



Evaluating the feasibility and utility of telephonic motivational interviewing in older adults

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ABSTRACT

Older adults face unique barriers and challenges related to physical activity (PA) participation. Motivational interviewing (MI) is a commonly used health coaching strategy to support behavior change that holds potential for older adults. Previous research on MI strategies has focused primarily on face-to-face delivery, limiting insights regarding virtual programs.

Objectives: The purpose of this study was to determine if MI could be delivered telephonically with high fidelity and high acceptability in older adult participants. The study is designed to inform future trials evaluating its effectiveness in supporting virtual PA programs.

Methods: This study evaluated the feasibility and acceptability of telephonic MI among older adults that enrolled in an online version of the Walk with Ease program.

Results: Of 39 participants referred, 29 enrolled and 27 provided feedback. Participants were highly accepting and adherent, with 74 % of patients attending at least five of six sessions, and 96 % of participants indicating satisfaction with the MI provided. Coaches improved program enjoyment by helping set effective goals and providing ongoing accountability.

Conclusions: Evaluations documented adequate fidelity and high acceptability of telephonic delivery, and motivation results revealed large, significant increases in autonomous regulation (quality of motivation).

Innovation: Telephonic MI using non-healthcare professional coaches is feasibly delivered with high fidelity, and is acceptable to older adult participants. The innovative delivery format offers novel opportunities supporting virtual and telehealth interventions to reduce chronic disease risk among older adults.

1. Introduction

The promotion of physical activity is an important public health priority [1], and strategies need to be customized based on the needs of the target population [2]. Generalized behavior change strategies tend to focus on building self-efficacy and enlisting social support; however, more personalized approaches have been recommended to increase likelihood of long-term behavior change [3]. Personalized strategies are particularly important for older adults (≥ 65 years of age), due to unique (and often conflicting) motivators, barriers, and influences [4].

A promising, but understudied, strategy for supporting older adults is

personalized health coaching, based on motivational interviewing (MI) methods. In addition to providing a participant-centered approach to addressing ambivalence to change, the collaborative spirit of MI also provides a supportive environment that helps foster motivation and emotional support [5]. MI is a widely endorsed communicative strategy [6], and evidence has documented utility in promoting physical activity [7]. While telephonic delivery can positively impact health outcomes just as effectively as in person formats [8,9], it is not clear if older adults will be as receptive and receive similar benefits.

A recent review of telehealth among rural older adults yielded mixed results with regards to 'ease of use' and indicators of 'usage behavior',

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such as attrition and adherence [10]. The process was deemed manageable, but individual results were influenced by technological literacy, internet connectivity, and other technological barriers. The review concluded that more work was needed to ensure ease of use and acceptability for older adults. A similar review highlighted challenges with access and motivation as specific barriers to effective utilization in telehealth interventions [11]. To advance public health research with our aging population it is important to develop and test how to distribute health coaching strategies that can effectively reach and support older adults.

Clinical trials are necessary to formally evaluate the effectiveness of telephonic health coaching. However, it is important to first document intervention feasibility and fidelity, participant acceptability, and barriers to implementation. Thus, the purpose of the present study is to evaluate the feasibility and fidelity of telephonic MI-based health coaching, and participant acceptability, when implemented as a supplement to an evidence-based physical activity intervention called Walk with Ease (WWE) [12].

2. Methods

2.1. Study design

This study was conducted as a feasibility study evaluating telephonic MI-based health coaching as a supplement to the self-directed WWE program [13]. A hybrid effectiveness-implementation design was utilized, with a dual focus of assessing both intervention implementation and its associated outcomes. This design offers advantages for feasibility research by allowing aspects of delivery (i.e., acceptability, dose, fidelity) to be evaluated, while also ensuring the likelihood of a meaningful effect in subsequent evaluations. Hybrid trials have specifically been recommended for behavior change research to help address intervention barriers [14].

2.2. Description of the Walk with Ease intervention

WWE is a structured 6-week activity program developed by the Arthritis Foundation for the self-management of arthritis symptoms through self-paced walking [13,15]. Both group and self-directed versions of the program have been endorsed by the Centers for Disease Control and Prevention (CDC), and WWE is broadly disseminated across the country. Evaluation of the supplemental MI-based telephonic health coaching was prioritized in this evaluation to determine the feasibility of telephonic MI for promoting accountability and building motivation and behavioral skills among older adults. Virtual WWE programming was managed with an online portal developed by the Osteoarthritis Action Alliance (OAAA) to support the self-directed WWE program. Participants were provided access to the online portal which included the WWE guidebook that guides participants through the virtual program.

2.3. Participants

The study was conducted in collaboration with a non-profit agency that has been facilitating the statewide dissemination of WWE. Individuals enrolling in WWE through the community-partner were informed that they could receive additional support from a trained health coach by enrolling in the study. Inclusion criteria required participants be able to stand for at least 10 min without increasing pain to ensure that no significant musculoskeletal problems would prevent participation. Participants were also required to be at least 18 years of age, though priority was given to adults over the age of 65. This centralized process facilitated clinical referrals of participants from providers across the state and enabled the programming to be evaluated under naturalized conditions. The study procedures were approved by the Iowa State University IRB, and all participants provided informed consent prior to participation.

2.4. Training and coordination of health coaches

Health coaches were trained through a robust practicum course in MI that has documented utility for building MI skills in both students [16] and county extension leaders [17]. A formal evaluation of the training program has demonstrated it effectively builds MI skills, with 97 % and 90 % of participants meeting established standards for the technical and relational global scores, respectively [18].

2.5. Procedures

Referred individuals were connected with a health coach who provided consent information and details on MI-based health coaching. Coaches informed participants that their role was to support motivations for becoming active, and while they could help develop strategies for overcoming barriers, they were not positioned to provide instruction or prescription. Participants were also informed that while coaches were aware of their WWE participation, they were not coaching the WWE curriculum itself. This was an important consideration for avoiding conflict between participant-centered MI and program-specific WWE content. At this meeting participants also provided demographic information and completed a baseline evaluation of their motivations for exercise.

Coaches met weekly with participants for MI sessions. Since MI is participant-led, with coaches evoking each participants individual motivations and barriers to activity, there is some variability within the specific content discussed each session, though the same general agenda was used. The initial session focused on helping participants identify their motivations for becoming active, factors that supported and prevented their activity, and establish short and long-term physical activity goals. The second session provided an opportunity to reflect on their goal progress and the strategies that impacted their progress and allowed them to make any desired changes to their goals. The remaining sessions typically followed this pattern of reflecting on their progress towards accomplishing goals, the impact their progress had on their perception of themselves, any benefits of becoming more active they noticed and setting new goals for the coming week. Sessions were expected to last no more than 30 min and be held up to once per week, resulting in a maximum of 180 min of total contact time. Following the final session participants were asked to complete a follow-up measure of their exercise motivations and provided feedback on the coaching they received.

2.6. Measures

Implementation was evaluated via frequency and duration of coaching sessions, rates of program completion, and participant feedback. Feedback on the intervention was captured using an online survey with predominantly Likert scales. Participants indicated the extent that key features of MI such as empathetic support and assistance in understanding motivations were delivered. They also responded to items regarding convenience and privacy, and a rating of overall satisfaction. Open-ended questions allowed participants to communicate additional benefits and barriers not captured in Likert scale items and provide suggestions for improving telephonic delivery.

When possible, calls were recorded to allow for proficiency checks using the Motivational Interviewing Treatment Integrity (MITI) coding procedure [19]. The MITI evaluates proficiency in delivering MI by rating the entire interaction via global scores, and by tallying counts of specific behaviors within the interaction. Summary ratings capture the ability of the coach to utilize the collaborative approach to interactions (the spirit of MI) and follow MI methods. Importantly, both the technical and relational aspects of MI can be scored to evaluate the quality of health coaching provided. It has been established as a reliable measure for assessing the technical and relational components of MI and is the most widely used instrument for evaluating MI. Global Technical scores

of 3 and 4, and Global Relational scores of 3.5 and 4 represent competent and proficient health coaching, respectively.

The impact of the coaching sessions on participant motivation to engage in regular walking for exercise was evaluated using the third version of the Behavioral Regulations in Exercise Questionnaire (BREQ-3) [20,21] and was completed at baseline and upon completion of the program. The BREQ is one of the most commonly utilized survey measures in studies of exercise motivation [22]. The evaluation of motivation changes (rather than changes to behavior) is consistent with recommendations for experimental medicine approaches [23]. By emphasizing changes to a theoretical antecedent of behavior change, the intervention can be more effectively evaluated (i.e., *did it do the thing it was intended to do*) rather than be mistakenly rejected if the complex nature of behavior ultimately results in the target behavior not changing.

2.7. Analyses

Intervention feasibility was assessed through a combination of participant interest and acceptability, delivery fidelity, and the effect on the theoretical mechanism of behavior change. Each of these outcomes was considered to determine overall feasibility, justification for proceeding to a clinical trial, and any necessary changes to the intervention protocol. Analyses of each outcome are described in detail below.

Enrollment, attrition, and session duration were tracked by the health coaches throughout the program to evaluate interest and inform future clinical trials. Quantitative participant feedback was analyzed descriptively. Statements with a mean response of four or greater indicated high agreement or acceptability, scores between three and four indicated moderate agreement or acceptability, and scores of 2.9 or below indicated low agreement or acceptability. Effect sizes were calculated by dividing the average change score by the standard deviation of the change to evaluate differences in responses for participant subsamples. Correlations between contact time between participants and coaches and changes in participant motivation were calculated to assess the possibility of a dose-response effect. Open-ended feedback was evaluated to identify common benefits or barriers that participants felt were particularly relevant.

Fidelity evaluations of the provided coaching were conducted using the scoring guidelines provided within the MITI. A subsample of recorded calls ($n = 16$, 26 % of all recorded calls) were randomly selected for blinded evaluation by a reviewer trained in using the MITI. Ratings were used individually to identify instances of coaching falling below competency thresholds and averaged to provide an overview of the coaching delivered.

Participant motivation subscales were calculated using the BREQ-3 at baseline and post-intervention using average Likert scale response to questions corresponding to each source of motivation, with higher scores indicating a stronger influence of a given motivation type. Domains of motivation were analyzed separately based on findings that behavioral regulation sources are distinct, and autonomous and controlled motivation may both lead to increases in behavior [24]. Changes to motivation were assessed using paired t -tests comparing baseline and post-intervention with a significance threshold set at $p < 0.05$. Effect sizes were computed to provide a more relevant and interpretable indicator of changes over time.

3. Results

A total of 44 participants enrolled in WWE through the non-profit agency and 39 agreed to participate in the supplemental evaluation of health coaching. Nine participants could not be contacted and one declined to participate after the initial session, stating they were no longer interested, resulting in a total of 29 enrolled participants. Since referrals occurred prior to the consent and data collection, it is not clear if there are demographic differences between participants and non-

participants. Two additional participants dropped out during the coaching period, resulting in a final sample of 27 participants (see Fig. 1 for complete details on participant enrollment and dropout).

Enrolled participants were primarily retired (62 %) White non-Hispanic (100 %), female (83 %), and well educated (55 % held at least one college degree), with an average age of 68.6 years (range 52–91 years).

Participants attended 4.9 ± 1.5 health coaching sessions, lasting an average of 16.8 ± 4.8 min. Initial sessions (22.1 ± 7.9 min) typically lasted longer than subsequent sessions (range: 14.8 to 16.9 min). Approximately half of participants (51.8 %) attended all six health coaching sessions while 22.2 % attended five, and 7 % attended four sessions. Average session duration did not differ significantly between participants who indicated being highly satisfied with coaching compared to those that did not.

Responses to Likert scale questions demonstrated a positive perception of the coaching. Nearly all participants (96 %) reported satisfaction with the coaching (4.76 ± 0.51), and the coaching was a positive contribution to their experience (4.85 ± 0.46). All participants said they would recommend their coach to a friend or family member (4.65 ± 0.49). Participants also generally felt that they were more active upon completing the program (4.34 ± 0.80) and felt that the coach helped them change their lifestyle (4.07 ± 0.80). See Table 1 for a complete summary of participant feedback.

Open-ended feedback on the provided coaching and telephonic delivery was grouped and summarized based on the underlying constructs to aid in interpretation. Major constructs are highlighted in Table 2, with quotes added to help illustrate each construct.

Approximately 12.5 % of all calls conducted were recorded and scored using the MITI to evaluate the quality of coaching provided. Across the four coaches who worked with participants in this study, MITI ratings demonstrated adequate fidelity. Summary scores demonstrated proficiency in both Technical (4 ± 0.63) and Relational (4.5 ± 0.50) global scores, with no calls below the threshold of competency for either domain. Behavioral counts indicated that both the proportion of complex reflections (21 %) and reflection to question ratio (0.672) fell

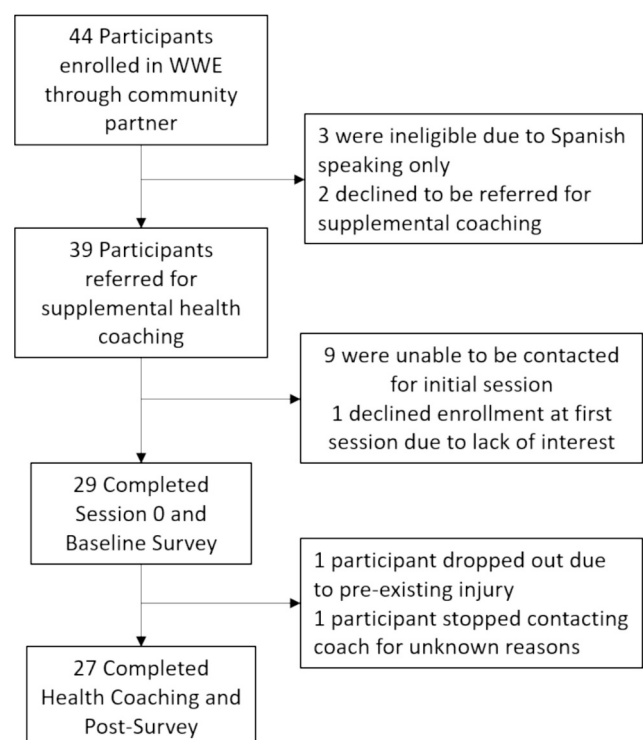


Fig. 1. CONSORT diagram of participants.

Table 1
Participant perceptions of the coaching provided and the use of telephonic delivery.

Question	Mean likert response	%Agree or strongly agree
Feedback on coach		
My coach was able to empathize with my unique challenges and barriers.	4.53 ± 0.51	100 %
My coach was encouraging and helpful.	4.69 ± 0.47	100 %
My coach helped me understand my motivations for activity.	4.58 ± 0.64	92.3 %
My coach acted as a source of accountability to keep me on track.	4.73 ± 0.45	100 %
With my coaches help I was able to develop strategies to walk consistently.	4.34 ± 0.69	88.5 %
My coach was able to answer any questions I had.	4.73 ± 0.45	100 %
Telephonic Delivery		
Telephonic Sessions were convenient for me.	4.52 ± 0.71	88 %
I could interact with my coach without technical or reliability issues	4.48 ± 0.92	88 %
I felt like I could connect with my coach about my issues	4.81 ± 0.49	96.2 %
I felt the health coach was unnecessary for me	1.36 ± 0.91	4 %
I trusted my coach to respect my privacy	4.60 ± 1.04	96 %

Note: Likert response range: 1-Strongly Disagree to 5-Strongly Agree.

below the thresholds of competence (40 % and 1.0 respectively). Coaches demonstrated frequent use of MI adherent behaviors (mean 4.1 counts per call, range 1–8) and only a single MI non-adherent instance was noted across the evaluated calls.

At baseline, participants demonstrated relatively higher levels of autonomous (intrinsic, integrated and identified) regulation, and relatively lower levels of controlled (external and introjected) regulation. Coaching resulting in large, significant increases in autonomously sourced motivation (identified regulation: $d = 0.81, p < 0.001$; integrated regulation: $d = 0.76, p = 0.001$; intrinsic regulation: $d = 0.88, p < 0.001$), a moderate effect on reducing amotivation ($d = -0.47, p = 0.03$), and no significant effect on external or introjected regulation.

Contact time with coaches was moderately correlated with changes in introjected ($r = 0.48, p = 0.03$), identified ($r = 0.49, p = 0.02$), and integrated ($r = 0.47, p = 0.03$) regulation. Changes to intrinsic motivation were also moderately correlated with the extent participants trusted their coach ($r = 0.53, p < 0.01$) and the extent they felt their coach acted as a source of accountability to keep them on track ($r = 0.47, p < 0.05$). Changes to introjected and identified regulation were both negatively associated with the extent participants felt that the coach helped them change their behavior ($r = -0.51$ and -0.47 respectively, $p < 0.05$). No other aspects of program satisfaction were significantly correlated with changes to participant motivation.

4. Discussion and conclusion

4.1. Discussion

The primary purpose of this study was to evaluate the feasibility and acceptability of telephonic delivery of MI by trained college students to older adults as a supplement to the evidence-based WWE program. Incorporating MI-based health coaching helped promote compliance and feedback demonstrated that the delivery method is feasible and well accepted, while positively impacting motivation. Previous investigations have demonstrated acceptability of MI as a standalone intervention [25] or as a supplement to group-based programming by acting as a source of accountability [26]. The present findings extend these results by demonstrating receptivity to telephonic health coaching in older adults.

Table 2
Summary of open-ended participant feedback to telephonic delivery of motivational interviewing.

Construct	Description	Relevant quotes from open-ended feedback
What benefits have you received from interacting with your health coach?		
Accountability	Coaches provided a source of accountability to walk regularly	<p>“[My Coach] helped to keep me on track, provided motivation, and helped me to be accountable for my exercise program”</p> <p>“I did not want to disappoint her”</p> <p>“I liked being accountable to the coach even though this is an individual program”</p> <p>“Talking to [Coach] weekly helped me set my goals and reaching them for the following week.”</p> <p>“Setting goals incrementally to produce more success”</p>
Goal Setting	Coaches helped set appropriate initial goals and adjust as walking ability increased	<p>“[I was] more open minded that this is going to be successful”</p> <p>“[My coach offered] empathetic responses when others in my life are not helpful”</p> <p>“[Coach] was great! He was always positive and encouraging. I would continue the program if I could.”</p> <p>“The positive vibes spread once you give yourself some grace and pay attention to what you think about exercise”</p>
Encouragement	Coaches helped frame exercise as something that participants could do, by empathizing with challenges and celebrating successes	<p>“Important to keep a schedule and stick to it. Very difficult”</p> <p>“Everyday pain could improve if I kept walking.”</p> <p>“I can improve my pain levels by using more moderate exercises and working up to a more challenging program gradually.”</p>
Overcoming Barriers	Coaches helped develop strategies to overcome common barriers	<p>“What barriers (if any) kept you from utilizing health coaching sessions most effectively?”</p> <p>“My husband and his appointments”</p> <p>“A death in my family kept me out of town for a few weeks, so I wasn't able to do all sessions”</p> <p>“a combination of being 81 yrs. old - severe arthritis with much pain and a disfigured foot that is requiring surgery next spring”</p> <p>“Broke my toe. It downsized my ability”</p>
Availability	Other commitments prevented participants from attending all sessions	<p>“Please provide suggestions on how to improve the health coaching experience in the future.”</p> <p>“Maybe more frequency - as in some mid-week follow-ups”</p> <p>“I would like it to last longer—more weeks.”</p>
Personal Health	Health issues prevented participants from fully applying discussed strategies or engaging in walking sessions	
Increased contact	Increased contact frequency or program duration	

4.1.1. Implementation

Older adults were highly accepting of telephonic delivery with nearly all participants feeling coaches supported and aided them in becoming more active and noted they would recommend their coach to a friend or family member. Broad acceptability is also reflected in high rates of attendance at weekly sessions, with most participants attending

all or nearly all the weekly sessions. Feedback documented the collaborative, personalized approach underlying the spirit of MI were acknowledged, and that coaches served as a source of accountability to help stay on track. Feedback on the delivery method demonstrated that telephonic MI was a convenient way to engage with MI coaches and concerns about privacy and technical literacy were infrequent.

Open ended responses further highlighted the role of coaches as a source of accountability, helping participants stay consistent with building a walking routine by providing personalized support. By helping set appropriate goals that enabled them to realize early successes, coaches provided ongoing encouragement to continue adjusting goals and recognizing accomplishments. By emphasizing realistic and attainable goals, health coaches are able to effectively help participants build self-efficacy, which increases the likelihood of adherence to a long-term activity routine [27]. This cycle of attaining goals and building self-efficacy, then setting higher goals is a key process in promoting physical activity among adults [28].

The primary barriers identified by participants included scheduling conflicts that prevented attendance at weekly calls and health concerns that prevented them from putting new behavior change efforts into immediate practice (e.g., a foot injury that limited walking abilities). These barriers were mentioned by only a few participants and may reflect general issues with the implementation of any behavior change program, rather than specific issues with telephonic MI due to the phrasing of the question (“What barriers prevented you from more effectively utilizing the coaching?”). This question phrasing may also have prompted participants to contribute factors that impacted their ability to walk regularly, rather than factors that impacted interactions with their coach. Challenges with attendance and adherence are common among many evidence-based programs [29], and while some barriers (e.g., medical emergencies or schedule conflicts) may limit attendance regardless of delivery format, telephonic options may help reduce issues with some conflicts by allowing the visit to be conducted at any location that is convenient to the participant, rather than requiring transportation to a specified location. Previous studies have documented that telehealth opportunities are associated with greater attendance rates for both traditional medical visits (such as prenatal appointments [30]), and mental health therapy treatments [31]. This potential advantage of telephonic delivery is further supported by the high rates of attendance in this evaluation.

The MITI evaluations of the delivered MI showed that coaches effectively utilized the collaborative spirit of MI, which has been identified as a key element in the success of MI interventions [32]. Given the important role of social support as a motivator for physical activity among older adults [33], successfully implementing the relational components of fostering partnerships and offering empathy may allow the coaches to fill this role for participants despite significant age differences. Although coaches did not successfully meet thresholds of competence for MI behavioral counts, it did not appear to negatively impact perceptions of the coaching provided. It is also unclear if the underutilization of complex reflections and the low reflection to question ratios reflect challenges specific to utilizing MI with older adult participants, or if they highlight an area for refinement with the MI training course. Other MI training programs have demonstrated challenges with trainees meeting behavioral count thresholds, potentially suggesting that while brief training programs provide a basic understanding of the spirit of MI, developing high proficiency may require more extensive skill development [34]. It should also be noted that summary behavioral counts reflect the expert opinion of the original developers of the MITI and should be used to reflect on the MI delivered, rather than determine its ultimate quality [35].

4.1.2. Effectiveness

Large increases in participant's autonomous regulation support the potential impact of the MI-based coaching. Consistent with theoretical underpinnings of MI, increases in identified, integrated and intrinsic

regulations were observed, as participants increased their self-determined motivations for walking, including increased enjoyment and recognizing the benefits of regular activity. The study did not include a control group so it is unclear if improvements in autonomous motivation are due to the WWE program components or the MI itself, however, these effect sizes are similar to those attributed to MI in other physical activity promotion interventions among adults [36] and overweight adolescents [37] and it is unlikely that motivation would increase dramatically without supplemental support [38].

Research has documented the importance of autonomous motivation for supporting long-term physical activity routines as the level of enjoyment is one of the most significant differences between inactive, active, and long-term active older adults [39]. Mediation analysis was not possible in the present study, but correlation results provide some insight. Moderate correlations between total contact time and changes in autonomous motivation suggest that participants who spent more time interacting with the coach were better able to develop their own motivations for engaging in regular PA. Additionally links between the development of intrinsic motivation and coaches acting as an encouraging source of accountability further support the underlying spirit of MI. However, negative correlations between the extent that participants felt their coach helped them change their behavior and the development of integrated regulation may stress the importance of participant responsibility in changing behavior. Taken together, these findings highlight the role of MI coaches as facilitators of behavior change rather than drivers of behavior change and emphasize the fine line that practitioners of MI must walk in the promotion of physical activity. While coaches may be encouraging and supportive of behavior change, this accountability should ultimately empower participants, rather than create external expectations to live up to. Coaches may help participants adopt new behaviors by acting as an external source of motivation or accountability, but overreliance on external motivation may undermine the development of autonomous motivation which is crucial for long-term adherence [26].

With most participants being educated, white, non-Hispanic females, high rates of acceptability should be interpreted with caution as they may not represent other older adult sub-populations. Primarily female samples and low racial and ethnic diversity have been previously documented in older adult physical activity interventions [40], and alternative strategies may be necessary to effectively engage males and minority populations. Given that study promotion and enrollment occurred digitally, participants with greater technological literacy may have been more likely to enroll in programs through the community partner. Individuals with lower technological literacy may have lower acceptance of the telephonic delivery or cite additional barriers or an unwillingness to collaborate with a coach without face-to-face connections, limiting the acceptability of telephonic implementation for these individuals. Some previous evaluations of telehealth delivery of medical services have documented that non-white and non-college educated individuals may be less likely to attend virtual appointments, however these factors similarly predicted lower rates of in-person attendance as well, and satisfaction was similar across delivery formats, regardless of participant demographics and comfort with technology [41]. While the homogenous sample in the present evaluation does not allow for the moderating influences of these demographic variables to be evaluated, further evaluations to determine if other older adult sub-populations are also highly accepting of telephonic MI, and whether the demographics of the coach impact this acceptability are necessary. While telephonic delivery may not be suitable for all older adults, the results support the feasibility (documented by the participant interest and acceptability feedback) and fidelity of implementation while also providing preliminary indications of impact on outcomes. Proceeding to a clinical trial evaluating the effectiveness of telephonic MI for promoting physical activity among older adults is warranted.

4.2. Innovation

This study is innovative because it is among the first to explore the feasibility of telephonic MI among older adults. While MI is an established communication strategy among younger adults, innovative delivery formats such as telephonic MI can enhance scalability and accessibility, particularly for rural older adults. The innovative approach of using college student coaches rather than health care providers also improves scalability. This study was also innovative in its methods, assessing feasibility through evaluations of the intervention delivery, the acceptability of the intervention to participants, and the ability to positively impact motivation. This step is key to developing clinically relevant behavioral interventions, particularly when novel delivery formats are being evaluated [42].

4.3. Conclusions

The study demonstrates that telephonically delivered MI is feasible and well accepted by older adults and that it effectively supports participant autonomy and the development intrinsic motivation. Documentation that coaches effectively implement key components of MI support further utilization of the coach training platform. Feedback from participants and high levels of participant compliance justify progression to clinical trials evaluating the effectiveness of telephonic MI to support physical activity behavior change compared to other standard practices without modification to the MI protocol.

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CRediT authorship contribution statement

Nicholas R. Lamoureux: Writing – review & editing, Writing – original draft, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **L. Alison Phillips:** Writing – review & editing, Methodology, Investigation, Conceptualization. **Kathryn J. DeShaw:** Writing – review & editing, Investigation, Formal analysis. **Trina Radske-Suchan:** Writing – review & editing, Project administration, Investigation. **Gregory J. Welk:** Writing – review & editing, Writing – original draft, Supervision, Resources, Project administration, Methodology, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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