Participation in a Weekly Physical Activity–Related Book Club Improves Health Outcomes over 12 Weeks in Rural Women

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ABSTRACT
Despite the well-documented benefits of physical activity (PA) participation, over half of women do not meet PA guidelines, with greater disparities seen among rural populations. Interventions that include behavioral and cognitive strategies for promoting behavior change are important to improve health outcomes among women. This study aimed to determine whether a book club (i.e., Fit Minded) could improve PA participation, clinical markers of health, and psychosocial measures related to PA and self-perception in adult rural women. Women participated in a 12-wk book club that incorporated reading and discussions related to physical activity and self-worth. PA participation using Fitbits; clinical outcomes (e.g., weight and blood pressure); psychosocial measures related to PA and self-perception, including perceived exercise benefits and barriers, outcome expectations to exercise, PA goal setting, planning, and scheduling; physical self-worth; and global self-worth, were measured at pre- and postintervention (12 wk) in adult rural women. Thirty-two women (age, 48.09 ± 8.96 yr) completed at least 10/12 sessions and all pre- and postintervention measures. Steps per day did not increase from baseline to week 12; however, participants had significant reductions in weight (P = 0.022), body mass index (P = 0.022), and systolic blood pressure (P = 0.047). Participants had significant improvements in several psychosocial measures related to PA participation and self-worth (perceived exercise benefits and barriers, PA goal setting, PA planning and scheduling, all subscales of physical self-worth, and global self-worth; P < 0.001–0.032), but not outcome expectations related to exercise. Results demonstrate that Fit Minded, with no face-to-face PA component, can improve psychosocial factors related to PA participation and physical self-worth, along with modest improvements in clinical markers of health in rural women. Although objectively assessed PA did not increase, there is evidence of improved health behaviors, which may translate to greater effects over time.

INTRODUCTION
Regular participation in physical activity (PA) has well-documented physical (e.g., reduced risk of chronic disease, improved muscular strength, body composition, bone mineral density, and cardiovascular fitness) and psychological (e.g., improved mood, reduced stress, and increased self-esteem) benefits (1,2). However, over 60% of women in the United States do not meet the recommended guidelines for PA, and 25% are not active at all (3). Previous research has indicated that the most effective PA interventions for women include incorporating health- or PA-related goals (4), strategies to overcome barriers (4), and strategies to improve self-efficacy (5). Recent studies have found goal setting to be a strong predictor of PA enjoyment and adherence (6). Further, women who set goals related to well-being, rather than weight loss, are more likely to engage in PA (7). Similarly, when women understand how to overcome barriers to participation in PA (e.g., time, motivation, access), they are more likely to be regularly active (8). Women who report higher self-efficacy (i.e., confidence in their ability to participate in a behavior) are more likely to participate in regular PA than women who report lower self-efficacy (9). Furthermore, when self-efficacy is targeted as part of a PA intervention, the combination of program objectives appears to increase women’s sense of self-worth (10).

Among rural populations, rates of inactivity are elevated (11), with women in rural areas disproportionately inactive compared with women in urban areas (12). Relatedly, residents of rural communities have poorer health outcomes and lower life expectancies than those living in cities or urban areas (13). Lack of PA and poor health outcomes warrant the need for interventions to target PA in rural women. In a recent survey in U.S. adults (n = 524, mostly women) aimed at identifying novel approaches for the promotion of PA in rural women. This study aimed to determine whether a book club (i.e., Fit Minded) could improve PA participation, clinical markers of health, and psychosocial measures related to PA and self-perception in adult rural women. Women participated in a 12-wk book club that incorporated reading and discussions related to physical activity and self-worth. PA participation using Fitbits; clinical outcomes (e.g., weight and blood pressure); psychosocial measures related to PA and self-perception, including perceived exercise benefits and barriers, outcome expectations to exercise, PA goal setting, planning, and scheduling; physical self-worth; and global self-worth, were measured at pre- and postintervention (12 wk) in adult rural women. Thirty-two women (age, 48.09 ± 8.96 yr) completed at least 10/12 sessions and all pre- and postintervention measures. Steps per day did not increase from baseline to week 12; however, participants had significant reductions in weight (P = 0.022), body mass index (P = 0.022), and systolic blood pressure (P = 0.047). Participants had significant improvements in several psychosocial measures related to PA participation and self-worth (perceived exercise benefits and barriers, PA goal setting, PA planning and scheduling, all subscales of physical self-worth, and global self-worth; P < 0.001–0.032), but not outcome expectations related to exercise. Results demonstrate that Fit Minded, with no face-to-face PA component, can improve psychosocial factors related to PA participation and physical self-worth, along with modest improvements in clinical markers of health in rural women. Although objectively assessed PA did not increase, there is evidence of improved health behaviors, which may translate to greater effects over time.
communities, researchers suggested that focusing on involving family and/or friends and personal health be used as intervention leverage points for successful promotion of meeting PA recommendations (12). However, a meta-analysis published in 2017 reported that there were only 13 studies that had tested strategies to increase PA in rural settings, and most of these approaches were deemed ineffective (14). Therefore, there remains a pressing need to explore the effect of interventions in this population using more targeted settings (e.g., community-based groups) and with more population-specific methods of delivery and strategies for adherence.

Fit Minded (formerly Women Bound to Be Active) is a PA intervention based on Social Cognitive Theory and Self-Determination Theory constructs (15) that use a book club format for weekly, group-based discussion to teach women strategies necessary to be successful at participating in regular PA. During the intervention, women participate in facilitator-led discussion related to weekly readings, enjoyable ways to be active, and strategies for participating in PA. Previous studies have used an 8-wk pre- and postdesign in working mothers (n = 69 (16)) and college students (n = 37 (17)) and an 8-month intervention with a 1-yr follow-up in middle-aged women (n = 35 and 31 and n = 18 and 19, respectively) to test PA-related outcomes. Women are encouraged to participate in PA outside of the book club but do not engage in PA during study intervention sessions and are not given specific PA prescriptions. Other studies using Fit Minded suggest that participation in the program increases self-worth (16–19), perceived benefits of PA relative to barriers (19), and motivation for PA (16) and decreases body mass index (BMI) (16). Evidence also suggests that participants of Fit Minded are more likely to meet the current PA recommendations (compared with themselves at baseline or a control group) (16–18). Previous participants also reported sustained improvements in BMI in a 1-yr follow-up and sustained improvements in self-worth and perceived benefits to PA in relation to barriers up to 1 yr later (18,19).

Although Fit Minded has been found effective in improving PA and behavioral strategies in middle-aged women and college students in previous studies, the intervention has not been conducted in rural women, nor were objective, health-related clinical outcomes assessed (e.g., body fat, blood glucose and lipids, and blood pressure [BP]). Therefore, the purpose of this study was to determine whether the Fit Minded book club program could effectively improve PA participation (primary outcome), along with clinical markers of health and psychosocial variables related to PA participation and physical health (secondary outcomes). This study seeks to translate the theories used in the Fit Minded intervention to address the known gaps in physical activity and health among women in rural areas and could be considered stage T2, Translation to Patients.

METHODS

Study Design

The present study assessed two cohorts of the Fit Minded book club that were held over the course of two academic semesters. As no control group was available, the study used a nonexperimental design where effects of the intervention were assessed within individuals pre- and postintervention. Baseline measures were taken during the first week of the 12-wk programs, with posttesting occurring during week 12. The study was approved by the internal review board of a rural, state master’s comprehensive university (IRB no. 18-0004). All participants completed written informed consent.

Participants

Women were included in the study if they were between the ages of 30 and 60 yr, English speaking, self-identified as inactive (i.e., exercise less than 30 min most days of the week), reported no contraindications to exercise (e.g., orthopedic), and were not pregnant at the time the study began. Participants were recruited using university-wide e-mail, social media, community flyers, and word of mouth. Although the nonexperimental design did not control for all potential constraints affecting physical activity rates and perceptions in women, the ages of 30–60 yr were chosen as this intervention targeted women currently of working age so that participants would have similar constraints to PA engagement relative to this highly influential life domain to draw from and share.

Intervention

Participants met weekly for 1 h during the 12-wk intervention. Women were required to attend 10 of the 12 sessions and to have completed all pre- and postintervention assessments. Attendance was noted at each meeting, with follow-up after a missed session (i.e., a personalized e-mail to express concern, encourage continued participation, and remind the participant of the following week’s agenda). Incentives included the Fit Minded workbook, a Fitbit Alta, and five books for the intervention. During the first session, informed consent, initial questionnaires, and intervention details were reviewed. The Fit Minded workbook and the first assigned book were also disseminated. No intervention content was covered during this first meeting, which allowed for baseline measurements to be taken between the start of weeks 1 and 2. The books used in Fit Minded ranged from autobiographical to motivational in nature, were rated highly in previous Fit Minded cohorts, and covered themes such as common myths of behavior change, positive perspectives on a range of body sizes, and practical tips for making lasting behavior change. These books were chosen to appeal to the largely working-age, young to middle-aged women included in this cohort as they incorporated voices and experiences that encompass this life stage.

The Fit Minded workbook was written by a Ph.D. trained behavior change expert, based on the Social Cognitive Theory and the Self-Determination Theory (8,18–20), and included educational material related to the importance of PA and exercise; the frequency, intensity, time, and type (FITT) principle; exercise program design; specific, measurable, action-oriented, realistic, and time-bound (SMART) goal setting; time management strategies; social support; self-worth; personal accountability and control; and benefits and barriers to PA. Explicit discussion about weight loss or how to lose weight was minimized. Instead, women were guided to think more about intrinsically based motives to improve their health. Over the course of the intervention, participants shared PA accomplishments and challenges, as well as their perspectives on the reading material through guided discussions led by a research team member. Example discussion prompts include, “Can you relate to any of the women’s stories depicted in this chapter? How?” “What needs do your ‘bad habits’ serve?” “Have you ever been ‘called out’ for trying
to better yourself? How did you handle it? How would you handle it now?”

Physical Activity

The Fitbit Alta (Fitbit, Inc.) was used to monitor PA objectively at the beginning and conclusion of the study. Baseline data for daily steps were collected over the first week of the intervention and averaged. For this initial week, women were instructed to maintain their current PA habits. Postintervention data were collected during the final week of the intervention and averaged. Participants were briefed at baseline about how to properly wear the device to ensure accurate measurements of PA. Instructions included wearing the device on the same wrist for all waking hours, except for when they were showering or swimming. Research staff ensured that the device was properly set as to which wrist it was worn on and whether this was the dominant wrist. Individuals were not given their own login information until after completing the study, preventing them from engaging with the Fitbit community features (a study design control). During the intervention meeting, participants would deposit their device into numbered bags at the beginning of the meeting. A staff member would go to a separate room and sync them individually with their study-derived accounts and record the data in a spreadsheet. Devices were returned to the participants at the end of the intervention meeting. Participants could wear their Fitbit for the duration of the study; however, daily wear was not monitored.

Clinical Markers of Health

At weeks 1 and 12 of the intervention, each participant met individually with a member of the research staff to examine clinical markers of health. All measurements were taken according to the American College of Sports Medicine guidelines (21). Weight and height were measured using an electronic scale and stadiometer, respectively, and used to calculate BMI. Waist circumference was measured using a spring-loaded tape measure at the narrowest point between the bottom of the rib cage and the iliac crest. Body composition was assessed using a dual-energy x-ray absorptiometry (DEXA) machine (iDxa; GE, Chicago, IL). Resting BP was taken using an automated cuff (Connex Pro BP; Welch Allen Inc., Skaneateles Falls, NY) in a seated position after the DEXA scan. Finally, fasted blood samples were collected using a finger stick to measure total cholesterol, HDL and LDL cholesterol, triglycerides, and blood glucose levels (Cardiochek PA; PTS Diagnostics, Indianapolis, IN). The Cardiochek PA has been shown to provide blood lipid values within industry accuracy standards when compared with venous sampling (22).

Psychosocial Measures Related to Physical Activity and Self-Perception

Women completed five questionnaires at weeks 1 and 12 of the intervention. During the initial book club meeting, each participant was given a folder with printed instructions for completing each questionnaire. Participants were asked to complete the questionnaires at a time when they could fully concentrate, to answer the questionnaires thoughtfully and honestly, and to return them at their initial clinical visit, which occurred between the first and the second intervention meetings. The following questionnaires were included.

The Exercise Benefits/Exercise Barriers scale is a 43-item survey used to determine the perceived barriers that prevent the participant from engaging in exercise, as well as their perceived benefits of this activity (23). Items were rated on a 4-point scale ranging from 1 (strongly disagree) to 4 (strongly agree), with higher scores indicating a higher ratio of perceived benefits in relation to barriers to exercise (23,24). Cronbach alpha scores for the survey and its subscales (i.e., benefits subscale and barriers subscale) have been found to be 0.954, 0.954, and 0.866, respectively. In addition, test-retest values were 0.89 (full survey), 0.89 (benefits subscale), and 0.77 (barriers subscale) (23).

Multidimensional Outcome Expectations for Exercise Scale assessed three independent domains of outcome expectations for exercise (physical, social, and self-evaluative). The stem for each of the 15 items began with “Exercise will…” and prompted responses on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores indicate a higher level of outcome expectations for regular exercise or physical activity (25). Internal consistency of the three subscales has been found to be moderate to strong with alpha coefficients of 0.76 for physical outcome expectations, 0.83 for self-evaluative outcome expectations, and 0.77 for self-evaluative outcome expectations (26).

The Physical Activity Goal Setting Scale and Physical Activity Planning and Scheduling Scale (PAGS and PAPPS; adapted from Rovniak et al. [27]) were used to determine how well the participants used goal setting and planning to find time for PA. The PAGS and the PAPPS each contained 10 items that assessed the degree to which each statement described the participant using a 5-point Likert scale that ranged from 1 (does not describe) to 5 (describes completely). Cronbach alpha scores for the two scales (i.e., physical activity goal setting and physical activity planning and scheduling) have been found to be 0.89 and 0.87, respectively.

Physical self-worth was assessed via the Physical Self-Perception Profile, which includes the following subscales: perceived sport competence, bodily attractiveness, physical strength and muscular development, level of physical conditioning and exercise, and general physical self-worth. The survey included 30 items that were measured on a 4-point Likert scale ranging from 1 (not true at all) to 4 (completely true), with higher scores indicating higher self-worth (28). Alpha coefficients for the Physical Self-Perception Profile subscales ranged from 0.81 to 0.92. Test-retest reliabilities were also found to be moderate to strong, with values ranging from 0.72 to 0.92.

Global self-worth was assessed using the Global Self-Worth Scale of the Adult Self-Perception Profile (29). Six items were used to address this domain using a forced-choice, 4-point scale that requires the participants to identify which of the two statements better describes them as well as the degree to how true the statement is for them (i.e., “sort of true of me” vs “really true of me”). Internal consistency has been assessed, with Cronbach alpha values ranging from 0.87 to 0.92 across a variety of adult populations.

Data Analysis

When examining missing survey data, published guidance regarding individual questionnaires was followed when applicable. If published guidance was not available, mean substitution was used. If more than 15% of the responses for any
questionnaire were missing, data from that participant’s questionnaire were not included in analyses. Differences between baseline and follow-up time points for clinical and objective PA data were analyzed using paired-samples t-tests. Nonparametric questionnaire data were analyzed using the Wilcoxon signed rank test. All analyses were completed using the Statistical Package for the Social Sciences (version 25; SPSS In., Chicago, IL).

RESULTS

Approximately 60 women expressed interest in the program across the two semesters it was advertised. From this pool, 35 women enrolled in the study after learning of program specifics (e.g., date, time, and adherence expectations). Thirty-two women (age, 48.1 ± 9.0 yr) completed at least 10 out of 12 sessions of the Fit Minded book club and were included in the analyses. The three persons who dropped out did not differ in weight or age from the rest of the population; reasons for dropout were related to time conflicts and familial obligations.

Average steps per day did not change significantly (average change = 444.14, \( P = 0.122 \); Table 1). However, significant reductions were seen in weight, BMI, and systolic BP, with trends toward positive changes in body fat % and HDL cholesterol (Table 1). Fasting blood glucose significantly increased from baseline to follow-up (Table 1). Significant improvements were seen across several measures of perceived self-competence, goal setting, and self-worth (Table 2); however, there were no significant changes in the measures reflecting the expected outcomes to exercise.

DISCUSSION

The aim of this study was to assess the efficacy in rural women of the Fit Minded book club, a 12-wk intervention for women designed to improve PA levels, psychosocial variables, and clinical health outcomes. Extending the results of Huberty et al. (8,18), data from the present study’s Fit Minded participants indicated improvements on a variety of indices, showing promise for the program’s utility in a population who faces low PA rates and disproportionate health risks (3,13,30).

There was no statistically significant change to objectively assessed PA, although there was a trend toward more steps at the end of the intervention. The lack of significance is not altogether surprising as the intervention did not include a face-to-face PA component. Instead, it relied on informational, cognitive, social, and behavioral strategies to encourage the requisite motivation and self-efficacy needed to make independent changes to one’s daily activity. This positive trend is promising and, in combination with other findings, depicts a profile relatively common to those in the early stages of making behavior changes.

It is often the case that before changes to PA become apparent, individuals first experience changes to their attitude, motivation, and intention related to becoming more active (31). The present study’s findings represent several psychological shifts that can underpin successful activity adoption. Specifically, significant increases to global and physically related self-perceptions, positive shifts to decisional balance, and the adoption of behavioral strategies such as goal setting and planning/scheduling for PA were reported. Fit Minded intentionally guides participants through discussion so that participants are reminded about the value in participating in healthy behaviors, namely, PA and how to be successful at this on their own. This message is reinforced through the books’ main messages, workbook lessons, and group discussion.

The only class of psychosocial variables that did not reach significance was outcome expectations. Positive outcome expectations can be a powerful impetus for change as they

### TABLE 1.

Baseline and Follow-up Anthropometric and Clinical Data for All Women Who Completed the Book Club Intervention (\( n = 32 \)).

<table>
<thead>
<tr>
<th></th>
<th>Baseline, Mean ± SD</th>
<th>Follow-up, Mean ± SD</th>
<th>( P )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steps per day (steps)</td>
<td>6569.24 ± 2159.44</td>
<td>7013.38 ± 2120.40</td>
<td>0.122</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>79.84 ± 16.29</td>
<td>79.08 ± 16.76</td>
<td>0.022*</td>
</tr>
<tr>
<td>BMI (kg·m(^{-2}))</td>
<td>29.63 ± 5.06</td>
<td>29.35 ± 5.28</td>
<td>0.022*</td>
</tr>
<tr>
<td>Systolic BP (mm Hg)</td>
<td>123.19 ± 13.47</td>
<td>119.63 ± 12.33</td>
<td>0.047*</td>
</tr>
<tr>
<td>Diastolic BP (mm Hg)</td>
<td>80.94 ± 12.34</td>
<td>79.50 ± 9.63</td>
<td>0.268</td>
</tr>
<tr>
<td>Waist circumference (cm)</td>
<td>89.34 ± 11.91</td>
<td>88.74 ± 12.47</td>
<td>0.291</td>
</tr>
<tr>
<td>% Body fat</td>
<td>44.12 ± 6.87</td>
<td>43.55 ± 7.09</td>
<td>0.065</td>
</tr>
<tr>
<td>Triglycerides (mg·dL(^{-1}))</td>
<td>132.50 ± 69.68</td>
<td>138.28 ± 70.49</td>
<td>0.483</td>
</tr>
<tr>
<td>HDL cholesterol (mg·dL(^{-1}))</td>
<td>53.25 ± 16.61</td>
<td>55.09 ± 15.06</td>
<td>0.096</td>
</tr>
<tr>
<td>LDL cholesterol (mg·dL(^{-1}))</td>
<td>99.50 ± 31.42</td>
<td>97.03 ± 34.90</td>
<td>0.493</td>
</tr>
<tr>
<td>Total cholesterol (mg·dL(^{-1}))</td>
<td>179.25 ± 39.17</td>
<td>179.81 ± 40.69</td>
<td>0.867</td>
</tr>
<tr>
<td>Fasting blood glucose (mg·dL(^{-1}))</td>
<td>78.34 ± 10.29</td>
<td>89.22 ± 11.62</td>
<td>&lt;0.001*</td>
</tr>
</tbody>
</table>

* Significant change from baseline to follow-up measure.
and scheduling scales are each scored from 0 to 5, with higher scores indicating greater use of goal setting, planning, and scheduling behaviors.

MOEE, Multidimensional Outcome Expectations for Exercise Scale, which was scored via 5-point Likert scale, with higher scores indicating a higher level of outcome expectations for regular exercise or physical activity; PSPP, Perceived Self-Perception Profile, in which the subscales are 6 items each, with a possible score of 0–24. Higher scores indicate greater perceived levels of that construct.

**TABLE 2. Baseline and Follow-up Psychosocial Data for All Women Who Completed the Book Club Intervention (n = 32).**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Baseline, Mean ± SD</th>
<th>Follow-up, Mean ± SD</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exercise benefits/barriers scale</td>
<td>127.40 ± 13.77</td>
<td>131.82 ± 14.12</td>
<td>0.023*</td>
</tr>
<tr>
<td>MOEE physical outcome expectations</td>
<td>26.41 ± 2.60</td>
<td>26.79 ± 2.69</td>
<td>0.313</td>
</tr>
<tr>
<td>MOEE social outcome expectations</td>
<td>11.44 ± 3.25</td>
<td>11.69 ± 3.56</td>
<td>0.575</td>
</tr>
<tr>
<td>MOEE self-evaluative</td>
<td>21.09 ± 2.81</td>
<td>21.52 ± 3.11</td>
<td>0.179</td>
</tr>
<tr>
<td>PA goal setting scale</td>
<td>1.80 ± 0.82</td>
<td>2.60 ± 0.92</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>PA planning and scheduling scale</td>
<td>2.18 ± 0.56</td>
<td>2.56 ± 0.58</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>PSPP sport competence</td>
<td>10.28 ± 3.49</td>
<td>11.02 ± 4.10</td>
<td>0.008*</td>
</tr>
<tr>
<td>PSPP physical condition</td>
<td>11.72 ± 2.92</td>
<td>13.91 ± 3.15</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>PSPP body attractiveness</td>
<td>13.38 ± 3.70</td>
<td>14.41 ± 4.05</td>
<td>0.007*</td>
</tr>
<tr>
<td>PSPP strength esteem</td>
<td>12.00 ± 2.97</td>
<td>13.81 ± 3.40</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>PSPP physical self-worth</td>
<td>13.25 ± 3.27</td>
<td>14.49 ± 3.67</td>
<td>0.008*</td>
</tr>
<tr>
<td>Global self-worth</td>
<td>15.78 ± 2.30</td>
<td>16.42 ± 2.30</td>
<td>0.032*</td>
</tr>
</tbody>
</table>

Exercise benefits/barriers scale was scored from 1 to 4, with higher scores indicating a higher benefit to barriers ratio. PA goal setting scale and planning and scheduling scales are each scored from 0 to 5, with higher scores indicating greater use of goal setting, planning, and scheduling behaviors.

* Significant change from baseline to follow-up measure.

**Limitations**

Limitations included a relatively brief intervention window, a relatively small sample size, and the lack of a control group. With a longer intervention window, participants may have had enough time to work more fully through meaningful attitudinal shifts and habituate sustainable PA behaviors. In addition, a larger sample size would allow for the use of statistical analyses that could better identify the magnitude and significance of hypothesized causal connections between the variables of interest. A control group would have helped rule out non-intervention-related factors that could have contributed to the results. Another consideration is that the use of a commercially available accelerometer (Fitbit), as opposed to a research-grade accelerometer, may have weakened the validity and reliability of our findings. In addition, research staff could have collected logs of wear time from the participants to assess the daily wear time for each participant. Future research could also use research-grade accelerometers to allow for more nuanced analysis of PA behaviors, including active minutes, sedentary time, breaks in sedentary time, etc. Finally, although it was not possible that the timeframe of the intervention was not sufficient to reinforce a reprioritization of intrinsic outcomes related to PA or to modify the cultural norm often associated with women’s PA motives (i.e., weight loss). There is a need to determine the efficacy of Fit Minded in rural women over a longer period and how an extended intervention window may also influence the outcome expectation–PA relationship.

Even with increases in daily PA not reaching significance, results indicated several improvements to clinical health variables assessed pre- and postintervention. Positive changes were observed in weight, BMI, and systolic BP. There were also positive (while not significant) trends in body fat percentage and HDL levels. There was a significant increase in fasting glucose; however, postintervention values were still within the normal range (35), and without similar accompanying changes to other health markers, the increase could have been due to normal fluctuations in blood glucose or differences in adherence to the fasting protocol. Without a control group, one must be cautious with overstating the impact of the program and the related improvements to participants’ PA levels on these health-related outcomes. However, it is promising to see these changes occur within the relatively brief intervention period. Future research should observe the effects of Fit Minded on a rural population with a longer intervention timeline with planned follow-up assessments to determine potential physical and psychological effects that persist beyond the intervention window.
assumed that a benefit of the book club format was the inherent social support provided by the group leader and participant peers, perceived support was not a variable explicitly assessed. Future investigations should examine changes to social support, social influence, and subjective norms that may be enhanced by participation in the Fit Minded program.

CONCLUSION

This Fit Minded intervention improved several psychological-sociocultural factors related to PA, which may be indirectly related to improvements in clinical markers of health in rural women. Although statistically significant increases to PA were not observed, PA levels trended in a positive direction. These findings are promising considering the lack of reliable support for successful interventions to improve PA in this population.

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REFERENCES