A Comprehensive Review of Interventions Impacting Physical and Mental Wellbeing Associated with the Move Your Mood (MYM) Pilot Program for Older Adults

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The research-based Move Your Mood (MYM) program was developed to enhance the physical and mental well-being of participants by promoting physical activity (PA) and healthy lifestyle practices (Alberta Health Services, 2024). MYM encompasses four pillars of health, focusing on moving (physical activity) and fueling (nutrition) participants' bodies, practicing mindfulness and expanding one's mind by building coping strategies. Initially developed for children and youth, this initiative is currently being expanded via a MYM pilot program directed at the well-being of older adults. The MYM program is firmly grounded in research, with considerable evidence supporting positive relationships between each of the four pillars of health and quality of life (QoL) (defined as "the individual's perception of his/her position in life, within the context of culture and value systems in which he/she lives and in relation to his/her objectives, expectations, standards and concerns"- World Health Organization, 2020b). This evidence instills confidence in the potential benefits arising from interventions constructed to augment the successful aging of this cohort. The purpose of the following literature review is to explore this evidence, further bolstering confidence in the MYM program's efficacy for older adults.

According to Rowe and Kahn (1997), successful ageing comprises three primary components: high physical and cognitive functioning, low probability of disability and disease, and active social engagement. With the number of older adults anticipated to almost double from 2015 to 2050 (Bauman et al., 2016; World Health Organization, 2020a), the ageing population will also see increases in multimorbidity- "the coexistence of two or more chronic diseases in one individual" (Afshar et al., 2015, p. 1). Tackling multimorbidity remains a global primary challenge, compelling the need for interventions as possible solutions to reduce the factors driving multimorbidity prevalence. Communities adapting to this shifting demographic and participating in healthy ageing can empower older adults to live longer and healthier lives (World Health Organization, 2020a). As such, MYM embodies these solutions to the three components of successful aging, as evidenced in this review.

The protocol followed in conducting this review was as follows: Keywords searched were "older adults," "physical activity," "exercise," "nutrition," "mindfulness," "spirituality," "successful ageing," and "quality of life" from databases such as EBSCO Host, PsychInfo, Academic Search Ultimate, PubMed, JSTOR, ScienceOpen and ScienceDirect. The inclusion criteria for this review included a selection of articles comprising Cochrane reviews, systematic reviews, meta-analyses, and original studies, all ranging between 2010 and 2024. This includes using randomized control trials where possible but allowing for less robust studies if necessary, considering them as references to the best evidence available.

Move Your Body

Likely, the most prominent and researched mainly of the four pillars are the benefits of PA. The Government of Canada (2019) recommends that adults over 65 partake in a minimum of two and a half hours (150 minutes) of moderate to vigorous aerobic activity each week and bone and muscle strengthening at least twice a week. The benefits associated with higher levels of physical activity are many, including increased quality of life and mental health, improved balance, reduced falls and injuries, greater independence, and improved cognitive function and mood (Barcelos et al., 2015; Bauman et al., 2016; Bootsman et al., 2018; Maxwell & Lynn, 2015; Thom et al., 2021; Xu et al., 2022). Physical activity is also linked to lower incidences of chronic diseases, including cardiovascular and respiratory, stroke, diabetes, dementia, some

cancers and most vitally, premature death (Bauman et al., 2016; Louw et al., 2012; Malone et al., 2012; Maxwell & Lynn, 2015; Posadzki et al., 2020; Thom et al., 2021).

Benefits to well-being among older adults have been demonstrated via various exercise interventions, including cardiovascular-based training, weight training and balance exercises (Barcelos et al., 2015; Bauman et al., 2016; Maxwell & Lynn, 2015; Xu et al., 2022). Unfortunately, despite the abundance of evidence demonstrating the health benefits, most older adults do not meet the suggested minimum guidelines for PA (Bauman et al., 2016; Dalgas et al., 2024; Thom et al., 2021; Trudelle-Jackson &Jackson, 2018). The potential value of PA-focused interventions is apparent, as, with a rapidly aging population, resources allocated to manage increases in falls and related injuries, chronic diseases, and long-term healthcare costs will increasingly be challenged. Indeed, the theory of Active Aging ("the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age," put forth as a policy framework by the World Health Organization in 2002) describes PA as "the most important determinant of 'active aging' and has a major role in improving the quality of life, in reducing disability, and in the 'compression of morbidity' in later life" (Bauman, 2016, p. 269).

Physical Activity and Falls Risk

One of the most likely and concerning consequences of ageing is perhaps the fear and risk of falling, which can lead to injury and even death (Bootsman et al., 2018). In a study investigating the association between PA and physical and psycho-cognitive functioning, Bootsman and colleagues found that participants who spent more time walking scored higher on balance tests and dual-task abilities and were less likely to exhibit hypertension. They assessed these measures using physiological indicators such as toe-tap tests, grip strength using a calibrated mechanical handgrip dynamometer, leg strength with a calibrated GS-KMT load cell, sit-and-stand tests, and psycho-cognitive functioning questionnaires addressing QoL (Dementia Quality of Life scale; Brod et al., 1999), balance confidence (CONFbal scale; Simpson et al., 2009), fear of falling (Falls Efficacy Scale International-Short Version; Hauer et al., 2011) and cognitive impairment (Jorm & Mackinnon, 1994).

Likewise, Sherrington et al. (2019) analyzed numerous randomized controlled trials (RTCs) evaluating the efficacy of fall prevention interventions in people over 60. They determined that of eighty-one trials (19,684 participants), the rate of falls was reduced by 23% due to exercise of all types (aerobic- treadmill, walking, Wii Fit program, cycle; strength training- body weight, gym equipment, yoga, elastic bands; balance- Pilates, Tai Chi, yoga). Specifically, exercises focusing on balance and function reduced fall rates by 24%; balance and function in conjunction with resistance exercise reduced rates by 34%; and Tai Chi practices reduced rates by 19%. The authors conclude that exercise programs significantly lower the rate of falls in the age 60+ population.

Physical Activity and Chronic Illness

Another salient health outcome affected by sedentary lifestyles is the risk of noncommunicable diseases like cancer, diabetes, and cardiovascular diseases. Indeed, sedentary behaviours are placed amid the top five risk factors for coronary disease (American Heart Association, 2023), and aerobic forms of PA are equated with positive outcomes. The overview and meta-analysis of Cochrane reviews completed by Posadzki et al. (2020) suggest that the effectiveness of PA interventions, including running, walking, swimming, dance and martial arts, decreases mortality rates (13%; 27,671 participants) and increases QoL (33%; 18,391 participants) in healthy and medically compromised individuals. In addition, their review identifies that PA contributes to significantly improved function, mental and physical health, and reduced pain and disability. Maxwell and Lynn (2015) indicate that walking and vigorous aerobic exercise were linked to a lower chance of cardiovascular incidents in women (30-40%) over eight years compared to those who led more sedentary lifestyles. The authors further expressed that regular aerobic exercise alleviates heart disease by decreasing body weight, low-density lipoprotein (LDL) cholesterol and blood pressure.

In addition to aerobic exercise, emerging evidence supports similar benefits for strength training to increase or maintain muscle mass, alleviating the consequences of aging-associated sarcopenia (muscle loss) (Bauman et al., 2016). Grøntved and colleagues (2014) depict that muscle strengthening and conditioning were correlated with a reduced risk of type II diabetes on its own and paired with aerobic exercises in a sample of 100,000 nurses over eight years. Moreover, they purport that their results support meta-analysis findings from RCTs suggesting that resistance training can improve glycemic control and function as another option to aerobic exercise for type II diabetes prevention. In a cross-sectional study with 85 older adults, Trudelle-Jackson and Jackson (2018) observed significantly better grip strength and stair-climbing performance in those who met the muscle-strengthening requirements two or more days per week than those who did not. However, all measures (grip strength, stair climbing, 10-meter walking and sit-to-stand testing) showed better improvement in those who met strength and aerobic guidelines—showcasing yet again the efficacy of PA interventions in older adult health and wellness.

Physical Activity and Cognition

Furthermore, the benefits of PA contribute to cognitive improvements, as evidenced by Barcelos et al. (2015) and Lambourne and Tomporowski (2010). The study by Barcelos et al.

(2015) utilized a dual-task experiment (called exergaming), combining PA (stationary cycling) and interactive virtual reality, to examine the impact on physical function, executive control, and processing speed in older adults to identify interventions to help ameliorate or prevent dementia. Physical outcomes were measured with heart rate monitors on the bikes and via exercise logs filled in by the participants relating to duration, frequency and intensity. Cognitive measures were assessed using a Stroop test (van der Elst et al., 2006), Digit Span (Strauss et al., 2006), and Montreal Cognitive Assessment (MoCA; Nasreddine et al., 2005). The pilot study results were consistent with those of other exergaming RCTs (Anderson-Hanley et al., 2012; Maillot et al., 2012; Shatil, 2013, as cited in Barcelos et al., 2015), noting substantial advantages to executive function. Lambourne and Tomporowski (2010) thoroughly reviewed similar studies comparing dual-task (i.e. exergaming) and single-task (task is performed after PA) studies. Single-task studies showed a slight enhancement in cognitive performance immediately after PA, whereas dual-task studies reported higher gains in cognition.

Of course, PA comes with its limitations. In a study by Louw et al. (2012), exercise motivations and barriers were evaluated, acknowledging that the most commonly identified motives were general health (including controlling weight and managing stress), feeling good/energized, maintaining fitness, and strength and endurance. However, the older adults in the study expressed that lack of knowledge, motivation, and time, as well as health issues, were the primary concerns preventing them from participating in regular exercise routines. Similarly, Malone et al. (2012) highlighted that knowledge, accessibility and exertion prevented an older cohort from starting or maintaining a workout program. These perceived barriers in both studies were higher in participants who did not meet the suggested 150 minutes of weekly activity. Comparatively, Dalgas et al. (2024) examined variations in satisfaction, unfulfillment, and frustration experiences across domains of PA in unique ways. The authors' research identified that motivation is a principal driver for beginning and sustaining PA, encompassing intrinsic (pleasure and satisfaction) and internalized extrinsic (exercising for health) motivations. They linked these motivations to sustained commitment to PA, increased vitality, resilience, and overall well-being. In contrast, they also discovered controlled motivation resulting from pressures or feelings of obligation correlated with maladaptive behaviours and heightened depressive symptoms. Much like the studies from Louw et al. (2012) and Malone et al. (2012), Dalgas and colleagues posit that the type of motivation is guided by autonomy and competence. However, they also connected relatedness as a crucial aspect of motivation. Individuals need to feel connected to foster positive behaviours relating to PA.

Methodological Challenges to Physical Activity

In discussing evidence pertaining to the impact of PA, methodological challenges must also be considered. These include multiple interrelated comorbidities, age-related changes, and generational and social influences, which can imbue study design, data collection, and sampling criteria (Chase, 2013). Such challenges involve careful consideration and adaptive strategies to ensure that studies accurately reflect the complexities and confounding variables of the studied populations. This requires appropriate study designs, comprehensive data collection methods, and thorough sampling criteria to achieve solid and generalizable results. When considering the development of interventions, comorbidities and participant compliance may modify specific protocols, and strict inclusion and exclusion criteria may limit homogenous samples. Moreover, the safety of the participants is paramount in determining the frequency, intensity and delivery methods of PA. Based on the scope of these protocols, compliance with activities may be complex due to the unique and varying degrees of challenges in older adults. Likewise, accurately measuring PA levels is tricky due to dependence on self-report methods like daily logs or questionnaires, which can reflect recall bias and errors affected by age-related deficits.

Fuel Your Body

The Move Your Mood program's second pillar is nutrition and healthy eating practices. Nutrition is a crucial and readily modifiable risk factor for preventing archetypal diseases and impairments linked to aging, such as osteoporosis, macular degeneration, urinary incontinence, constipation, and sleep-related issues, and research has steadily shown a relationship between diet and health (Govindaraju, 2018; Roberts et al., 2021). Moreover, healthy dietary patterns are also associated with preventing sarcopenia, cognitive impairment, dementia, and diabetes, lending to successful aging and better QoL. Leitão and colleagues (2022) explain this further, stating that despite biological changes at the molecular, cellular, physiological and functional levels, lifestyle and dietary patterns can determine the degrees of healthy aging.

Nutrition and Diets

Numerous diets are promoted to older adults, with many making unsubstantiated claims. Evidence-based analysis has demonstrated that the critical components of healthy eating include a high intake of whole grains, fruits and vegetables, legumes, and seafood and a low intake of carbohydrates, processed meats, sweetened foods, and refined grains (Govindaraju, 2018). Notably, the Mediterranean diet repeatedly emerged as employing these critical components in the literature. This diet has been linked to reduced body mass, inflammation and frailty, lower risk of cardiovascular events, cessation of hypertension, better brain function and mental health, decreased psychological distress and mortality, and overall better QoL (Govindaraju, 2018; Leitão et al., 2022; Milte & McNaughton, 2016). Typical Western diets, on the other hand, which are high in saturated fats, salt, and processed foods and low in critical components, have consistently been found to be associated with adverse effects on immunity, chronic diseases, cardiovascular events, diabetes, cancer, asthma, cognitive function, mental health, and depressive symptoms (Govindaraju, 2018; Leitão et al., 2022).

Unfortunately, inaccurate perceptions of old age and the aging process held by older adults are a significant factor in reluctance to change dietary behaviours. Many older adults normalize their conditions, like being overweight or in poor health, as par for the course or believe they are as healthy as can be for their age (Bardach et al., 2016). At the same time, the emergence of adverse health outcomes (or the desire to avoid or minimize these) and the anticipated benefits of lifestyle changes can be powerful motivators. For example, adverse experiences like breathing issues and diminished daily functioning, as well as the desire to avoid medications and to look and feel better, are strong predictors of dietary change in older adults. Unfortunately, for many older adults, these motivations do not always manifest in dietary change due to social barriers such as socioeconomic status, especially with the fast-rising prices of groceries and healthy foods. (Govindaraju et al., 2022).

Other diet influences in older populations, like physical and social limitations, can also contribute to nutrition deficits. The physiological changes that happen with aging, like diminished smell and taste, xerostomia (dry mouth), and malabsorption due to gastrointestinal changes, can affect food intake and impact the energy requirements needed as people age (Leslie & Hankey, 2015). These influences are marked by decreases in appetite, preferences and quantity of food, dentition and digestion problems, and chewing ability (Govindataju et al., 2022). Also, social factors such as distance to grocery stores when transportation is limited, inability to stand for long periods to cook, store layouts and heavy shopping carts, bereavement and social isolation may affect the amounts and quality of food bought by older cohorts.

Because of these reasons, meeting the nutritional needs of older people is not always attainable, and thus, nutritionally complete supplementation intervention is often used (Leslie & Hankey, 2015; Roberts et al., 2021). Malnutrition can manifest as under and over-consumption, extending the risk of nutrient deficits, obesity or low body mass index (BMI), morbidity and mortality. Supplementation of vitamin D and protein are especially essential as they contribute to bone and muscle strength as well as functional capacity and increased energy levels and help to decrease the risk of osteoarthritis, osteoporosis and falls. Additionally, coenzyme Q10, a naturally occurring biochemical and antioxidant in our bodies and food, which helps convert food into energy (Sood et al., 2024), in conjunction with the Mediterranean diet, shows higher urinary metabolite excretions linked to oxidative stress and decreases in inflammatory responses (Leitão et al., 2022).

Nutrition and Weight Management

Weight management is also crucial in older populations to aid in reducing disease risk and advancement of QoL (Leslie & Hankey, 2015). BMI values higher than 25.0 are considerably correlated with frailty, functional limitations, cognitive decline and dementia, sleep apnea, diabetes, hearing loss and urinary incontinence, cardiovascular disease and cancer (Roberts et al., 2021). Encouragingly, 50% of individuals with type 2 diabetes who attained a mean weight loss of 10% have achieved remission through modified nutritional behaviours. Maintaining an appropriate weight can also expedite healing from surgeries and illness (Bardach et al., 2016). Still, losing weight and maintaining it is a difficult task. However, it can be mediated through social learning theory and group or individual counselling methods, which have proven helpful in long-term weight loss (Clark et al., 2010).

Methodological Challenges to Nutrition

Similar to the methodological challenges facing the assessment of PA, nutrition interventions also have limitations. Correctly quantifying dietary intake is troublesome due to self-report methods resulting in bias and recall error (Aparicio et al., 2019; Govindaraju et al., 2018; Milte & McNaughton, 2016). Finding a homogenous sample can also be problematic because age, gender, socioeconomic status, and culture influence dietary habits (Govindaraju, 2022; Milte & McNaughton, 2016). In addition, various methods for measuring dietary intake (e.g., biomarkers, 24-hour recalls, and food frequency questionnaires) have differing levels of accuracy and reliability, making it problematic to compare results across studies (Clark et al., 2010; Leitão et al., 2022; Milte & McNaughton, 2016). Regardless of these challenges, research demonstrates that by implementing sufficient nutrition and supplementation, older adults can prevent the chances of disease, enhance longevity and augment QoL and healthy aging.

Practice Mindfulness

The third pillar of the MYM is the practice of mindfulness. According to Kayser et al. (2023), mindfulness can be defined as " the awareness that arises from paying attention, on purpose, in the present moment and non-judgmentally" (p. 1). Numerous mindfulness-based interventions exist and have been shown to positively impact various indices of mental and physical well-being in older adults experiencing a range of conditions, including cancer, stroke, insomnia and dementia (Li & Bressington, 2019). Some examples of interventions employing mindfulness include: Mindfulness-Based Stress Reduction (MBSR), a group intervention

including techniques like formal meditations, yoga, and everyday mindfulness and psychoeducation relaying info about stress, anxiety and pain; Mindfulness-Based Cognitive Therapy (MBCT); another group intervention that focuses on cognitive behavioural therapy and incorporates psychoeducation, mindfulness meditation and three-minute breathing sessions to ward off depressive relapses and reduce psychological distress; and finally, Mindfulness Training (MT), which consists of two components: activation of sustained and selective attention, inhibitory control and working memory; and equanimity, or calming of the mind. (Kayser et al., 2023; Li & Bressington, 2019; Sanchez et al., 2022). The primary goal of MT is to divert attention from distractions to intentional breathing, but it does not include relaxation techniques or psychoeducation. Evaluation of such interventions provides robust evidence of improvements in many cognitive outcomes, including attention, memory, and executive function, as well as decreases in stress and anxiety, depressive symptoms, negative mood, and pain. (Kayser et al., 2023; Nijjar et al, 2019; Sanchez et al., 2022).

Mindfulness and Stress

Of course, one of mindfulness's primary functions is to reduce stress correlated with adverse effects. In a systematic review and meta-analysis, Querstret and colleagues (2020) assert that MBSR and MBCT significantly lowered symptoms of stress and psychological distress, anxiety, depression, worry, and rumination. They further express that these approaches may show efficacy for subclinical levels of poor mental health. Through mindfulness practice, awareness of physical, emotional and cognitive processes is cultivated, enabling individuals to experience them nonreactive and nonjudgmentally, thereby increasing psychological flexibility and lowering maladaptive reactions and habits. Moreover, the authors posit that MBSR and MBCT are recognized for their effectiveness in improving QoL and well-being through awareness.

Methodological Challenges to Mindfulness

Limitations and methodological considerations of mindfulness research include the generalizability of interventions highlighting variation in duration and mode of delivery (Querstret et al., 2020). It is also argued that individuals who partake in mindfulness studies may have specific characteristics compared to the general population, who may not share them. Also, the authors question what protocol for delivery is most effective and under which conditions (e.g., total training time).

Comparatively, Li and Bressington (2019) acknowledge the limitations of practices such as MBSR in reducing stress, identified via self-report measures, which may not translate well because they are not often designed for older adults and are vulnerable to social desirability bias. Furthermore, perceptions of the controllability of stress may be heightened in late life as many stressors are uncontrollable and correlate with heightened depressive symptoms, such as loneliness from the loss of loved ones, financial decline and poor health. In addition, the authors assert that mindfulness practices may also be a source of stress for older adults due to physical limitations or long-term medical conditions.

Generalizability in these findings, however, is debatable as depression in older cohorts may contrast in etiology and presentation from younger populations (Li & Bressington, 2019). Likewise, a fair amount of heterogeneity in terms of study setting, age and diagnosis was identified in the review, reducing the comparability of the studies. They further mention other uncontrolled and possibly confounding variables, such as participants' engagement in therapeutic activities or private psychological therapies or treatments, improving psychological and physical well-being, which could contaminate the effects of the mindfulness interventions. Finally, the authors assert that, as stated in Socioemotional Selective Theory (SST), due to the perception of the limited time left in life, older adults may innately alter their attention to augment presentmoment well-being and have prioritized emotionally consequential goals, thus negating any effectiveness of mindfulness practices.

From a different perspective, Wei et al. (2020) examined the impact of a Tai Chi intervention (known for its benefits as a mindfulness and light aerobic practice) on an older adult population with mild cognitive impairment (MCI) to assess the effects on cognitive rehabilitation. Through their systematic review and meta-analysis, they unveiled that mild cognitive impairment, which can be defined as cognitive loss or decline that is higher than expected at an individual's age but does not substantially impact daily living activities, has amplified the risk of developing dementia in later life. Considering the limited effectiveness and potential side effects of pharmaceutical interventions, the effects of non-pharmaceutical mindfulness interventions like Tai Chi are being investigated. In one activity, Tai Chi encompasses social, physical, cognitive and meditation elements, stimulating mind and body. The use of equipment does not encumber this practice; the difficulty and intensity are appropriate for older adults and, therefore, present a suitable rehabilitation method for older adults with MCI.

This analysis reveals that Tai Chi significantly affects global cognitive ability and improves long-term delayed recall ability (Wei et al., 2020). It also moderately improves executive function and can benefit instrumental activities of daily living and QoL. From a physical standpoint, this multimodal exercise could enhance metabolism and blood perfusion of brain tissue through reverse abdominal breathing. Cognitively, Tai Chi engages attentional focus, multitasking and movement learning, which facilitates the establishment of synapses and supports the control of episodic memory, processing speed, and visual-spatial processing. Socially, people's coping skills and mental status improved through Tai Chi due to social support and interpersonal communication. Finally, the meditative aspect enhanced executive functions and attention, as well as relieving depression and anxiety, which indirectly progressed cognitive function.

The implications of this review outline that the outcomes of the meta-analysis of the general measurements of identical indicators were restricted due to heterogeneity in included outcomes (Wei et al., 2020). Thus, there is a need for further research with homogeneous measurements reflecting other cognitive domains. There is also a potential for selection bias as the employment of random sequence generation was only reported in five reviewed studies.

Expand Your Mind

The final pillar of MYM is 'expand your mind,' which focuses on building coping strategies through improving one's sense of self and promoting connectedness. A primary strategy is to improve one's coping ability through strengthening resilience, described as using resources to protect against risk factors (Jackson & Bergeman, 2011) or adapting to adversity (Pruchno et al., 2015). By virtue of living for several decades, most older adults have gone through personal and physical losses such as the death of loved ones, divorce or job loss, and declines in daily functioning, hearing and vision. Pruchno and colleagues suggest that due to these losses, the construct of successful aging can be viewed as "a pattern of resiliency across the lifespan" (p. 200). Through this resilience, people grow and are better off.

Religiosity or Spirituality

As the research suggests, one way to gain resilience is through religiosity or spirituality (R/S) (Jackson & Bergeman, 2011; Joiner et al., 2022). Evidence shows that higher levels of R/S consistently correlate with positive outcomes, particularly in well-being, life satisfaction, and

happiness. Also, religion and spirituality have a sizeable presence in many cultures. In North American culture, marriages, births, and deaths are observed in religious traditions and ceremonies and infused with spiritual beliefs and ideas (Jackson & Bergeman, 2011). Individuals who display more devotion to their spiritual convictions and religious faith have been shown to have more coping resources and are healthier and happier than those who do not conform to religious or spiritual beliefs.

In this context, Joiner and colleagues (2022) establish a connection between perceived control and well-being, focusing on the mechanisms that foster this relationship. Their cross-sectional study connected a mediating relationship amid R/S, control beliefs and subjective well-being, indicating that people with high perceived control believe that their actions are efficacious in attaining enviable outcomes or evading undesirable ones compared to those low in perceived control who believe their actions have little or no effect.

Jackson and Bergeman (2011) similarly postulate that individuals with more robust religious principles have more substantial positive well-being effects due to the resources religion provides. Also, religion increases overall resiliency and supplies strategies for coping with life stressors. These resources include hope and optimism, heightened perceptions of control, meaning and purpose, and a broad social support network. In addition, this study examines the impact of perceived control, determining the degree to which people feel they have the efficacy, capacity, and opportunity to create or inhibit a given outcome based on their beliefs about the self and the world. They found that highly devoted people observe their world through a religious/spiritual lens and that affiliating themselves with a higher power generates the notion that they share in that power's control, asserting that they have a more significant degree of control in their lives.

Social Support Networks

As mentioned above, another coping strategy is to strengthen and maintain a positive social support network. Positive health outcomes have been shown through social connectedness, especially in long-term care settings where reduced social engagement, depression and lower life satisfaction are more prevalent (Lim et al., 2023). In the systematic review by Lim et al. (2023). some studies advise that a lack of connectedness can cause social disengagement, isolation, loneliness and hastened time to death. Further to these findings, unmarried, low-income and less educated men are at a higher risk for social isolation. This sentiment of isolation is echoed by Lydon et al. (2022), who assert that loneliness and isolation contribute to poor health outcomes and are associated with a heightened risk of dementia and other cognitive impairments, and is corroborated in a review by Donovan and Blazer (2020), who report a 50% increase in the likelihood of developing dementia, a 30% increase in the risk of coronary episodes such as heart disease and stroke, and 26% increased risk of all-cause mortality due to isolation and loneliness. Similarly, a longitudinal study conducted by Cachó, Alonso et al. (2023) indicates that loneliness is linked to reduced cognitive performance and accelerated memory and verbal fluency decline. These findings call attention to the fundamental human need for connection with others and underscore the importance of social interactions for well-being, especially in older adults (Grünjes et al., 2024).

On a more positive note, social engagement is a vital strategy to promote and maintain mental health, positive health behaviours, and QoL (Lim et al., 2023; Lydon et al., 2022; Yen et al., 2022). More robust social connections are linked to resilience, better emotional health, mood, sleep, and reduced mortality risk in older populations (Lim et al., 2023). They may also have a positive effect by enhancing antiviral responses and reducing inflammation. Furthermore, systematic reviews of social participation identified that older adults who volunteer show fulfillment in social roles within the community (Carver, 2018; Krzeczkowska et al., 2021; Lydon et al., 2022). Voluntary, altruistic behaviours serve as a means to preserve life satisfaction and QoL in older adults and foster a sense of purpose and belonging, contributing to well-being (Carver, 2018; Krzeczkowska et al., 2021).

In sum, the intervention literature strongly supports the MYM program as an effective means of enhancing the well-being of older adults in terms of the individual beneficial impact of physical activity, nutrition, mindfulness, and coping. However, it should be emphasized that the MYM program is a combined holistic approach to well-being, which may be one of its greatest strengths. It is evident that complex, reciprocal relationships exist between PA, nutrition, and cognitive and social-emotional well-being. PA clearly benefits physical health and cognitive functioning, as does nutrition.

Mindfulness, like PA, reduces stress, anxiety and depression and helps develop a healthier relationship with food and exercise by increasing self-awareness. Regular physical activity, a balanced diet, and practicing mindfulness can boost resilience by improving physical and mental health. Engaging in physical activity and mindfulness practices with others can strengthen social bonds and foster a sense of connection. Stronger social connections and greater resilience lead to a higher likelihood of participating in PA, eating better, and practicing mindfulness. Thus, the holistic integration of these elements exemplified in the MYM for older adults initiative is likely conducive to improved overall health and quality of life in older adults in a manner greater than the influence of any one pillar in isolation. The vast majority of research has not adequately considered the additive benefits of such an approach (e.g., whether exercise combined with mindfulness social interaction has relatively greater benefit than an exercise program alone). Rigorous evaluation of the relative efficacy of unidimensional interventions versus combined holistic ones such as MYM is an important direction for future research.

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