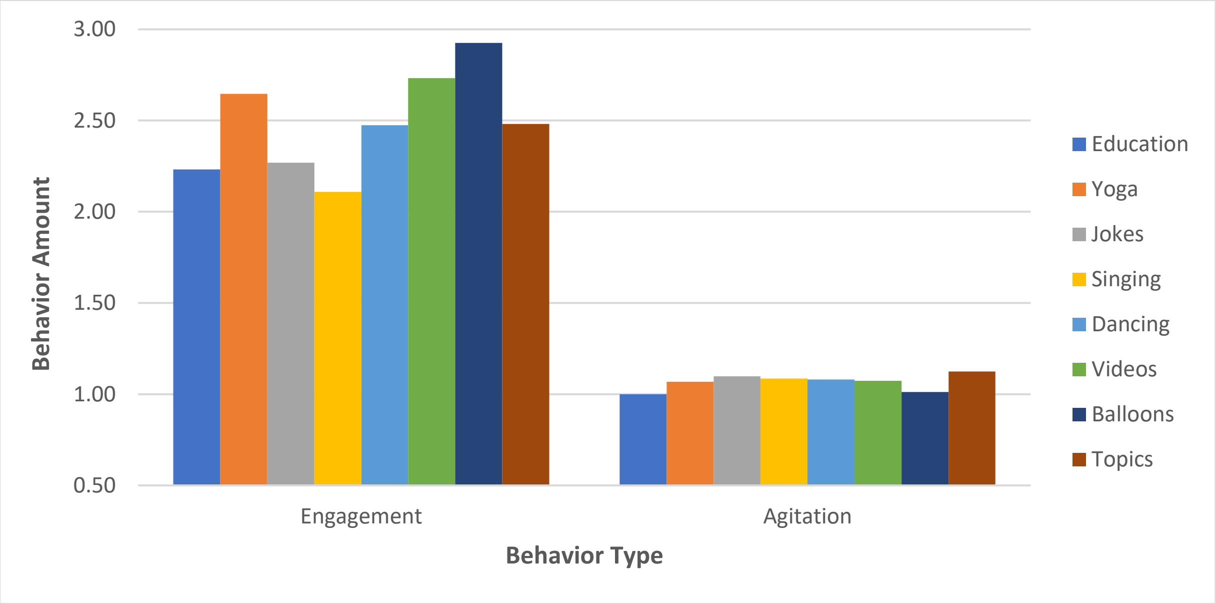

Figure 1
Observer Ratings: Participant Engagement & Agitation

Observer Qualitative Comments: Engagement in Activities. As part of the data collection process, the event observers took detailed field notes during the Memory Café activities. Each observer was assigned a specific set of participants, and observers took notes on their participants' reactions, behaviors, and activity engagement. These field notes were open-coded and reviewed for patterns and common themes. One theme which arose out of the data featured participants' activity engagement levels. Many observer comments (*n* = 447) referred to participants' levels of involvement or specific participation-related behaviors in the Memory Café activities. These notes often included terms such as "engage," "attention," "participate," or direct descriptions of participants' behaviors and reactions during the activity (e.g., "Everyone was super into the YMCA" (Pairs 314-316, Dancing), or "PWD would look down/around room and at screen; PWD a bit distracted at points" (405, Videos)). The activities that generated the most engagement-related comments by observers were the sing-along songs (*n* = 88), joke-telling (*n* = 85), and chair dancing (*n* = 79).

From observer notes about participant engagement in activities, five sub-themes emerged: *Active Engagement*, *Limited/Passive Engagement*, *Non-Engagement*, *Getting Others to Engage*, and *Changes over Time*. Table 5 summarizes the number of comments that were coded into each category by activity, and more detailed descriptions of each sub-theme are included below.

Active Engagement. The first sub-theme that emerged from the data included comments about participants' active engagement or attempts to participate in the activities at the Memory Café. Of the five engagement-related sub-themes, this theme had the most comments from observers, with 246 statements fitting into this category (55% of engagement-related comments). These observer notes described participants' willingness to engage with the activity that was taking place, including comments such as, "Lots of participation between all pairs" (207-209, Laughter yoga), "Almost all participants shared a joke!" (304-310, Joke-telling), "PWD singing before we started; looking ahead in packet, too" (211, Sing-along), and "PWD & CP into it from the start" (102, Sing-along). Several comments pointed to a willingness to participate but limited ability or interest in the activity, such as: "PWD clapped along, did arm movements as best she could" (404, Dancing), "PWD is singing along but not smiling, looks unamused" (313, Sing-along), or "PWD engaged, but limited ability" (205, Laughter yoga).

When sorted by activity, the activity that had the most observer comments about high levels of participation by program attendees was joke-telling (*n* = 52) followed by chair dancing (*n* = 47). The activity which generated the highest percentage of comments about active involvement was balloon volleyball, in which 74% of engagement-related comments described high levels of participation or active engagement by café attendees, indicating that people were heavily participating in that activity. See Table 5 for the complete quantitative summary of active engagement comments across all activities.

Content but Limited Engagement. The second sub-theme about engagement that emerged from observers' field notes was the theme of limited engagement but apparent contentedness by Memory Café attendees (*n* = 24). With these comments, observers noted participants' behaviors and contrasted their limited participation with visible displays of joy/satisfaction or an apparent lack of discomfort. Sample comments from this category included: "Pair seemed to like to listen most, versus sing along" (103-104, Sing-along), "PWDs weren't engaged but didn't seem to not enjoy activity" (201-202, Sing-along), and "PWD is a bit less engaged – not unpositive, just unenthusiastic" (101, Joke-telling). Many of these comments reflected limited PWD participation, although a few highlighted lower CP engagement levels: "CP & PWD were attentive but not very engaged" (202, Dancing), and "Not really laughing although seemed attentive" (401, Videos).

The sing-along portion of the Memory Cafés elicited the most comments from observers about limited participation by attendees (*n* = 22). The activity with the fewest comments about limited engagement was the humor education/outfit sharing activity (*n* = 3), although the lowest percentage of "content but limited engagement" comments occurred within the joke-telling activity (*n* = 5, 6%). See Table 5 for the quantitative summary of observer comments describing limited participant engagement with apparent satisfaction/contentment.

Non-Engagement. The third participation sub-theme that arose within the observer field-notes highlighted a lack of participation by Memory Café attendees during the activities (*n* = 79). These comments pointed to participants' non-engagement, including statements such as: "PWD did not look at the booklet" (402-403, Joke-telling), "Pair does not seem to be paying attention to explanation, interacting with 303 and with food" (302, Humor education), and "PWD seems less interested & engaged" (202, Balloon volleyball).

The activities that generated the most observations about non-engagement were joke-telling (*n* = 17; 20%), sing-along (*n* = 14, 16%), and chair dancing (*n* = 13, 16%). The activity which had the highest percentage of engagement-related comments that mentioned non-engagement was humor education/outfit-sharing, with 34% of comments indicating participants were not very involved in the activity. See Table 5 for a quantitative summary of non-engagement comments across all activities.

Engagement Level Changes Over Time. The fourth engagement-related sub-theme included comments that pointed to changes in participation levels across the activity (*n* = 29). These comments noted that participants changed how they engaged with activities during the Memory Café as well as within the time span of individual activities. For example, comments reflecting changes across the Memory Café included: "[This was the] First time I heard PWD talk; started to engage more" (204, Joke-telling) and "PWD who has not been participating finally participated" (302, Balloon volleyball). Comments that highlighted changes across a particular activity included notes such as: "More engaged as time went on" (101-102, Dancing), "Could've been a music volume issue, but engagement dwindled throughout" (101-103, Sing-along), and "For all pairs, interactions with other pairs increased over activity" (303-206, Joke-telling).

Activities that were associated with the most comments about participants' changes in engagement levels were the sing-along (*n* = 6), laughter yoga (*n* = 5), and video viewing (*n* = 5). Laughter yoga had the highest percentage of engagement comments that referred to changes in engagement levels (21%). These comments fell into two categories: increases in engagement over time and decreases in engagement over time. Joke-telling, chair dancing, and balloon volleyball all involved increases in engagement for participants. Humor education/outfit sharing had a decrease in engagement for one participant, and laughter yoga, sing-along, video viewing, and the topical group chat each had some participants increase and some decrease engagement over time. See Table 5 for the quantitative summary of changing engagement comments across all activities.

Getting Others to Engage. The final sub-theme related to engagement by participants included observer notes that mentioned specific participants actively inviting other participants to engage or participate more in an activity (*n* = 27). Sample comments in this sub-theme included: "CP held PWD's hand and tried to encourage movement" (405, Dancing), "CP tried to include PWD; she stuck out her tongue in response" (211, Joke-telling), and "CP told PWD to laugh but he was mostly enjoying his food" (315, Videos). Within each dyad, most of these comments focused on CPs trying to engage PWDs; however, several highlighted PWD behavior that involved others, such as: "PWD put pen in mouth and engaged everyone else" (102, Laughter yoga), or "PWD got the other pair to laugh with his hat" (103, Laughter yoga).

The activities that generated the most comments about getting others to engage were laughter yoga (*n* = 8, 33%) and joke-telling (*n* = 7, 8%). See Table 5 for the quantitative summary of comments that described participants getting others to engage.

Table 5

Observation Notes on Engagement by Activity

	Humor Edu. & Outfit Sharing	Laughter Yoga	Joke-Telling	Sing-along	Chair Dancing	Video Viewing	Balloon Volley.	Topics (Group chat)	**Total Notes** (*n* = 447)
Active Engagement	19 (54%)	1 (4%)	52 (61%)	44 (50%)	47 (59%)	21 (48%)	32 (74%)	30 (61%)	**246 (55%)**
Limited Engagement	3 (9%)	6 (25%)	5 (6%)	22 (25%)	12 (15%)	7 (16%)	5 (12%)	6 (12%)	**66 (15%)**
Non-Engagement	12 (34%)	4 (17%)	17 (20%)	14 (16%)	13 (16%)	7 (16%)	3 (7%)	9 (18%)	**79 (18%)**
Changes in Engagement	1 (3%)	5 (21%)	4 (5%)	6 (7%)	2 (3%)	5 (11%)	3 (7%)	3 (6%)	**29 (6%)**
Getting Others to Engage	0 (0%)	8 (33%)	7 (8%)	2 (2%)	5 (6%)	4 (9%)	0 (0%)	1 (2%)	**27 (6%)**
Total Notes Per Activity	**35**	**24**	**85**	**88**	**79**	**44**	**43**	**49**	

Note: Percentages shown are within-activity percentages of comments that fell into each categorization code; for example, under Outfit Sharing & Humor Education, there were 19 comments about active engagement recorded by observers, which is equal to 54% of all engagement-related comments about that activity.

Participant Reactions to the Program

Program Rating. After the Memory Café, participants were asked to rate the program from "terrible" (1) to "excellent" (5). On average, program ratings were very high. Of the participants who responded to the question, the average score was 4.66 (SD = .67) by CPs (*n* = 29) and 4.48 (*SD* = .82) for PWDs (*n* = 25).

Social Connection. After the Memory Café, participants were invited to respond to the ten-item UBC State Social Connection Scale (Lok & Dunn, 2022), which assessed their feelings of social connection during the program. Possible scores range from 1-5, and both CPs and PWDs averaged very high scores, suggesting that they felt very connected to others during the Memory Café activities. Of participants who completed the scale on the post-activities survey, CPs (*n* = 28) showed an average score of 4.28 (*SD* = .72), and PWDs (*n* = 22) averaged 4.07 (SD = .78).

Program Assessment. After each Memory Café, participants were invited to respond to a series of eight questions which measured their satisfaction with the activities and their feelings about the program. Possible scores ranged from 1 to 5, with higher scores indicating greater satisfaction and positive feelings towards the program. Of the participants who completed the scale on the post-activities survey, the average score for CPs (*n* = 29) was 4.54 (*SD* = .53) and 4.34 (*SD* = .75) for PWDs (*n* = 24). These reflect very positive assessments of the program.

One-Word Descriptions. At the conclusion of each Memory Café, participants were invited to respond anonymously to several open-ended questions, including a question which asked them what word they would use to describe the Memory Café. Of the 21 anonymous surveys that were collected, 20 listed a positive word for this question; the most common response was “fun” (*n* = 12), with other responses including “happy” (*n* = 2) or other positive words (i.e., “exceptional,” “funny,” “good,” “lighthearted,” “interesting,” and “joyous”; for each, *n* = 1). One participant responded, “Bad forms to fill out.”

Program Highlights. After the Memory Café, participants were invited to share their thoughts about the positive aspects of the program by sharing the best part of the program and explaining their own and their loved one’s favorite activity from the Memory Café. When asked about the best part of the program, 26 participants responded. The most common responses (*n* = 13) listed a specific activity as the best part (e.g., “videos,” “singing,” “chair dancing,” or “stories”). The specific activity that was mentioned most on this question was the videos (*n* = 8). Other comments mentioned “laughing” or “laughter” as the best part (*n* = 10), while still others pointed to togetherness as the best part (*n* = 6), including comments such as “Getting together with people," "interaction with others," or "friendship." Two participants stated that "everything" was the best part of the event, and two comments pointed to the program leaders as the best part of the program.

Additionally, participants were invited to list their favorite activity from the program, for both CPs and PWDs. For CPs, 26 responses were collected, and for PWDs, 24 responses were collected. For each group, several participants listed multiple favorite activities (e.g., "Chair song/dance; video of Tim Conway – dentist"). The most-mentioned favorite activity for CPs was chair dancing (*n* = 8), followed by balloon volleyball (*n* = 7) and the videos/clips (*n* = 5). PWDs cited balloon volleyball (*n* = 8), followed by chair dancing (*n* = 6) and laughter yoga (*n* = 5) as their favorite activities. See Figure 2 for a visual summary of which activities were listed as participants' favorites.

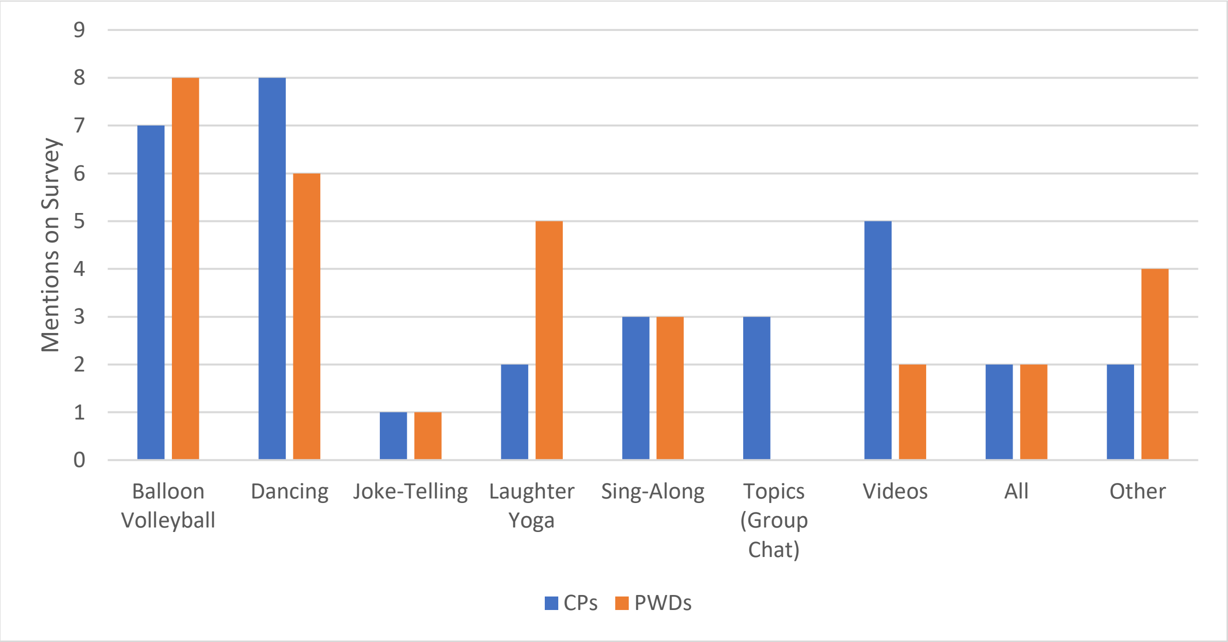

Figure 2
Participants' Favorite Activity

Program Critiques and Desired Changes. After each Memory Café, participants were invited to share any critiques about the program by filling out an anonymous survey. Although 21 anonymous surveys were collected, only 14 individuals responded to the question asking for program critiques. Of those 14 responses, five were actually positive comments or compliments about the program (e.g., "Very good," or "Interesting – makes us happy"), and four responses were "none." Three responses asked for more of something during the program, stating: "Need more videos," "Too short," and "We liked the laugh/joke booklet. Maybe read them out loud." Two respondents listed other critiques, stating "get rid of forms" and "poor functioning of the sound & TV."

In addition to the anonymous question asking for general critiques, the post-Café surveys also included two open-ended questions asking specifically about negative aspects of the program ("During this program, I did not enjoy…") and desired changes for the program ("In the future, I would change this program in the following ways:"). Of the 11 responses to the question about what was unenjoyable, nine responses were either positive (e.g., "Enjoyed it all") or were "none"/"nothing." One participant responded with "the questionnaires," and one participant responded with "dancing." Of the 11 responses about programmatic changes, six listed "none," and six responses had recommendations for program improvements, including "no physical activity," "An ice breaker at the tables early on," "less paperwork," "stand up to dance," or requests for more of something (e.g., "more balloons" and "more stories by participants").

"Other" Survey Comments. On the post-event anonymous survey, participants were invited to share additional thoughts about the program by responding to the question, "What else would you like the program leaders to know about your experiences in this Memory Café session?" Of the 21 participants who filled out all or part of the anonymous survey, 13 participants wrote comments to this question, and 12 of those comments were overtly positive (e.g., “Nice to do something together,” “Excellent way to bring people together w/dementia,” or “lots of fun and enjoyable – I truly enjoyed being a part of it!”). Of those 12 responses, nine comments included positive emotion terms (e.g., happy, enjoyable, feeling good, gratitude), while the remaining three were more generally positive (e.g., “nice to do something together” and “Keep up the good work. You are appreciated!”). One participant left a neutral comment, stating “First-timer,” and the other participants (*n* = 8) left the question blank.

Research Team Reactions

Lead Researcher Ratings. During the Memory Café programs, the lead researcher rated each activity on the overall elicitation of laughter (for each Café group as a whole) and the activity’s effectiveness at creating positive interactions among participants. Laughter amounts and interaction levels were scored on a scale of 1 to 5, with 1 reflecting low amounts of that behavior and 5 reflecting high amounts of that behavior. Across the four Memory Cafés, the laughter yoga activity (*M* = 4.75) and the video viewing activity (*M* = 4.63) were rated as being the most laughter-eliciting activities. The dentist video from *The Carol Burnett Show* received more laughs than the grape-stomping video from *I Love Lucy*, and, in general, CPs laughed more than PWDs at both videos. CPs laughed significantly more at the dentist clip, according to the lead researcher’s field notes and reflections. The activities which elicited the least laughter were humor education (*M* = 1.25) and the topical discussions, particularly those discussions which focused on comedian photos and reminiscing (*M* = 1).

The activities which were rated as most interactional by the lead researcher were joke-telling (*M* = 4) and chair dancing (*M* = 3.75). The activities which created the fewest interactions among participants were humor education (*M* = 1) and the sing-along songs (*M* = 2.5). Overall, these findings add to the survey results and observation findings (presented below) to point to the program's effectiveness at producing laughter and interactional experiences for participants.

Observers' Ratings of Activity Effectiveness. During each Memory Café, observers gave an overall evaluation of each major program activity after the activity concluded. They responded with "yes" or "no" when asked whether the activity was effective for creating positive feelings and interactions for the participants. In general, all activities were rated as mostly effective, as 91% (*n* = 217) of the 238 observer responses were "yes." For specific events, laughter yoga (*n* = 37), chair dancing (*n* = 33), video viewing (*n* = 41), and balloon volleyball (*n* = 37) were each unanimously rated as positive, effective activities by observers, with zero observers responding "no" to the effectiveness question. Joke-telling was generally positive, as observers recorded 25 (81%) "yes" responses and only 6 "no" (19%) responses. Sing-along songs were generally positive, receiving 28 (82%) "yes" responses and 6 "no" (18%) responses. Finally, the topical discussions trended positive, earning 16 (64%) "yes" responses and 9 "no" (36%) responses by observers.

Observer Field Notes Describing (Non-)Enjoyment. Observers' field notes often included descriptions of participants' experiences and observable behaviors (*n* = 838), as opposed to programmatic feedback, recommendations, or broader analyses of activities (described in next section). Observers took notes on participants' engagement with and reactions to each activity in the program, recording their observations as those activities were occurring. These notes were then coded by the researcher into three categories: *positive*, *neutral*, or *negative* experiences, and sample categorizations were checked by an observer for accuracy in a form of member-checking (Tracy, 2010).

Positive Experiences. Many of the statements in observers' notes (*n* = 284; 34% of descriptive observations) focused on overtly positive displays or reactions exhibited by participants, such as: "CP moving and smiling" (402, Dancing), "PWDs loved having the balloons hit at them" (101-102, Balloon volleyball), and "At the partner rose [in teeth] moment everyone had a ton of fun and kept smiling after as well" (314-316, Laughter yoga). These comments which described enjoyment often included specific terms such as "enjoy," "fun," "excite," "happy," "laugh," "smile," "like," or "love." Most of these behaviors were linked to the specific Memory Café activity (e.g., "Both [pairs] liked all songs and seemed to have a good time" (103-104, Dancing), or "More smiling than laughing; laughing increased towards end" (203-206, Sing-along)), although some positive reactions were noted as being caused by the participants themselves (e.g., "CP told a story about her mother and PWD seemed happy" (104, Topics), or "During second song, CP + PWD were holding hands & they both seemed to like this a lot" (312, Sing-along)).

Negative Experiences. Conversely, some experiences recorded by observers' field notes were negative in nature (*n* = 34; 4% of descriptive observations). These notes included comments such as: "PWD had a moment where he seemed a little worried, repeating 'ok x4' for a moment" (103, Laughter yoga), "PWD's arms got hurt so she got a bit agitated" (401, Laughter yoga), "Pair seems apprehensive to read jokes; they close book early" (407, Joke-telling), and "PWD didn't like the dirtiness of throwing the grapes at each other" (314, Videos). Some comments were more general (e.g., "PWD looks uncomfortable" (407, Balloon volleyball), or "Some confusion/negative emotions by PWD" (312, Topics)) whereas others were specific to the activity or an experience (e.g., "PWD seems to disapprove of some of the video content" (210, Videos), or "PWD seems nervous to dance" (102, Dancing)). Various unpleasant emotional experiences were described by observers, including words such as “uncomfortable,” “agitated,” “confused,” “caught off-guard,” “apprehensive,” “tired,” “nervous,” and “negative emotions.” All of these comments were coded as being descriptive of participants’ negative experiences.

Neutral Experiences. Finally, the majority of observer comments were neutral in nature (*n* = 520; 62% of descriptive observations), reporting behaviors without a clear emotional undertone. These notes included comments such as: “Lots of nods of recollection” (101, Topics), “CP is holding lyrics up for PWD” (407, Sing-along), or “Pair switches who reads jokes” (311, Joke-telling). These notes by observers had no clear indication of whether the participants were enjoying themselves, instead simply reporting participants’ action and whether they were actively participating or not.

Table 6 provides a numerical summary of positive, neutral, and negative comments recorded by observers for each activity. The activity with the largest percentage of positive comments was the video viewing (51% positive comments), followed by balloon volleyball (45% positive comments). The activity which generated the most notes describing negative experiences was joke-telling (10% negative comments). Humor education/outfit sharing and balloon volleyball each had very few negative comments (*n* = 0, and *n* = 1, respectively), and the activity in which observers recorded the most neutral comments was sing-along (*n* = 101, 73% neutral comments).

Table 6

Positive, Neutral, and Negative Observation Notes by Activity

	Humor Edu. & Outfit Sharing	Laughter Yoga	Joke-Telling	Sing-along	Chair Dancing	Video Viewing	Balloon Volley.	Topics (Group chat)	**Total Notes** *(n = 838)*
Positive Notes	22 (38%)	36 (38%)	27 (22%)	35 (25%)	33 (28%)	65 (51%)	35 (45%)	31 (31%)	**284** (34%)
Neutral Notes	36 (62%)	55 (59%)	85 (69%)	101 (73%)	80 (68%)	57 (45%)	42 (54%)	64 (64%)	**520** (62%)
Negative Notes	0 (0%)	3 (3%)	12 (10%)	3 (2%)	5 (4%)	5 (4%)	1 (1%)	5 (5%)	**34** (4%)
Total Notes Per Activity	**58**	**94**	**124**	**139**	**118**	**127**	**78**	**100**	

Note: Percentages shown are within-activity percentage of comments that were positive, neutral, or negative; for example, under Humor Education & Outfit Sharing, there were 22 positive experiences recorded by observers, which is equal to 38% of all descriptive comments made by observers during that activity.

Observer Field Notes Offering Recommendations & Programmatic Feedback. In addition to observer comments on participants' activity engagement and enjoyment, the third descriptive theme that emerged from observers' field notes about specific activities fell into the category of "recommendations." Specifically, these comments read more as program analyses, suggestions for the researcher, or reflections written about the program itself as opposed to descriptive comments about participants and their behaviors. In the field notes from the four Memory Cafés, 38 observer comments were more feedback-based, including recommendations for the researcher and notes for the program leaders. Sample notes included: "Good intro activity to start things off; put everyone in a good mood" (404-406, Sing-along), "Everyone had an amazing time with this! The focus on teamwork jump-started reactions and interactions" (103-104, Balloon volleyball), and "No one at the table dressed up; outfit sharing would go better if people dressed up" (311-313).

These comments included feedback on positive activities, such as, "Best activity in my opinion!" (404-406, Dancing) and "'Who was funniest?': comedians: this really kept their attention" (314-316, Topics). Other comments included recommendations for programmatic improvements, including technological improvements ("Everyone is engaged but maybe struggling to hear"; 301-303, Videos), instructional improvements ("Not clear that jokes should be shared with table, only telling jokes to pairs"; 301-303, Joke-telling), and feedback on timing or activity modifications (e.g., "Maybe went too long for tables-only part" (210-212, Joke-telling); "Both pairs seemed like they didn't like the fill-in-the-blanks and seemed sadder because they couldn't answer all […] Recommended: no fill-in-the-blanks" (103-104, Topics); "After the event, pair mentioned wanting songs like *Running Man* or Michael Jackson" (102, Dancing)). Together, these comments formed valuable feedback from the observers' perspective on what could be improved or how participants might be better engaged through the program activities.

Observers' Ratings of Participant Laughter & Interactions. During each activity, observers estimated the amount of time participants spent smiling/laughing, interacting with their partner, and interacting with other pairs. Observers rated their set of participants on each of these categories during each activity using a range of percentages to represent the amount of time spent engaging in each behavior: 0% (1), 10-30% (2), 50% (3), 60-80% (4), or 90(+)% (5). A visual summary of these findings can be found in Figure 3.

Average smiling/laughing scores for all observations ranged from 2.84 (some smiling/laughter, 10-50%) to 4.26 (high, above 60-80%). The activity that involved the most smiling/laughter from participants was balloon volleyball, and the activity that elicited the lowest amounts of smiling/laughter from participants was humor education.

Average partner interaction scores (i.e., amount of time spent interacting with one's partner) typically fell around 50%, and all activities had participants interacting with their partners (on average) more than 10% of the time. The video viewing activity generated the lowest partner interaction score (*M* = 2.45; between 10-50%) and the joke-telling activity elicited the most partner interaction (*M* = 3.64; between 50-80%).

Finally, observers estimated the amount of time participants spent interacting with others at their tables (i.e., people other than their partner). Interactions with others had the greatest range of all observer assessments. Most activities averaged above 0% but below 50% for amount of time spent interacting with others; however, balloon volleyball involved high amounts of other-interaction, as observers' scores averaged 3.71 (between 50-80%). The activity that elicited the least partner interaction was video-viewing, which scored 1.34 (between 0-10%).

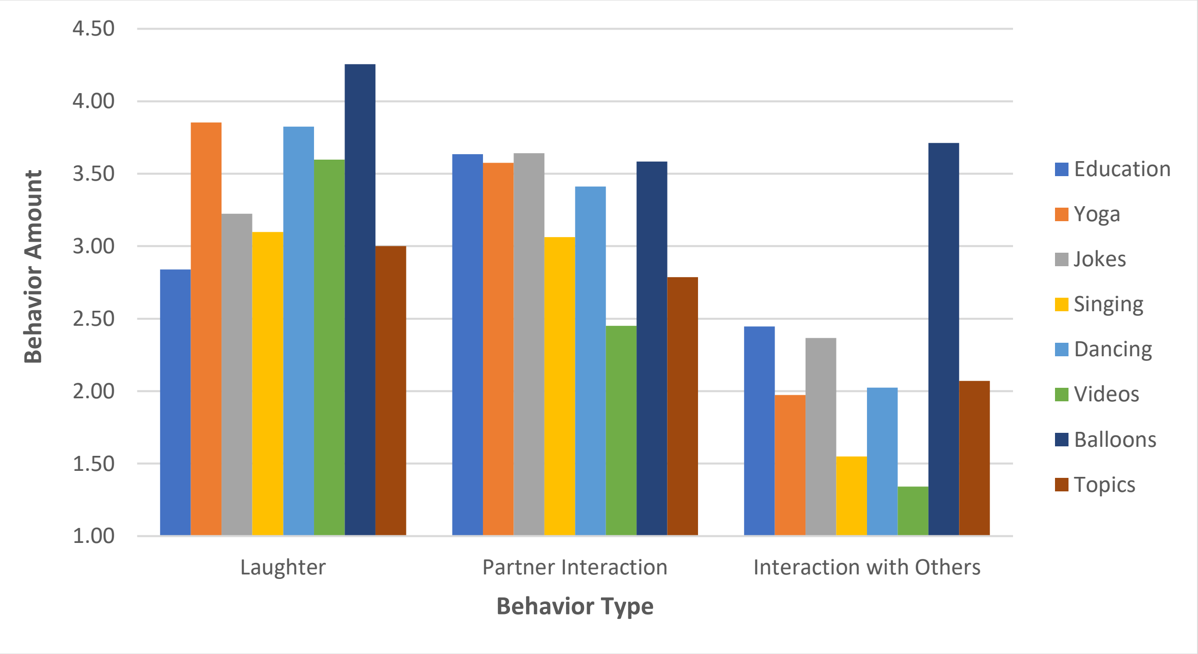

Figure 3
Observer Ratings: Participant Laughter & Interactions

Overall, the results indicate that most participants did engage in the humor program (RQ1), as evidenced by their survey responses, the observers' field notes and ratings, and the lead researcher's notes. Attendees generally reacted positively to the program, according to observers' notes on participation and based on participants' post-event survey comments and responses (RQ3). The activities which were most enjoyable (RQ4a) for participants seemed to be the videos, balloon volleyball, and dancing, as these were most mentioned in positive ways by observers and by participants on the post-event survey, although laughter yoga was also rated very highly by observers in their field notes. The most effective activities, or those which created the most positive interactions and laughter (RQ4b), according to observers, were balloon volleyball, laughter yoga, and dancing. In summary, participants seemed to enjoy and engage in the program as a whole, even as they reacted more positively to some activities.

H1 & RQ2: Relational Maintenance Strategies

The guiding hypothesis and the second research question investigated the relational impacts of the program, considering outcomes such as relational closeness and enactments of relational maintenance strategies during the event. To evaluate these aspects of the program, partner interactions and interactions with others were rated by observers (see Figure 3 above), and qualitative analyses were conducted to evaluate participants' survey comments and observers' field notes. To complete these qualitative analyses, survey comments and observers' field notes were open-coded and thematically categorized with an eye towards previous research (Tracy, 2018), especially highlighting categories of relational maintenance behaviors when they appeared in the comments (Stafford & Canary, 1991). The open codes largely fit into prior literature-informed categories, but "togetherness" was one new category that emerged from the open-coding process (Tracy, 2018); other open-ended comments by observers aligned with identifiable relational maintenance categories.

"Togetherness" in Participant Comments

One theme that was evident in the open-ended comments made by participants on their post-event surveys was their appreciation and enjoyment of "togetherness." When asked about the best part of the program, 26 participants responded to the question, with six comments specifically stating that the best part was spending time with others. For example, comments included: “seeing all our [organization] friends,” “interaction with others,” “friendship,” and “getting together with people.” Moreover, this “togetherness” theme also appeared in participants’ responses when asked to share any additional comments on the anonymous surveys. Of the 13 responses, two people expressed their enjoyment of being together: “Nice to do something together” and “Excellent way to bring people together w[ith] dementia.” These comments reflect an appreciation from survey respondents of spending time together, which is one important aspect of relational maintenance.

Maintenance Strategies Described in Observer Comments

When observer field notes were open-coded and reviewed for themes, one set of themes that arose was specific relationship-boosting behaviors that were exhibited by participants during the Memory Café. These behaviors were coded into the following sub-themes: *assurances, joint activities, sharing tasks, shared networks,* and *humor*. Importantly, one sub-theme which arose in initial open-coding was *avoidance/anti-social behaviors*, which includes moments of topic- or person-evasion or unfriendly, coercive behaviors. However, each of those instances were ultimately re-coded as “non-engagement,” as when they were re-read within context, they reflected a lack of interest or engagement rather than indicating any thought or concern (positive or negative) for their partner or others. The remaining maintenance strategies that arose from the coding process are described in more detail below.

Assurances/Positivity. The first category of relational maintenance behaviors described in observers’ field notes was *assurances/positivity* (*n* = 46), or moments of encouragement and “attempts to make interactions cheerful and pleasant” (Canary et al., 1993, p. 9). For participants in this study, positive experiences such as affectionate communication, encouraging communication, or laughter which involved both members of a dyad/group were coded as assurances/positivity. For example, comments such as "Pair was encouraging each other during 1st exercise," (104, Laughter yoga), "Lots of CP and PWD eye contact" (102, Videos), "Pair is sitting close together with shoulders touching" (409, Laughter yoga), "CP is very encouraging and smiling [at PWD]" (403, Sing-along), and "Pair started singing and show small bits of physical touch" (209, Sing-along) were each coded as *assurances/positivity*.

Moreover, 15 of these notes specifically pointed to laughter that was shared by a CP and PWD who came to the event together, pointing to specific moments of positivity in their relationships. Sample comments included: "Laughing & interacting with each other throughout *I Love Lucy*" (301, Videos), "Read book together, looked at each other, laughed" (404, Joke-telling), and "CP & PWD laughed a lot/giggled with one another – lots of eye contact" (201, Laughter yoga). Each of these comments reflects the theme of assurances/positivity in both verbal and nonverbal ways.

Joint Activities. The second sub-theme that emerged from observers' field notes was *joint activities*, which Canary and colleagues (1993) define as "spending time with one another" (p. 10). In this study, although participants were together for the entire program, the joint activities categorization was used when observers wrote descriptions of participants specifically acting together or performing activities as a unit (n = 78). These comments described participants' engagement and enjoyment in participating in the Memory Café activities together, as opposed to simply co-existing in the same physical space. Comments that mentioned only one person participating (e.g., "PWD participated" (202, Balloon volleyball)) were excluded from the theme of *joint activities*. Examples of this theme included: "PWD dancing with CP" (101, Chair dancing), “CP/PWD shared book & looked at it together, pointing at book” (406, Joke-telling), “CP asked PWD questions (e.g., ‘did you laugh a lot growing up?’ ‘Who was funniest in your family?’)” (404, Topics/Group chat), “Singing together” (207, Sing-along), and “All pairs were so excited and sang out—got some harmonizing” (314-316, Sing-along). These comments described participants’ engaging in the activities as a pair, not just as individuals.

Sharing Tasks. The third sub-theme highlighted how participants not only engaged in the activities together (*joint activities*), but rather how they worked together to accomplish a shared goal. This sub-theme (*sharing tasks*) included 47 observer comments. In their original description, sharing tasks are considered by Canary and colleagues (1993) as routine tasks or chores being completed by the relational partners, but in this case, sharing tasks was broadened to include program-specific tasks that participants were invited to complete. Samples from this theme included: “Both pairs are filling out the survey collaboratively” (211-212, Post-café survey), “CP shared music sheet with PWD for last 2 songs” (405, Sing-along), and “After CPs read a few, PWDs started up” (314-316, Joke-telling). Additionally, this theme also included moments where one member of a dyad helped the other member with a particular task: “CP helped PWD hit balloon every time it came to PWD” (405, Balloon volleyball), “CP explaining the video’s content to PWD” (209, Videos), and “CP helps PWD follow along” (210, Sing-along). These comments reflected the involvement of both individuals to accomplish a shared task or goal.

Shared Networks. The fourth behavioral sub-theme that emerged from observers’ field notes highlighted the ways participants moved outside their own dyads to engage with others at the Memory Café. Originally termed “social networks,” this maintenance strategy involves “relying on the support of friends and family,” (Canary et al., 1993, p. 10). For this study, the theme of social networks was broadened to include interacting with other people as part of the community built around and for pairs of participants, yet without remaining exclusively focused internally on the dyad members (hence, “shared” networks). In the coded observer comments, the theme of *shared networks* appeared 44 times and included comments such as: “PWD popped [the balloon] and had a fun moment with the other PWD [at his table] (103, Balloon volleyball), “Interacting with 408, talking about photobox” (407, Topics/Group chat), “Engaging more with volunteer” (203, Joke-telling), and “PWD tells joke to the table” (209, Joke-telling). In these ways, participants not only engaged within their dyads, but they also interacted with others at the event, expanding and engaging with a larger network of attendees.

Humor. The fifth and final relational maintenance sub-theme included moments in which participants specifically brought their own humor into their interactions during the Memory Café, without being directly prompted by specific humor-related group activities. Humor is one of the originally proposed maintenance strategies, aiming to create positive experiences involving pleasant emotions within the relationship (Canary et al., 1993). Observer comments reflecting participants’ use of humor appeared five times in these field notes, including: “PWD made a joke when facilitator brought a picture in front of him” (401, Topics/Group chat), and “PWD laughed & made joke to [another participant’s] story/joke!” (202, Joke-telling). Although not very common, some participants did bring in their own humor and attempts at levity into their interactions during the Memory Café.

Overall, these results suggest that participants did engage in the activities of the humor program (RQ1), they used various relational maintenance techniques throughout the program (RQ2), and they generally reacted positively to the program (RQ3). Many program activities were highly enjoyable, and several activities in the program were especially effective at producing positive relational outcomes for participants (RQ4). The quantitative and qualitative data collected through surveys and observations showed that engaging in the humor program did promote relational closeness and feelings of positivity, meaning that the guiding hypothesis for this study was supported. These findings and their implications are further unpacked below.

CHAPTER 5 – DISCUSSION

Discussion

The goal of this project was to assess the feasibility of a one-time humor program for PWDs and their CPs and to evaluate the potential benefits and drawbacks of such programs for people in dementia-impacted relationships. Results generally showed that the piloted program was successful, as self-reported data and observational data each indicated that participants were able to engage in the activities and that they enjoyed doing so. Moreover, study data demonstrated several outcomes resulting from participation in the program, including positive interaction experiences between participants, individual benefits such as improved mood, boosted relational closeness post-program, and demonstrations of relational maintenance efforts by participants (both CPs and PWDs). In general, these findings point to the effectiveness and beneficial outcomes of this humor engagement program for individuals and relationships, providing exciting implications for PWDs, CPs, program coordinators, and scholars interested in communication or humor.

To further explore the above results, in the following pages, a consideration of the positive aspects of the program and its associated outcomes is first provided, followed by a closer discussion and evaluation of the specific activities which were successful. Then, suggestions for modifications to the program are offered, followed by a summary of the implications of this work. Finally, several limitations and future directions are identified as considerations for other scholars.

Interventional Feedback and Benefits

This study was a largely successful implementation of a one-time humor intervention. Participants were actively engaged in the program and possessed the abilities necessary to complete most activities within the program. For all activities, participants were rated by observers as being highly engaged. Furthermore, even when participants were not overtly engaged, they still seemed content, exhibiting low levels of agitation or unpleasant emotions across all activities. One goal of this intervention was to create positive experiences for PWDs and CPs, as when a person begins experiencing memory difficulties, “feelings become very much more important than facts for the person with dementia,” (Contented Dementia Trust, 2012, p. 3). Engaging in activities that promote pleasant feelings is crucial within dementia-impacted relationships, and research suggests that engaging in (enjoyable) activities or using humor together can create feelings of similarity and promote relational and life satisfaction (Davender et al., 2012; Hall, 2013; Miczo & Averbeck, 2020; Werner & Parmelee, 1979). Together, the findings from this study, when paired with work of other scholars, indicate the value of intentional humorous engagement, even in dementia-impacted relationships. Because participants were able to engage in the activities and seemed to enjoy them, the goal of this project to create positive experiences for participants was achieved.

In addition to these general positive experiences had by participants engaging in the program, several more specific positive outcomes resulted for attendees. Some of those outcomes were expected, while others were surprising yet positive. The program outcomes measured in this dissertation project help build a stronger research-based argument for the incorporation of humor intervention programs within dementia care communities.

Program Outcomes

Engagement in this program was associated with various individual and relational outcomes. On an individual level, participants reported increased mood and selected more positive mood terms while reporting no negative mood terms after engaging in the program. They reported feeling relationally closer to others after the Memory Café, and they scored highly on feelings of social connectedness (Lok & Dunn, 2022) during the program. Generally, participants reacted positively to the program, describing their experiences using positive terms in both single-word descriptions and open-ended comments, and mostly rating the program as "excellent." When asked to summarize the program in a single word, most participants listed a positive word, and even when invited to critique the program, many participants described positive experiences rather than noting negative elements or requested changes. Thus, most participants who provided feedback on the program gave positive feedback, indicating overall enjoyment, and they also reportedly experienced pleasant emotions while participating.

In addition to creating enjoyable feelings, this humor program also had positive short-term impacts on relationships. Because laughing together has positive relational impacts such as increased perceived similarity and liking, the shared laughter produced as part of this program would have been beneficial for participants and their relationships (Kurtz & Algoe, 2017; Treger et al., 2013). All activities included some smiling/laughter by participants, and many instances of shared laughter were recorded by observers throughout the program. Positive or prosocial forms of humor within relationships promotes relational closeness, satisfaction, and enjoyment of the relationship (Hall, 2013 & 2017; Kurtz & Algoe, 2017; Miczo & Averbeck, 2020). Thus, the pleasant feelings and increases in relational closeness reported by participants after engaging in prosocial humor activities are consistent with prior work on humor, demonstrating that these outcomes hold true even in dementia-impacted relationships.

Furthermore, participant comments on surveys reflect a sense of belonging and togetherness, which is a feature of healthy, satisfying relationships (Afifi et al., 2016; Mellor et al., 2008). When responding to open-ended survey questions, numerous participant comments reflected a sense of communal orientation with their loved one (Clark & Mills, 1979). Communal orientation has been referred to as "we-ness" in the context of coping with difficult situations, or the tendency to think as a unit, to see problems as shared, and to collaboratively take action in a situation (Afifi et al., 2016; Rohrbaugh, 2021). Adopting a communal orientation can help people in stressful situations appraise the situation differently and creates the potential for decreased stress and increased relational resilience (Afifi et al., 2016). Participants in this program shared comments and demonstrated behaviors that suggested the adoption of a communal orientation within their dyads, indicating a sense of togetherness or "we-ness." Common responses to questions about the program included pointing to the chance to connect with others and utilizing "we" language. For example, anonymous comments included, "*We* liked the laugh/joke booklet," "Interesting—makes *us* happy," "Always lift *our* spirits," and "Always, *we* leave feeling good" (italics added for emphasis). These comments reflect a sense of shared thinking, reflecting, and experiencing, suggesting that for these participants, their communal orientation was activated through this program. However, additional investigations are needed to determine the specific ways that these types of interventional programs promote this sense of "we-ness" to create the positive outcomes predicted by relationship theories.

Similarly, dyads in this program often worked together to complete activities or tasks in the program. They told jokes to one another, worked together to keep the balloons in the air, helped one another complete laughter yoga exercises, and engaged in musical experiences as a pair. Literature around communal coping identifies that seeing a problem or stressor as "our" issue, taking cooperative action, and viewing the self and other as a unit creates positive relational outcomes (Afifi et al., 2020; Lyons et al., 1998), and this study reinforced those findings. In the humor program, working together to accomplish shared goals and activities—even without the presence of immediate negative stressors—promoted the positive relationship outcomes that accompany communal coping (Lyons et al., 1998). In situations like dementia care, CPs and PWDs face frequent problems or issues that need addressing, and there are increased personal health risks for both members of the relationship (Alzheimer's Association, 2023). Therefore, providing opportunities for CPs and PWDs to work together on an external problem or exercise promotes increased coping and relational closeness, and doing so via humor-based activities and non-threatening stressors introduces positive moods into those communal experiences. This combination of communally coping and thinking, working together, and experiencing positive moods creates a unique triad that holds the potential for highly positive individual and relational outcomes, some of which were demonstrated in these findings.

In addition to creating enjoyment, boosting the sense of togetherness, and contextually bolstering communal coping, this program fostered connections not only between dyad members but also between participants and other program attendees. When dementia enters a relationship, the social networks of PWDs and CPs tend to shrink (Alzheimer's Association, 2023; Liu et al., 2021; Sabatini et al., 2024). Therefore, active engagement with other individuals is crucial for maintaining well-being (Alzheimer's Association, 2023). In this humor program, participants actively engaged with each other, both within their own dyads as well as with other participants at the event. All activities involved some interaction, although the amount of interaction demonstrated by participants varied by activity and by individual. Numerous observations pointed to interactions with others, including ways participants tried to engage others in activities, told stories throughout the event, and interacted as a group; these experiences were coded as *shared (social) networks*, one relational maintenance strategy (Stafford & Canary, 1991), which helped promote positive network outcomes for participants.

Indeed, this engagement and interaction with others created opportunities for participants to connect and feel part of a larger social network, even if just for the 90-minute session. Importantly, participant comments reflected a sense of connection, with their increased feelings of closeness post-event and their open-ended comments about feelings of connectedness. Feeling connected to one's network and having interactions with more people (whether close friends or mere acquaintances) is linked to increased social and emotional well-being (Sandstrom & Dunn, 2014), and having access to a wider network of people is associated with positive outcomes for CPs (Lewis et al., 2013). Thus, a program designed to promote the well-being of individuals and relationships should also provide opportunities for making and fostering network connections, and this program provided some of those opportunities for participants, albeit in small ways through shared activities.

Finally, during this humor program, participants actively employed various relational maintenance strategies. This finding links relational maintenance to humor engagement and reveals the active relationship-boosting efforts undertaken by participants which were encouraged by the program. When individuals utilize relational maintenance strategies in positive/prosocial ways, they ensure that the relationship remains in existence and continues to be satisfying for both relational partners (Dindia & Canary, 1993). This program provided opportunities for participants—both CPs and PWDs—to use relational maintenance strategies in joyful, creative ways. Noted efforts included assurances/positivity, joint activities, sharing tasks, shared networks, and humor. Each of these was utilized by both CPs and PWDs, which suggests that these activities created opportunities for people of different abilities to pour effort into their relationship, potentially decreasing relational stress and increasing relational satisfaction through their efforts (Afifi et al., 2016).

Overall, then, this humor program not only promoted pleasant emotions and feelings in individuals but also promoted positive relational outcomes while providing opportunities for participants to engage in and maintain their own relationships with one another. In addition to these broad considerations of the overall outcomes and benefits of this humor program, more specific reflections about the activities utilized in this program are also helpful for evaluating this pilot humor intervention for PWDs and their CPs.

Specific Activity Evaluations

Each Memory Café included eight key activities: sing-along songs, chair dancing, humor education, laughter yoga, video viewing, joke-telling, topical group discussion, and balloon volleyball. Based on observers' field notes and ratings, program leaders' discussions and memos, and participants' ratings and comments on surveys, the activities were evaluated for their engagement of participants, their creation of pleasant emotions, and their promotion of prosocial relationship behaviors. Generally, findings from this study point to the effectiveness of music-based activities, the positive and successful implementation of laughter-specific activities (e.g., laughter yoga), and the enjoyment of certain types of dementia-appropriate humor and activities (e.g., visually funny videos and balloon volleyball). These successes are discussed in more detail below.

Musical Activities

In this program, two activities directly incorporated music: sing-along songs and chair dancing. Each of these were associated with high levels of engagement and contentment in participants. Although attendees were not scored highest on laughing or open/active engagement in the sing-along or dancing activities, positive interactions were promoted, and very few negative behaviors were observed or noted. Moreover, survey respondents frequently mentioned these activities as being their favorite part of the program, which supports previous findings about music and dementia. In particular, dementia does not impact a person's appreciation for music (Baird & Samson, 2015), and music remains an activity that promotes prosocial, relationship-boosting outcomes for PWDs and CPs (McDermott et al., 2014). Engagement with music has positive impacts on PWDs and CPs such as improvements in mood, quality of life, memory, general cognition, and well-being (Särkämö et al., 2013), so the inclusion of music in a program designed to promote similar positive health outcomes is recommended.

Additionally, many participants were physically active for both the sing-along songs (e.g., tapping feet, swaying, etc.) and the chair dancing (e.g., square dancing, doing song-specific actions, etc.), which benefitted their physical health. Exercise and physical activity are essential for aging adults and PWDs specifically (Gholamnezhad et al., 2020), and practitioners and researchers call for exercise programming that considers the unique aspects of dementia-impacted relationships and needs (Webel et al., 2023). As such, the finding that dancing can be accomplished by PWDs and CPs, can promote pleasant feelings and prosocial interactions in these relationships, and is mentioned as a highly enjoyable and favorite activity by the participants themselves are all exciting supporting evidence demonstrating the power of music to promote physical activity, healthy aging, and healthy relationships, even throughout dementia's progression. This points to the possibility of using dancing as an exercise technique which promotes enjoyable feelings and healthy outcomes.

These findings on the benefits of music in dementia-impacted relationships suggest that music is both highly enjoyable and beneficial for PWDs and CPs, so including musical activities—whether singing, listening, or dancing—into programs for dementia-impacted communities is highly recommended. While doing so, considering attendees' musical tastes and preferences is important, which can be difficult within diverse populations. Still, program leaders should utilize songs that create feelings of happiness and positivity. This is one area where community partners can uniquely contribute to program design, as their existing relationships with participants and community members can help researchers or other program leaders make appropriate selections for music-related programming. In this project, the community partner helped select the songs for both musical activities, and those selections were largely enjoyed by participants, adding evidence of the benefits that come from researcher-practitioner collaborations.

Laughter Yoga Exercises

Although laughter yoga exercises have been previously implemented in interventional contexts (e.g., Hsieh et al., 2015; Kim et al., 2015; Tse et al., 2010; Yazdani et al., 2014), those efforts have shown insignificant results for effectiveness in the dementia context (Walter et al., 2007). In contrast, this program successfully implemented several laughter yoga exercises which PWDs and CPs were able to complete, and participation in those exercises was associated with positive outcomes for attendees. Past research points to the ability of PWDs to learn tasks through both explicit (i.e., verbal instructions) and implicit (i.e., modeled behaviors) instructional techniques (van Tilborg et al., 2011), and this program provides additional evidence of these findings. In particular, PWDs were able to follow the verbal instructions to perform the laughter yoga exercises (and other program activities), and they were also able to mimic the modeled behaviors of others during the program activities (e.g., chair dancing). Thus, interventional programs for PWDs and CPs can be led in similar ways as non-dementia-specific programs by using both verbal and nonverbal instructions, but those instructions should be simplified, and regular assistance and active participation by other attendees, CPs, or volunteers should be encouraged to promote higher levels of engagement by PWDs.

Laughter yoga was one of the activities in which participants most actively tried to engage other participants, reflecting not only their ability to follow the instructions, but also their feelings of ownership over the activity and their interest in creating a sense of inclusion for others. Within the scholarly field of engaged research, more advanced community-engaged data collection processes involve higher levels of involvement by participants and by all community partners. At the levels of cooperation and collaboration, multiple people (not just the researcher) guide the process of collecting data, choosing how to implement processes, and carrying out the research (Sanders Thompson et al., 2021). In this program, although not part of the original program design team, participants voluntarily adopted this collaborative approach to the program's implementation. They not only followed the leaders' instructions to complete the laughter exercises, but some participants also took on the role of "table leader" as they encouraged others, interpreted and shared instructions, and tried to get others involved through their verbal and nonverbal communication patterns. This reflects the participants' sense of ownership over the activity and is an exciting finding that reveals not only their ability to complete the activity, but also their enthusiasm about the experience.

When these observations are combined with the finding that laughter yoga was one of PWDs' favorite program activities, one can conclude that laughter yoga was a positive activity in this program and that laughter yoga exercises are feasible and beneficial for PWDs and CPs. Because laughter and humor engagement promote positive physical, mental, and relational health outcomes (e.g., Bennett & Lengacher, 2007a; Kontos et al., 2016; Low et al., 2014; Seaward, 2009; Yim, 2016), laughter yoga is one activity that can and should be successfully implemented in dementia-impacted relationships and in future iterations of this humor program. More work remains to be done to measure the specific outcomes of this particular activity, which is recommended for future research. Evaluating immediate mood changes or more carefully measuring nonverbal immediacy between participants would be valuable investigations, and assessing how PWDs and CPs do with longer versions of laughter yoga is necessary, as this interventional activity was very short. However, this study was still a valuable starting point, demonstrating the feasibility and enjoyability of laughter yoga exercises for those in dementia-impacted relationships.

Dementia-Appropriate Entertainment

In addition to the positive reactions to activities involving music and laughter-specific exercises, participants responded well to the programmatic elements of video viewing and balloon volleyball. These activities were selected for their dementia-friendly content and their past effectiveness in programs run by the community partner. Once again, this underscores the value of working with community partners who are familiar with participants' interests and have past experiences and knowledge of what works or does not work with particular populations.

The videos shown at these events elicited mixed levels of engagement but also received highly positive feedback from participants. Importantly, the content of the videos was carefully selected and likely played a role in participants' and observers' positive reactions. Sense of humor tends to shift for PWDs (Clark et al., 2015; Maler, n.d.), so videos were selected which included some slapstick and other visual humor in addition to featuring some contextual humor. For this program, scenes from *I Love Lucy* (grape stomping) and a skit from *The Carol Burnett Show* (dentist clip) were selected, as they contained visually funny or absurd situations in relatively brief scenes, and the content was very non-targeting and benign. During the viewing sessions, participants displayed pleasant emotions but little interaction (verbal or nonverbal), suggesting that videos can create positive emotional experiences but may not be the most effective at directly promoting relational outcomes beyond those that come from laughing together (Kurtz & Algoe, 2017; Treger et al., 2013). This was expected, as typical video-viewing behavior tends to be more passive, without much interaction, but this is still an important consideration when selecting activities for interactional programs.

Similarly, balloon volleyball was selected as an activity to promote physical activity and pleasant emotions (see Gholamnezhad et al., 2020; Webel et al., 2023 for a summary of benefits of physical activity for PWDs and aging adults). The concept of keeping a balloon in the air is simple and understandable for people with dementia, and the collective focus of the people at the table likely maintained their attention on the task at hand while allowing PWDs to follow the implicit instructions for completing the task by observing others' behaviors (Majlesi & Ekström, 2016; van Tilborg et al., 2011). Despite its simplicity, the competitive component of trying to not let the balloon drop also may have created motivation for some CPs and PWDs to participate and remain invested in the activity, as competition tends to increase participation in a variety of contexts, including dementia (e.g., Raghabendra et al., 2018; Scales Jr. et al., 2016; Tak et al., 2015). Furthermore, as one of the activities used by the community partner in previous Memory

Cafés, participants' familiarity with this activity was likely valuable, as PWDs and CPs benefit from routines and familiarity (Alzheimer's Association, 2023). Thus, perhaps due to its simplicity, its familiarity, or the fact that this was always the last activity of each Memory Café (and therefore was the freshest memory when asked to respond to the survey questions), this was listed by survey respondents as being the favorite activity of PWDs and the second-favorite activity of CPs. Regardless of the reason, the outcomes point to this as another feasible, enjoyable, and beneficial activity.

Overall, then, the videos and balloon volleyball game were both successful program elements due to their simplicity in content and concept, and these activities were very well-received by participants. However, despite the enjoyable and successful outcomes shown by these musical components and easy-to-follow activities of the program, other parts of the program were met with more mixed reactions from participants and observers. As such, several programmatic recommendations are included below for future humor interventions.

Program Shortcomings and Suggestions

Being intentional in the selection of activities for this type of program is crucial to the program's success. The activities chosen for this particular humor intervention were selected for their relative simplicity, their past successes when implemented, and their entertaining nature. Interestingly, some participant comments on the post-program surveys included requests for more of certain program elements, such as "more stories by participants" (211), "more balloons" (204), or "Need more videos" (anonymous). These reflect the overall enjoyment of those activities but also indicate that future interventions may benefit from longer sessions of each activity, rather than switching between activities every few minutes. However, importantly, some participants also specifically enjoyed the fast-paced nature of this event (e.g., "glad you gave so many things a try & kept it moving"; anonymous), so future program leaders should remain aware of the target community's preferences and whether a faster or slower pace is most appropriate. Indeed, in dementia and aging relationships, some experts recommend engaging in simple and unhurried activities (Better Health Channel, 2014; Alzheimer's Association, 2024), but this program highlights the value of multiple, faster-paced activities rather than exclusively relying on those with a slower pace.

Besides these pace-related findings, some activities simply seemed to work better than others, and several activities elicited negative reactions or comments from participants and observers. These programmatic shortcomings are described below, along with related recommendations for improvements.

Joke-Telling. First, joke-telling received mixed reviews from observers and participants. In particular, this activity involved much participation and some laughter, and some participants took the joke book home with them at the conclusion of the event (noted in researcher's field notes), which suggests that they likely enjoyed the jokes (or that they simply like souvenirs!). Additionally, this activity created the most interactions within dyads and created many interactions with other participants outside dyads. At the same time, joke-telling also had one of the highest non-engagement scores (compared to other activities), was only mentioned by two participants as a favorite activity, and received the highest number of negative comments by observers. Several participants commented about the juvenile nature of the jokes, which were selected for their simple and understandable content (e.g., What did the janitor say when he jumped out of the closet? Answer: "Supplies!"), but others seemed very invested in the joke-telling exercise, enjoying and sharing jokes freely. Although sense of humor changes for PWDs throughout the course of the disease (Clark et al., 2015), these findings suggest that like other people, PWDs still have individual preferences for certain types of humor (Booth-Butterfield & Booth-Butterfield, 1991), and that those preferences impact their reactions to humor-based activities. In other words, there is no "one-size-fits-all" approach to humor and jokes, even for people at a similar level in their dementia-caused cognitive decline.

Additionally, because laughter occurs primarily in a social setting (Provine, 2000), being surrounded by people who are willing to laugh openly as opposed to those who do not laugh may impact a person's experience with joke-sharing in a public setting. Observer comments reflected this pattern, as some tables laughed frequently and openly while sharing jokes, and others were more somber or quiet. Pairing people with those with similar humor orientations or spreading participants out who are particularly eager to laugh may have interesting impacts on the program outcomes, but being cognizant of the social dynamics of laughter is crucial for any humor-related program.

Overall, this activity seemed to elicit the most mixed reactions from participants and observers, suggesting that for some participants, something was missing from these jokes—either the jokes contained no violations of expectations for the reader/listener, or they were deemed harmful and not benign (McGraw & Warren, 2010). Similarly, participant preferences and tendencies may have impacted reactions to this activity. Therefore, future implementations of this program should consider carefully whether their audience would find jokes enjoyable and should make joke selections carefully. Future program leaders may consider inviting participants to find and share their own jokes or funny stories, rather than being limited to the ones provided by the program, as participants seemed to enjoy sharing their own stories and hearing others' ideas. Alternatively, future interventions would benefit from making multiple types of joke books available, such as using a joke book created by PWDs (Scottish Dementia Group, 2010) or providing joke books that differ by category as these may be beneficial and could increase the likelihood that the basic features of funny jokes (i.e., benign content and surprising or incongruent concepts) will be present for participants.

Although joke-telling may have only been highly enjoyable for some participants in this study, research suggests that PWDs and CPs continue to recognize the value of humor and the structure of jokes (Raviv, 2014), so creating spaces to share jokes seems to carry potential benefits in this type of program as well as in the daily interactions of PWDs and CPs. As with all humor instances, however, this should be done carefully and may be most successful when practitioners consult or collaborate with community partners who are familiar with the intervention participants.

Humor Education & Topical Discussions. The humor education and topical discussions, despite being relatively brief activities, received various observer comments and ratings. First, humor education was one of the least engaging activities, elicited the most observer comments about non-engagement, and reportedly generated the fewest laughs from participants, trends which were expected due to the “listen-and-learn” nature of the activity. Despite this, several observers also noted participants’ interest and attention through comments such as: “Taking notes on humor” (101), “Very engaged during humor education” (210), and “Seems to be passively listening – content” (303).

The group discussions involved reminiscing about famous comedians, family experiences, pranks, or other topics. These kinds of conversations are part of every Memory Café (Dementia Together, 2024). Furthermore, past research suggests that reminiscing can have positive impacts on PWDs (Gonzalez et al., 2015; Subramaniam & Woods, 2014), which may explain the relatively high engagement and participants’ positive reactions to these conversations, but despite the high engagement and attentiveness of participants, very few laughs were observed during these conversations or during the humor education portion of the program.

Sometimes, passive engagement or simply watching/listening to an activity is beneficial for PWDs (Better Health Channel, 2014). Similarly, CPs are encouraged to continue hobbies or find new projects to maintain their own sense of self and personal well-being (Alzheimers.gov, n.d.; Contented Dementia Trust, 2023). As such, taking non-dementia-specific education classes, attending presentations, or including educational and reminiscing experiences in interventional programs such as this one can be beneficial for CPs to step out of the focus on dementia that occupies much of their life and attention. Furthermore, although PWDs increasingly lose the ability to recall information, they are still capable of learning new things (Ingebrand, 2023), can still enjoy performances (Malinin et al., 2023), and can still enjoy the experience of listening (i.e., appreciative listening; Wolvin & Coakley, 1985). Thus, the act of engaging in a listening, learning, or reminiscing experience can be positive, even without successful recall as an objective. In other words, including topical group conversations and/or educational elements may be a valuable option for future interventions, but program designers should be aware of the limits of these program components, the low number of laughs that may be elicited, and the possibility that participants will lose interest. If practitioners remain aware of these issues, they can better align and select program elements based on the desired program outcomes.

In addition to these improvements and considerations regarding the specific activities selected for this intervention, the data collection techniques could have been improved, and future programs should be designed with the results of this program in mind.

Data Collection Techniques. The highly engaged nature of this project allowed for the development of a program which was appropriate for this particular audience and was informed by previous successes and programmatic failures documented in research and through the community partner's experiences. However, conducting engaged scholarship is challenging and requires negotiating differences and finding shared understandings between researchers and community partners (Barge et al., 2008). Aiming to meet the goals of all collaborators can be challenging and often requires communicating in new and unique ways (Barge et al., 2008). Following recommendations of engaged scholars such as Simpson and Seibold (2008)—including grounding the work in theory, aiming to fulfill practical concerns, and working with practitioners throughout the design of the project—often contribute to successful outcomes, but there are still moments where tradeoffs or concessions are made to meet the needs of one member of the partnership. In this study, that tradeoff included the survey data collection techniques.

Many members of this community were familiar with research practices, as the partnership between the lead researcher's institution and the community partner had been ongoing for several years prior to the intervention's implementation. For these reasons, and because this was a pilot version of this program, surveys were determined to be the most effective way to collect many participants' feedback quickly. Yet, several participants noted the unenjoyable nature of the surveys, which required effort and significant amounts of writing from the CPs in attendance. As survey fatigue can affect populations differently (Brown et al., 2024), and because CPs already experience significant demands on their time and focus by their PWDs (Alzheimer's Association, 2023), finding ways to collect data without requiring much of their time and attention is beneficial. Options such as verbal interviews or other observational techniques could be more beneficial for future participants without adding to CPs' workload. These alternative methods also limit the mental and physical effort required of participants and reserve the limited time they have to engage in the program for the actual activities, network-building, and enjoyment of the program itself.

The observational techniques used in this study were largely successful, but because observers were often seated at the table with participants, many participants tried to interact with and involve the observers in the activities. This required observers to fill multiple roles, simultaneously occupying the roles of both community member/participant and note-taker. Observers also needed to be trained on best practices for interacting with PWDs and CPs, which required additional effort and time commitments from the observers and the researcher. However, this approach also allowed the behavior and reactions of participants to be captured without creating discomfort from the presence of technology (e.g., cameras or recording devices), which offered a more accurate collection of responses and engagement during the activities. Indeed, Baumgartner and Renner (2019) highly recommend following behavioral observation techniques when conducting studies with dementia-impacted populations, and this approach worked well for this study. All future programs and studies involving CPs and PWDs must be cognizant of the additional work that data collection efforts place on participants in order to make decisions about those methods carefully.

Other Suggested Changes. On the post-event survey, several participants listed requests for changes, including more of certain events (mentioned above), and limiting certain activities such as physical activity. Activities such as chair dancing and balloon volleyball were highly rated and enjoyable for most participants, but they were also difficult for some attendees. People with limited physical mobility or decreased motor skills may have had decreased ability to participate in and enjoy these activities, and as a result, including these activities in the humor program may have created feelings of incompetence or exclusion for those participants. Future implementations of this type of intervention should assess participants' abilities and consider finding alternative activities for mobility-limited individuals or avoiding these activities if many attendees will be unable to participate. Importantly, as observation can be enjoyable for participants (Better Health Channel, 2014), there is cause to believe that this program was still beneficial, even for participants with mobility difficulties, but if future implementations of this program are provided to people with varying abilities or advanced forms of dementia, limiting the physical activity in the program may be recommended.

Additionally, one observer and one participant noted difficulties with hearing due to poor audio/visual quality at one of the events ("poor functioning of the sound & TV"; anonymous; Memory Café 3). In particular, the audio/video was more difficult for some participants to hear or see depending on their seating location in the room at the larger events. Therefore, if videos and music are used in future interventions, finding ways to project the video so all participants can easily see the images and checking that the location has an acceptable audio system are crucial steps to take; this ensures that the activities create pleasant or neutral feelings rather than feelings of frustration about not being able to see or hear the featured video or music.

Finally, one pair expressed their desire to get to know other attendees by asking for "An ice breaker at the tables early on" (313). This would have created more connections between participants and could have encouraged more interactions outside of the existing dyads. Thus, this suggestion should be considered for future implementations of this type of intervention. As many participants were seated with people they did not know prior to attending the event, and as laughter and humor are highly social activities (Provine, 2000), creating opportunities for connections to be made between attendees is a valuable use of time. Furthermore, because CPs' and PWDs' networks tend to shrink with development of dementia (Alzheimer's Association, 2023), when these individuals attend events, creating opportunities for them to grow their networks, form new friendships or acquaintances, and create a community is beneficial and can even promote relational satisfaction within their dyad via shared/social networks (Canary et al., 1993). All these recommendations are important considerations when implementing future humor programs for dementia-impacted communities.

Implications

This program carries several implications for CPs, PWDs, dementia-focused organizations, and scholars investigating humor, dementia, relational maintenance, or other prosocial communication techniques. As such, several theoretical and practical implications are summarized below.

Theoretical Implications

This assessment of a pilot humor intervention program for PWDs and CPs extends our theoretical understandings of humor and relational maintenance as communicative behaviors that can promote positive relationship outcomes. Previous work has implemented various humor interventions but has most often looked at medical clowns as the source of that humor (e.g., Brodaty et al., 2014; Low et al., 2014). In contrast, this project systematically analyzes the impacts of a humor program involving various activities in which participants voluntarily engaged. Theoretically, this project contributes to previous scholarly work in the areas of humor, relational maintenance, and in the concept of “togetherness.”

Humor. More specifically, this project supports and extends benign violations theory (McGraw & Warren, 2010). First, the overarching reaction of laughter to the humor in the program supports the claim that funny experiences involve both unexpected incongruencies and harmless content (McGraw & Warren, 2010). The researcher that co-designed this program (with the community partner) used this theory's claims as the "guidelines" for the selection of humorous elements to include. The program's success points to the theory's applicability not only to evaluate past humor, but also to select present or future instances of humor.

This project also extends the theory to demonstrate its applicability to people with cognitive impairments such as dementia. Although dementia significantly changes a PWDs' life, experiences, and understandings over time (Alzheimer's Association, 2023), this study demonstrates the consistency in basic "funniness" requirements even throughout the early stages of dementia. This finding is powerful and exciting, pointing to the continued potential for connection and shared lighthearted experiences between PWDs and non-PWDs.

Furthermore, this project also reveals the individualized nature of humor; although there are trends that can be observed in PWDs (such the disease's impact on sense of humor; Clark et al., 2015), individual differences remain, as evidenced by the joke-preferences voiced by participants in this study. Just as McGraw and Warren (2010) noted, what is funny to one person may not be funny to another, even if the humor instance meets the requirements of being both benign and unexpected. These findings point to the uniqueness of each person, even when dementia impacts someone's cognitive and physical abilities. The individuality in humor preferences shown in this study provides support for one of the community partner's key teachings or *Golden Rules* for interacting with PWDs: always "listen to the expert," or, in other words, treat and respect PWDs as people who have valid opinions, feelings, and experiences (Contented Dementia Trust, 2012). This guidance applies to individual interactions and conversations, but also to programs designed to include PWDs. Humor programs should involve multiple types of "funny material"—including laughter exercises, different mediums, and the chance for participants to bring in their own forms of humor—to increase the likelihood that participants will find program elements that they enjoy and therefore reap the benefits of the program, regardless of their memory capabilities. Taking a “one-size-fits-all” approach to dementia care or dementia programming does not account for PWDs’ individual needs or interests, so remaining attentive to people’s reactions and trying to create programming which has different types of humor instances can promote individual engagement and enjoyment.

Finally, this study serves to re-emphasize the social and communicative nature of humor. In the past, many scholars of communication have focused on how an individual’s humor orientation influences their interactions and relationships (e.g., Aylor & Oppliger, 2003; Maki et al., 2012; Pennington & Hall, 2014; Wanzer et al., 1996; Wrench & Booth-Butterfield, 2003). While that work is exceptionally valuable and provides deeper understandings of relational communication, it is also crucial to remember the experiential, social, and co-creational aspects of humor. Humor and laughter are highly social experiences which are “done” together with others in certain contexts (Provine, 2000). A person’s humor orientation inherently changes their experience and construction of humor, but researchers also must acknowledge the ways that people co-create and socially construct humor, like other communicative experiences, with those around them (Barnlund, 1970; Gironzetti, 2021).

Recognizing humor as a co-created relational experience is particularly important when considering the unique struggles faced by people in dementia-impacted relationships. Through this lens, humor’s potential becomes even greater as humor and laughter serve as active, unifying maintenance behaviors that can be done together while creating additional feelings of cohesion and togetherness. Not only can people passively enjoy humorous experiences together (e.g., through videos), but even with dementia, people can actively construct humor and laughter, creating new experiences with their relational partners. In this way, humor could be considered a pathway to “collective effervescence” (Durkheim, 1995), or the “feeling of belonging and assimilation produced by collective ritual action” (Xygalatas et al., 2011). As a relational act, humor not only unifies people by highlighting shared experiences and thoughts (e.g., finding something funny), but people actually create those feelings themselves by building the humorous experiences together, tuning into their relational partner’s actions, words, and feelings, and creating and interpreting the contextual experience together. Humor is created by people together, understood in the context of that togetherness, and interpreted because of who the people are together. These shared, co-constructed efforts are highly beneficial for people in dementia-impacted relationships because as relational contributions, maintenance behaviors, and expectations decline or shift due to the disease, finding new ways to contribute somewhat equally to the construction of reality allows the relational partners to co-create their relationship, temporarily balancing their relational power and allowing them to experience enjoyable feelings simultaneously.

Relational Maintenance. In addition to supporting and extending the theory of humor, these findings also extend relational maintenance into dementia-impacted contexts (Stafford & Canary, 1991). In particular, this study demonstrates how relational maintenance strategies are voluntarily used by people in dementia-impacted relationships, not only by those without memory impairments (e.g., Bippus & Rollin, 2003; Goodboy & Bolkan, 2011). Relational maintenance continues to be important even when communication-debilitating illnesses enter the relationship (Bute et al., 2007), and in this study, participants regularly used various strategies during the humor program. Those strategies included social networks, joint activities, shared tasks, humor, and positivity/assurances. These demonstrations looked similar to the original conceptualization of these maintenance behaviors, as participants worked together, communicated openly and positively, and reassured one another during the program (Canary & Stafford, 1994), which reveals the applicability of this theory to people of various ages and abilities.

Moreover, in dementia-impacted relationships, finding ways to maintain closeness and satisfaction for both individuals is crucial for relational well-being (Alzheimer's Association, 2023; Dementia Together, 2024), and this project reveals that in many dyads, both partners still actively utilize relational maintenance strategies. Importantly, these often arose organically during participants' interactions with one another, but this study also suggests that interventional programs can create easy opportunities for participants to use these maintenance strategies. PWDs and CPs need to maintain their relationship to promote satisfaction and relational well-being, so providing specific contexts for them to enact those behaviors may be crucial. As dementia continues to alter PWDs' capabilities and the day-to-day activities and responsibilities of both CPs and PWDs (Alzheimer's Association, 2023), programs such as these Memory Cafés create opportunities for those individuals to focus on enjoying each other's company, allowing them to enact those crucial relational maintenance behaviors.

Furthermore, this Memory Café provided a unique context for PWDs and CPs to activate these relational maintenance behaviors through its focus on humor. Although humor has been identified as a maintenance strategy on its own (Canary et al., 1993; Canary & Stafford, 1992; Stafford & Canary, 1991), humor also seems to serve as a "gateway" to other strategies, such as sharing tasks or positivity/assurances. Because prosocial forms of humor can promote so many positive relational outcomes (Booth-Butterfield & Wanzer, 2016; Fritz, 2020; Hall, 2013; Miczo & Averbeck, 2020), designing activities for PWDs and CPs that involve humor creates an ideal context for positive experiences, pleasant emotions, and prosocial relationship outcomes;

specifically, this program created a climate in which participants felt comfortable enough to use relational maintenance behaviors. Much like politeness serves to ease social distress and feelings of discomfort (Brown & Levinson, 1987), positive uses of humor in social settings seem to create a uniquely pleasant atmosphere which allows interactants to feel comfortable enough to publicly enact other relational maintenance behaviors. In other contexts, those same behaviors may make interactants feel awkward, vulnerable, or impolite (e.g., Sias et al., 2012), but in this case, the lighthearted and humorous context was sufficient to encourage them to enact those behaviors.

By leading activities in which participants needed to work together (e.g., balloon volleyball, sharing song lyrics) to accomplish a task and by creating a positive atmosphere (e.g., looking at each other and completing laughter exercises together), participants activated their own relational maintenance efforts, further contributing to the prosocial feelings in the room. Thus, the relational maintenance efforts added onto the positive relational outcomes from humor and laughter and were enabled by those humor exercises. In other words, although participants were their own initiators of these relationship efforts, the program itself provided a context in which they felt comfortable and open to using those strategies, and as a result, many participants left the program feeling closer to others, more content, and happier. As such, this program demonstrates the ways that relational maintenance can be promoted (or inhibited) by context, and in this case, humor served as a promoter of those beneficial relationship behaviors. However, more work is needed to determine the extent to which the humorous nature of the program impacted participants' willingness to engage in these relational maintenance behaviors.

Togetherness vs. Shared Networks. In addition to the theoretical contributions to both humor and relational maintenance scholarship, this project also contributes to scholarly knowledge of human connection. One of the various relational maintenance behaviors listed by Stafford and Canary (1991) is shared networks. This behavior was used by participants in this program, as they interacted with others outside their dyads and engaged in activities together with other participants. Importantly, the findings from this project highlight the overlaps and differences between feelings of connection *within* a relationship or dyad (communal orientation of togetherness or "we-ness"; Afifi et al., 2016; Rohrbaugh, 2021) and feelings of connection with people *outside* the relationship (*shared networks*; Stafford & Canary, 1991). Much research on dementia-impacted relationships highlights one or the other of these concepts, encouraging PWDs and CPs to maintain their networks (e.g., Alzheimer's Association, 2023; Lewis et al., 2013; Sabatini et al., 2024) or evaluating how they maintain connection with each other (e.g., Alzheimers.gov., n.d.; Better Health Channel, 2014; Griggs et al., 2020; Majlesi & Ekström, 2016). Indeed, both behaviors are crucial for relational satisfaction and well-being, and this study highlights more clearly the way that connection efforts within and outside the dyad can help maintain the dyadic relationship itself. Moreover, this program allowed participants to do both simultaneously, working together as a unit within their dyads while also connecting with others outside that relationship. Thus, for people in dementia-impacted relationships, remaining embedded in a larger community is likely highly beneficial, and doing so together, with both PWD and CP, will bring about greater well-being not only for the two individuals but also for their dyadic relationship.

Practical Implications

Practically, this study demonstrates that PWDs and CPs can and should engage in humor, even when that humor or laughter does not arise organically. Prompted and intentional humor can produce positive outcomes in relationships, so in dementia-impacted relationships, finding ways to intentionally use prosocial humor can positively influence both partners' emotions and the relationship itself. To help them accomplish this, future humor programs for PWDs and CPs should incorporate some of the most successful elements of this intervention while attempting to improve some of the shortcomings such as video/audio quality, differences in humor preference, collecting data without the use of surveys, and continuing to utilize easy-to-understand forms of humor.

Furthermore, working closely with representatives from the community in which the program will be implemented is highly recommended. The concepts and decisions made for this program were largely based on the community partner's extensive history and practical knowledge of activities that work well and those that would not be well-received by their community members. Interestingly, the activity most-enjoyed by participants (balloon volleyball) was selected and led by the community partner based on their unique and localized knowledge of previous programs. This demonstrates the powerful and positive outcomes that can result when scholarly researchers work closely with practitioners. The pairing of theoretical knowledge (by researchers) with the situated knowledge and practical awareness of practitioners leads to stronger and more impactful programs and outcomes for participants and community members, and this pairing is thus an incredibly valuable use of time. More specifically, academic researchers greatly benefit from drawing on the lived experiences and knowledge of community partners, as that information is not knowable without active involvement in communities and populations; in this case, the lead researcher had no evidence or prior knowledge of how well these activities would be received, but the community partner's confidence and suggestions based on past experiences shaped the success of the program. Likewise, the researcher's knowledge of what elements should be included based on prior studies and theoretical knowledge allowed the program leadership team to define boundaries and build a program that was set up for positive outcomes, unlike a previous program attempt by the community partner. Building partnerships between stakeholders (i.e., researchers and community practitioners) pairs the bases of both community and empirical knowledge, and that pairing allows for stronger studies, better programming, and improved community outcomes.

Notably, the lead researcher spent several years building connections with this community partner prior to beginning this project, which provided the opportunities for open conversations, a deeper understanding of how the organization operates, and stronger decisions regarding the foundational concepts that should be incorporated into the program. That relationship built an increased chance of success as it allowed the program to be solidly built on both real-world experiences (shared by the community partner) and theoretical knowledge from other research findings (shared by the researcher), and this valuable collaboration is likely responsible for the program's success. Without either of these areas of expertise, the program would not have succeeded. Therefore, future interventional programs for dementia-impacted communities—whether humor-focused or not—should be built in partnership with those communities, respecting and attending to their needs, norms, and expectations while remaining informed by research to create the best possible outcomes for participants. However, the time and effort required to build these community connections should not be taken lightly. Even as this engaged project points to the powerful outcomes that can result when scholarly researchers and community organizations combine efforts to create programs, systematic changes are needed to further encourage scholars and practitioners to build these connections and work together to co-create knowledge.

Limitations & Future Directions

Finally, as with all research, this study was marked by several limitations. First, the studied population was relatively homogenous. Most participants were White, and many dyads included a female CP and a male PWD. As racial and gender identity are each closely linked to dementia-related experiences (Weiss, 2021), these results may have differed significantly with a more diverse population. Therefore, future studies should assess interventional outcomes on more diverse samples to determine differences and similarities across identities.

Similarly, most PWDs in the studied population had mild to moderate dementia or memory impairment (personal communication with nonprofit organization leader, June 20, 2023). As dementia progresses, a person’s ability to accomplish tasks, follow directions, and interact with others diminishes significantly (Alzheimer’s Association, 2023), making partner and group activities more difficult. As such, these findings and interventional benefits are limited to populations and relationships that are affected with milder cognitive impairment and may not be as feasible or beneficial for those with more advanced forms of dementia. Future work is needed to determine how humor and laughter might be incorporated into advanced dementia care or relationships to benefit those individuals.

Additionally, although 78 participants (38 PWDs, 40 CPs) attended these events, only 31 post-test surveys were collected (78% of surveys that could have been collected), so some participants’ thoughts and reflections were not captured in the survey data. Some participants had limited abilities to write survey responses (e.g., “Due to health issues we didn’t want to complete surveys”; anonymous) and others completed only part of the survey (e.g., only filled out responses for CP or PWD, only completed the first two pages of the survey, etc.). This completion percentage is relatively consistent with other research conducted in this community (e.g., Faw et al., 2022), but the incomplete dataset limits the whole-group conclusions that can be drawn from this sample. Therefore, future studies should consider alternative methods of collecting feedback (e.g., interviews) or consider ways to increase survey completion rates (e.g., compensation, PWD-specific activities, etc.). Moreover, some participants clearly misunderstood some of the survey questions. For example, several participants responded in positive ways to questions about suggested changes, and when asked about the duration of their care provision, some CPs listed 50+ years, suggesting that they may have been thinking about general care rather than dementia-specific care. Similarly, at one event, a participant specifically asked for clarification on which side of the survey was for the CP and which side was for the PWD (labeled as "care partner" and "loved one"). As such, future surveys should be tested on a wider set of participants before being implemented, and points of clarification or examples should be provided to individuals when passing out the survey and in writing on the survey itself.

Fourthly, this program was a one-time humor program for PWDs and CPs, so only short-term outcomes were assessed. However, because humor can have long-term effects on individuals and their relationships (e.g., Chida & Steptoe, 2008; Fritz, 2020; Svebak et al., 2006), evaluating the longer-lasting impacts on people who participate in humor activities regularly is a logical and valuable next step for the research community. Considering how repeated engagement in a humor program impacts outcomes, or assessing health, mood, well-being, and relational closeness after a longer duration of time has passed since the program's conclusion may lead to different but equally interesting results.

Finally, according to the community partner, numerous participants in this program regularly attended other Memory Cafés. This means that many of the participants were at least somewhat acquainted with other participants and had a prior relationship with them. Because humor is so contextual and outcomes are linked to relational understandings (e.g., Bitterly et al., 2017), the outcomes described here may have been significantly different if all participants had been total strangers, or if all participants were previously acquainted with one another. In this case, several participants reported enjoying the "togetherness" aspect of the program, but these comments may reflect their enjoyment of seeing friends and acquaintances rather than their understanding of the program's creation of "together time" or social experiences. Future research should more closely assess the outcomes of this type of interventional humor program across different relationship types to determine whether this program is possible and beneficial for strangers, acquaintances, or close friends/family members, as outcomes may look different depending on the level of closeness of participants.

Conclusion

The goal of this project was to design and implement an interventional program in which PWDs and CPs engaged in humor-based activities to create positive individual and relational outcomes. In general, this goal was achieved by using a highly engaged, mixed methods approach to research. Although improvements are possible for this program, the outcomes connected to participation in this program were largely positive and point to the exciting potential for humor programming in dementia communities and relationships. Just as people use humor to cope with a variety of non-funny situations, people in dementia-impacted relationships can and should use humor to create positive, prosocial experiences and to find joy in their dementia journey together. Even as dementia is not a laughing manner, the ability to laugh in dementia-impacted relationships is important and beneficial for the people in those relationships and is a behavior that should be strongly encouraged.

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APPENDIX A: HUMOR PROGRAM AGENDA

The following activities were used in the humor intervention. The sessions lasted 90 minutes, with a planned (about) 60 minutes of activities. Two session leaders—the community partner's organizer of Memory Cafés and the lead researcher—gave instructions and guided participants through each activity at the appropriate time. Prior to these activities, participants were invited to complete a pre-session survey, and two post-event surveys were passed out at the end of the session.

Arrival & Pre-Café Survey **10 min**

Greeting, passing out name tags, explaining survey, mingling time between attendees, snacks are distributed, pairs are invited to fill out survey together, and any funny outfits are shared and explained at the tables

Silly sing-along **10 min**

Lyric sheets are distributed to pairs of attendees, and songs are played which attendees are encouraged to sing out loud.

Humor education (basic) **3 min**

Fun facts about humor's connection to health are shared by the leader.

Laughter Yoga Exercises **4 min**

2-3 short partner- or individual-based activities, such as raising arms overhead while breathing in, then lowering arms while laughing loudly.

Video viewing **10 min**

Clips from I Love Lucy *and* The Carol Burnett Show *are played on a projector. Participants are invited to laugh out loud when they find things funny.*

Joke-telling (with intentional laughter) **8 min**

Each person reads jokes from a provided jokebook to their partner or their tablemates. People are encouraged to laugh out loud after each joke to promote health outcomes.

Group Chat: Photos (reminiscing), "Who was funnier?", Finish the statements… **8 min**

Leader invites stories or input from attendees in a conversation involving reminiscing and thinking about people's own experiences with humor.

Chair dancing **7 min**

Attendees are invited to dance in their chairs, stomp their feet, sway, or sing. Songs snippets include The Y.M.C.A., Splish Splash, *and the* Chicken Dance.

Balloon Pass & Laugh **8 min**

Each table is given a smiley-face balloon. They try to keep the balloon in the air by hitting it between attendees while an upbeat song is played in the background.

Post-Café Survey & Departure **10 min**

Pairs are invited to fill out survey together | Mingling | Farewell gifts

APPENDIX B: PRE-PROGRAM SURVEY

Responses about Person A (Support Partner)

1. ***Name*** *(first and last):*

2. ***Birthday:*** _____________ __________, __________
Month Day Year

3. ***Gender*** *(circle one):*

Male Female Other: ___________________

4. *What is your* ***racial/ethnic background****? (Check all that apply)*
- ☐ White / Caucasian
- ☐ Latinx / Hispanic
- ☐ Black / African American
- ☐ Pacific Islander / Native Hawaiian
- ☐ American Indian / Native American
- ☐ Other: ___________________

5. *What is your* ***educational background****?*
- ☐ Some high school education, no diploma
- ☐ High school diploma
- ☐ Some college, no diploma
- ☐ Associate degree
- ☐ 4-year college degree (BA or BS)
- ☐ Master's degree
- ☐ Doctoral-level degree (PhD, JD, MD, DVM, DMD, etc.)

6. *Are you primarily responsible for your loved one's care?* **Yes** **No**

7. *Circle your* ***relationship*** *to the person with you today.* ***They are my…***

Spouse Sibling Parent

Child Friend Other: _______________

Responses about Person B (loved one)

(Note: You may collaborate on these responses!)

1. ***Name*** *(first and last):*

2. ***Birthday:*** _____________ __________ , __________
Month Day Year

3. ***Gender*** *(circle one):*

Male Female Other: ___________________

4. ***Racial/ethnic background*** *(Check all that apply):*
- ☐ White / Caucasian
- ☐ Latinx / Hispanic
- ☐ Black / African American
- ☐ Pacific Islander / Native Hawaiian
- ☐ American Indian / Native American
- ☐ Other: ___________________

5. ***Educational background****:*
- ☐ Some high school education, no diploma
- ☐ High school diploma
- ☐ Some college, no diploma
- ☐ Associate degree
- ☐ 4-year college degree (BA or BS)
- ☐ Master's degree
- ☐ Doctoral-level degree (PhD, JD, MD, DVM, DMD, etc.)

8. For care partners only:
How long *have you been* ***providing care*** *for this person?*

About _________ years

9. For care partners only:
How long have they been ***showing signs*** *of memory difficulties?*

Showing signs for about ______ years

(If applicable) Diagnosed in _________
Year

10. ***How do you feel at this moment?*** *(Circle one image)*


Very Sad


Somewhat Sad


Neutral


Somewhat Happy


Very Happy

11. Rate the degree to which each statement applies to ***your communication (in general)****.*

	Strongly Disagree		Neutral		Strongly Agree
a. People usually laugh when I tell jokes or funny stories.	1	2	3	4	5
b. My friends would say I am a funny person.	1	2	3	4	5
c. Even funny jokes seem flat when I tell them.	1	2	3	4	5
d. I can easily remember jokes and stories.	1	2	3	4	5
e. Of all the people I know, I am one of the funniest.	1	2	3	4	5
f. I use humor to communicate in a variety of situations.	1	2	3	4	5

6. ***How does your loved one feel at this moment?*** *(Circle one image)*


Very Sad


Somewhat Sad


Neutral


Somewhat Happy


Very Happy

7. Rate the degree to which each statement applies to ***your loved one's communication (in general)****.*

	Strongly Disagree		Neutral		Strongly Agree
a. People usually laugh when they tell jokes or funny stories.	1	2	3	4	5
b. Their friends would say they are a funny person.	1	2	3	4	5
c. Even funny jokes seem flat when they tell them.	1	2	3	4	5
d. They can easily remember jokes and stories.	1	2	3	4	5
e. Of all the people they know, they are one of the funniest.	1	2	3	4	5
f. They use humor to communicate in a variety of situations.	1	2	3	4	5

*12. Please indicate the point on the scale that best describes **you**.*

*a. In **general**, I consider myself:*

not a very happy person 1 2 3 4 5 6 7 a very happy person

*b. Compared with most of **my peers**, I consider myself:*

less happy 1 2 3 4 5 6 7 more happy

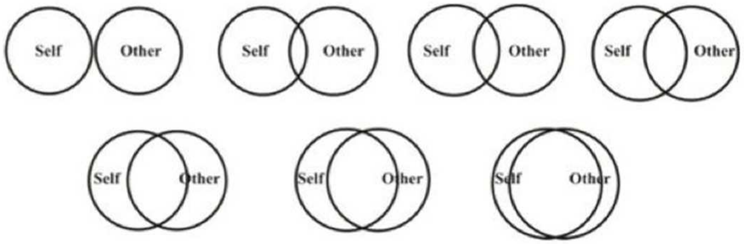
*c. Some people are generally **very happy**. They enjoy life regardless of what is going on, getting the most out of everything. This describes me…*

not at all 1 2 3 4 5 6 7 a great deal

*d. Some people are generally **not very happy**. Although they are not depressed, they never seem as happy as they might be. This describes me…*

not at all 1 2 3 4 5 6 7 a great deal

*8. Mark the picture that best describes **your current relationship with the person with you today**.*



*9. Please indicate the point that best describes **your loved one**.*

*a. In **general**, they are:*

not a very happy person 1 2 3 4 5 6 7 a very happy person

*b. Compared with most of **their peers**, they are:*

less happy 1 2 3 4 5 6 7 more happy

*c. Some people are generally **very happy**. They enjoy life regardless of what is going on, getting the most out of everything. This describes them…*

not at all 1 2 3 4 5 6 7 a great deal

*d. Some people are generally **not very happy**. Although they are not depressed, they never seem as happy as they might be. This describes them…*

not at all 1 2 3 4 5 6 7 a great deal

*13. Please circle the number on the scale best represents **how you feel** on each of the following questions.*

	Very Poor				Very Good
*a. How would you rate your **quality of life**?*	1	2	3	4	5
	Very Dissatisfied				Very Satisfied
*b. How satisfied are you with your **health**?*	1	2	3	4	5
	Very Dissatisfied				Very Satisfied
*c. How satisfied are you with your **ability to perform your daily living activities**?*	1	2	3	4	5
	Not at all		Moderate amount		Extremely
*d. How much do you **enjoy life**?*	1	2	3	4	5
	Very Dissatisfied				Very Satisfied
*e. How satisfied are you with your **personal relationships**?*	1	2	3	4	5
	Not safe			Extremelyat all safe	
*f. How **safe** do you feel in your daily life?*	1	2	3	4	5

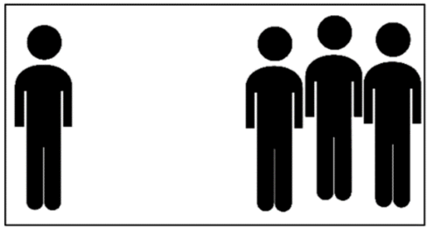
*10. In the **last week**, please indicate **how often your loved one has felt**…*	Not at all	A little	Quite a bit	A lot
a. Cheerful	1	2	3	4
b. Worried or anxious	1	2	3	4
c. That they were enjoying life	1	2	3	4
d. Frustrated	1	2	3	4
e. Confident	1	2	3	4
f. Full of energy	1	2	3	4
g. Sad	1	2	3	4
h. Lonely	1	2	3	4
i. Distressed	1	2	3	4
j. Lively	1	2	3	4
k. Irritable	1	2	3	4
l. Fed up	1	2	3	4
m. They wanted to do things but couldn't	1	2	3	4

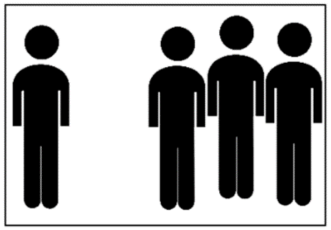
*11. In the **last week**, please indicate **how worried your loved one has been** about…*	Not at all	A little	Quite a bit	A lot
a. Not having enough company	1	2	3	4
b. How they get on with people close to them	1	2	3	4
c. Getting the affection they want	1	2	3	4
d. People not listening to them	1	2	3	4
e. Making themself understood	1	2	3	4
f. Getting help when they need it	1	2	3	4
g. How they feel in themself	1	2	3	4
h. Their health overall	1	2	3	4

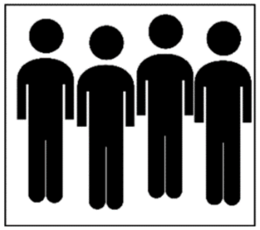
*12. Based on your responses above (#10 & 11), how would you rate your loved one's **quality of life overall in the last week**? (Circle one)*

Poor Fair Good Very good

14. Which image best shows ***how connected you feel to others right now****? (Check one image)*

☐ 

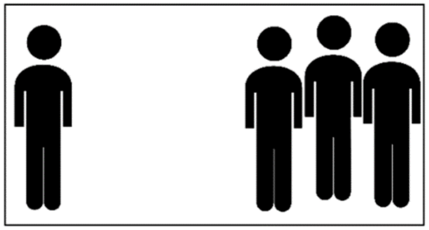
☐ 

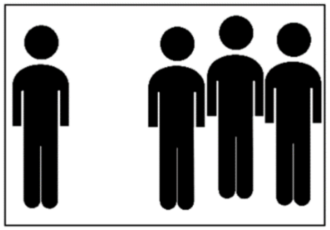
☐ 

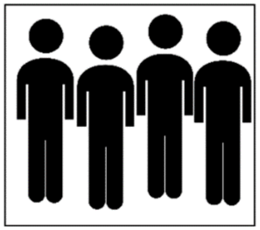
15. Below, please mark any words that describe ***your current mood****.*

- ☐ Alert
- ☐ Attentive
- ☐ Distressed
- ☐ Enthusiastic
- ☐ Excited
- ☐ Interested
- ☐ Irritable
- ☐ Nervous
- ☐ Proud
- ☐ Upset

13. Which image best shows how connected ***your loved one*** *feels to others right now? (Check one image)*

☐ 

☐ 

☐ 

14. Below, please mark any words that describe ***your loved one's current mood****.*

- ☐ Alert
- ☐ Attentive
- ☐ Distressed
- ☐ Enthusiastic
- ☐ Excited
- ☐ Interested
- ☐ Irritable
- ☐ Nervous
- ☐ Proud
- ☐ Upset

Thank you for filling out this survey!

APPENDIX C: POST-PROGRAM SURVEY

<u>Responses about Person A (Support Partner)</u>

1. ***Name*** *(first and last):*

2. *Please think about your experiences* ***during today's program*** *(the past 1-2 hours). To what extent do each of the following statements describe how you felt?*

	Strongly Disagree				Strongly Agree
a. I felt distant from people	1	2	3	4	5
b. I didn't feel related to most people	1	2	3	4	5
c. I felt like an outsider	1	2	3	4	5
d. I felt like I was able to connect with other people	1	2	3	4	5
e. I felt disconnected from the world around me	1	2	3	4	5
f. I felt close to people	1	2	3	4	5
g. I saw people as friendly & approachable	1	2	3	4	5
h. I felt accepted by others	1	2	3	4	5
i. I had a sense of belonging	1	2	3	4	5
j. I felt a strong bond with other people	1	2	3	4	5

3. ***How do you feel at this moment?*** *(Circle one image)*


Very Sad


Somewhat Sad


Neutral


Somewhat Happy


Very Happy

<u>Responses about Person B (loved one)</u>

(Note: You may collaborate on these responses!)

1. ***Name*** *(first and last):*

2. *Please think about your loved one's experiences* ***during today's program*** *(the past 1-2 hours). To what extent do each of the following statements describe* ***how your loved one felt****?*

	Strongly Disagree				Strongly Agree
a. They felt distant from people	1	2	3	4	5
b. They didn't feel related to most people	1	2	3	4	5
c. They felt like an outsider	1	2	3	4	5
d. They felt like they were able to connect with other people	1	2	3	4	5
e. They felt disconnected from the world around them	1	2	3	4	5
f. They felt close to people	1	2	3	4	5
g. They saw people as friendly & approachable	1	2	3	4	5
h. They felt accepted by others	1	2	3	4	5
i. They had a sense of belonging	1	2	3	4	5
j. They felt a strong bond with other people	1	2	3	4	5

3. ***How does your loved one feel at this moment?*** *(Circle one image)*


Very Sad

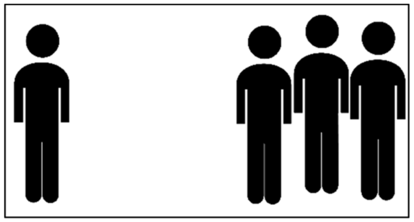

Somewhat Sad

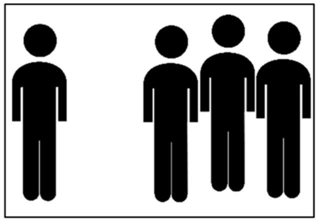

Neutral

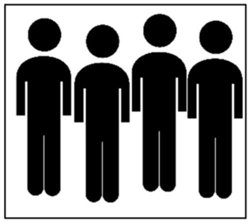

Somewhat Happy


Very Happy

4. Which image best shows ***how connected you feel to others right now****? (Check one image)*

☐ 

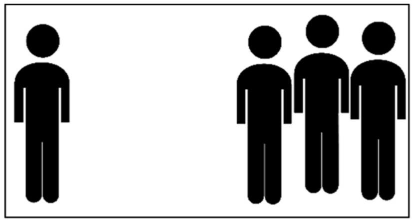
☐ 

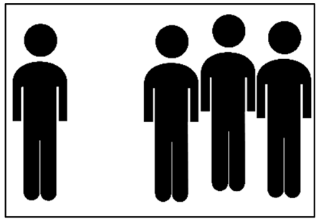
☐ 

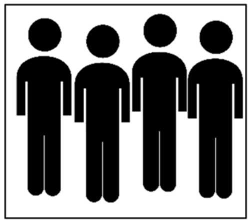
5. Below, please mark any words that describe ***your current mood****.*

- ☐ Alert
- ☐ Attentive
- ☐ Distressed
- ☐ Enthusiastic
- ☐ Excited
- ☐ Interested
- ☐ Irritable
- ☐ Nervous
- ☐ Proud
- ☐ Upset

4. Which image best shows how connected ***your loved one*** *feels to others right now? (Check one image)*

☐ 

☐ 

☐ 

5. Below, please mark any words that describe ***your loved one's current mood****.*

- ☐ Alert
- ☐ Attentive
- ☐ Distressed
- ☐ Enthusiastic
- ☐ Excited
- ☐ Interested
- ☐ Irritable
- ☐ Nervous
- ☐ Proud
- ☐ Upset

6. Please circle the extent to which you agree or disagree with the following statements ***about today's program****.*

	Strongly Disagree				Strongly Agree
a. Today's program was enjoyable.	1	2	3	4	5
b. I liked this experience.	1	2	3	4	5
c. This program was a good use of my time	1	2	3	4	5
d. This program made me feel closer to my partner	1	2	3	4	5
e. I feel *happier* than I did before participating in this program	1	2	3	4	5
f. I am *more stressed* than I was before participating in this program	1	2	3	4	5
g. We had fun together during today's program.	1	2	3	4	5
h. I feel *lonelier* than I did before participating in today's program	1	2	3	4	5

7. I would ***rate this experience…*** *(circle one)*

Terrible Poor Okay Good Excellent

6. Please circle the extent to which ***your loved one*** *agrees or disagrees with the following statements* ***about today's program****.*

	Strongly Disagree				Strongly Agree
a. Today's program was enjoyable.	1	2	3	4	5
b. I liked this experience.	1	2	3	4	5
c. This program was a good use of my time	1	2	3	4	5
d. This program made me feel closer to my partner	1	2	3	4	5
e. I feel *happier* than I did before participating in this program	1	2	3	4	5
f. I am *more stressed* than I was before participating in this program	1	2	3	4	5
g. We had fun together during today's program	1	2	3	4	5
h. I feel *lonelier* than I did before participating in today's program	1	2	3	4	5

7. My ***loved one*** *would rate this experience … (circle one)*

Terrible Poor Okay Good Excellent

Please complete the following statements. You may collaborate together on these responses!

8. The **best part** of this program was…

9. My **favorite activity** in today's program was…

10. My **loved one's favorite activity** in today's program was…

11. In the future, I would **change** this program in the following ways:

12. During this program, **I did not enjoy**…

APPENDIX D: POST-PROGRAM ANONYMOUS SURVEY

This anonymous survey was passed out to participants after the activities concluded. This was a half-page survey that was not linked to their name in any way.

Please respond to the following questions. Your answers are completely anonymous and are not linked to your identity in any way.

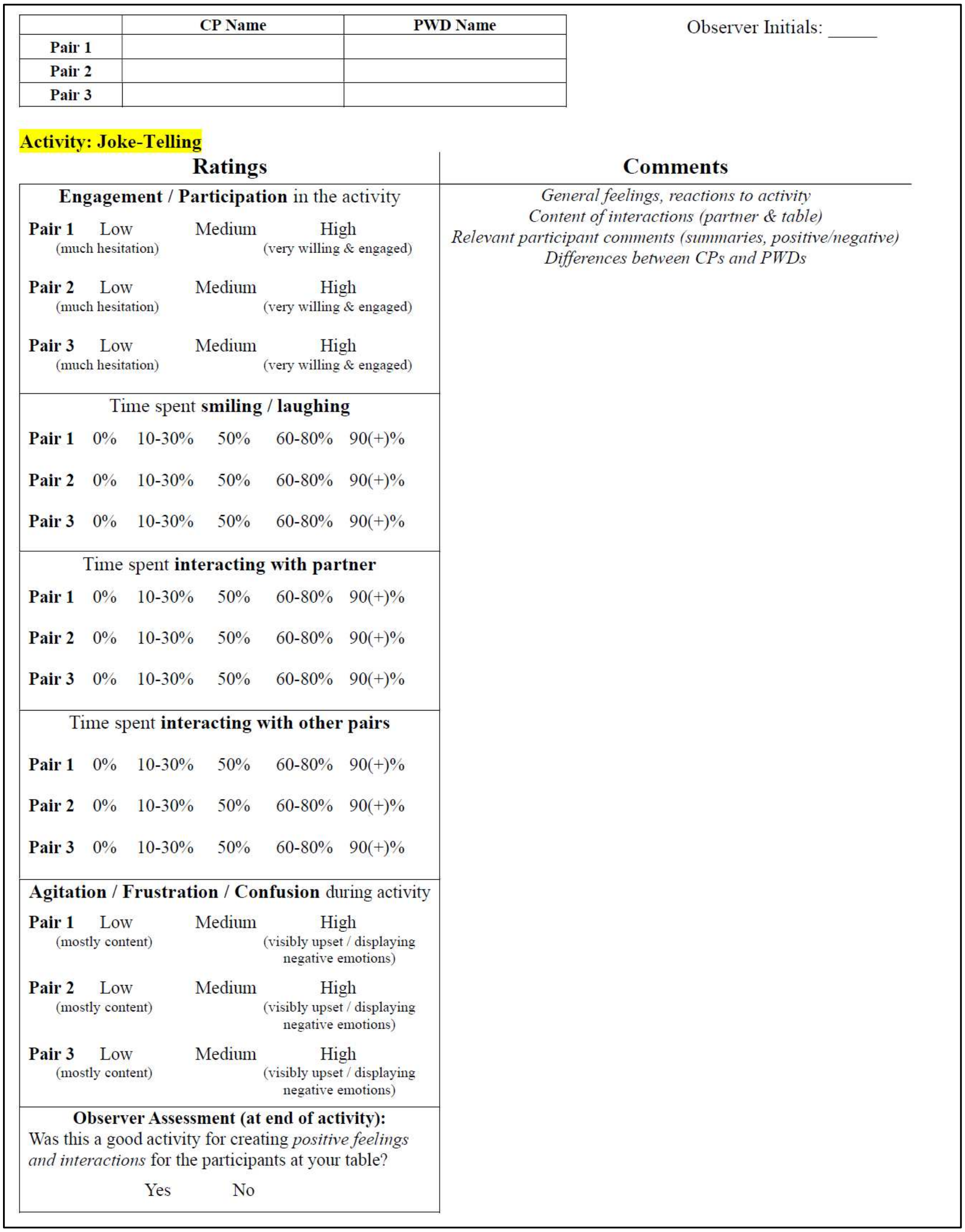
1. **What <u>one word</u> would you use to describe today's Memory Café?**

2. **What <u>critiques</u> do you have about the program?**

3. **What else would you like the program leaders to know about your experiences in this Memory Café session?**

APPENDIX E: OBSERVERS’ NOTE-TAKING FORMS

Observers took notes and tracked their thoughts and observations using the following forms. Each observer was assigned to a set of participant pairs, and they used a new observation sheet for each activity.



	CP Name	**PWD Name**
Pair 1		
Pair 2		
Pair 3		

Observer Initials: _____

Activity: Joke-Telling

Ratings

Engagement / Participation in the activity

Pair 1 Low (much hesitation) Medium High (very willing & engaged)

Pair 2 Low (much hesitation) Medium High (very willing & engaged)

Pair 3 Low (much hesitation) Medium High (very willing & engaged)

Time spent **smiling / laughing**

Pair 1 0% 10-30% 50% 60-80% 90(+)%

Pair 2 0% 10-30% 50% 60-80% 90(+)%

Pair 3 0% 10-30% 50% 60-80% 90(+)%

Time spent **interacting with partner**

Pair 1 0% 10-30% 50% 60-80% 90(+)%

Pair 2 0% 10-30% 50% 60-80% 90(+)%

Pair 3 0% 10-30% 50% 60-80% 90(+)%

Time spent **interacting with other pairs**

Pair 1 0% 10-30% 50% 60-80% 90(+)%

Pair 2 0% 10-30% 50% 60-80% 90(+)%

Pair 3 0% 10-30% 50% 60-80% 90(+)%

Agitation / Frustration / Confusion during activity

Pair 1 Low (mostly content) Medium High (visibly upset / displaying negative emotions)

Pair 2 Low (mostly content) Medium High (visibly upset / displaying negative emotions)

Pair 3 Low (mostly content) Medium High (visibly upset / displaying negative emotions)

Observer Assessment (at end of activity):
Was this a good activity for creating *positive feelings and interactions* for the participants at your table?

Yes No

Comments

General feelings, reactions to activity
Content of interactions (partner & table)
Relevant participant comments (summaries, positive/negative)
Differences between CPs and PWDs