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Muévete Conmigo: Motivational and Social Effects of a Service-Learning Program in Physical Activity

Muévete Conmigo: Efectos Motivacionales y Sociales de un Programa de Aprendizaje-Servicio en Actividad Física

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Abstract

This study analyzes the impact of a university-based accompaniment program grounded in Service-Learning on motivation for physical activity (PA), intention to engage in PA (IPA), and socio-emotional competencies (prosocial and social empathy and emotional contagion), considering both the role assumed (accompanier vs. accompanied) and gender-related differences. The intervention consisted of an individualized physical activity program in which university students accompanied a sedentary person for one month, with a minimum commitment of three hours per week. Two Likert-scale questionnaires were validated through the Delphi method (W = 0.75). The sample included 419 accompanied participants (62.1% women; *M* = 37; *SD* = 17) and 386 accompaniers (47.7% women; *M* = 27; *SD* = 6). Pre-intervention results revealed that men scored higher on motivation-related items towards PA, whereas women exhibited higher levels of empathy. Post-intervention analyses showed significant improvements ($p < .05$) in 85% of the items assessed for accompaniers, alongside a general increase in favorable responses among accompanied participants. Nevertheless, gender differences remained. The program demonstrated its effectiveness in enhancing IPA, fostering the development of self-determined motivation for PA, and promoting socio-emotional competencies.

Keywords: Higher education; community intervention; sedentary lifestyle; healthy habits; gender differences.

Resumen

En el estudio se analiza el impacto de un programa universitario de acompañamiento basado en el Aprendizaje-Servicio sobre la motivación hacia la práctica de actividad física (AF), la intención de práctica de AF (IPA), y las competencias socioemocionales (empatía prosocial, empatía situacional y contagio emocional), considerando el rol desempeñado (acompañante vs acompañado) y el efecto diferencial del género. La intervención consistió en un programa individualizado de AF en el que estudiantes universitarios acompañaron a una persona sedentaria durante un mes con una dedicación mínima de tres horas semanales. Para el estudio, se validaron dos cuestionarios Likert por método Delphi (W = 0.75). Participaron 419 acompañados (62.1% mujeres; *M* = 37; *SD* = 17) y 386 acompañantes (47.7% mujeres; *M* = 27; *SD* = 6). Los resultados pre-intervención revelaron que los hombres mostraron puntuaciones más altas en los ítems de motivación hacia la AF, mientras que las mujeres destacaron en empatía. En la post-intervención se observaron mejoras significativas ($p < .05$) en el 85% de los ítems analizados en los acompañantes, así como un incremento generalizado en las respuestas favorables de los acompañados. No obstante, persistieron diferencias de género. El programa evidenció su eficacia para incrementar la IPA, favorecer el desarrollo de la motivación autodeterminada hacia la AF, y potenciar las competencias socioemocionales.

Palabras clave: Educación superior; intervención comunitaria; sedentarismo; hábitos saludables; diferencias de género.

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Introduction

Scientific evidence highlights the need to engage in regular physical activity (PA) to improve the health of the adult population (Park et al., 2020; Raafs et al., 2020), particularly when aiming to achieve physical (Van Baak et al., 2021), mental (Pearce et al., 2022; White et al., 2024), and social well-being (Buecker et al., 2021). In Spain, at the beginning of the 21st century, sedentary behavior became established as a key risk factor associated with non-communicable diseases (González-Calvo et al., 2018). Although the 2022 Living Conditions Survey (INE, 2023) indicates that 37.7% of the adult population engages in regular PA during their leisure time—exceeding the 26.5% reported in the 2020 European Health Survey (INE, 2020)—this apparent progress may be misleading. Data from the PASOS Foundation (2023) reveal a widespread deterioration in healthy habits. These figures reinforce the urgent need to promote collaborative, multilevel intervention strategies (COLEF, 2017).

To achieve this objective, one of the most widely used methodological approaches is Service-Learning (SL) (Herold & Warning, 2016). Batlle (2011) defines SL as "an educational proposal that combines learning processes and community service within a single, well-structured project, in which participants are trained by engaging with real needs in their environment with the aim of improving it" (p. 49). This methodological approach seeks to foster positive feedback between the individual and society (Hortz, 2017) in order to generate a beneficial impact on the community (Yook, 2018). In the university context, Santos-Pastor et al. (2021) and Chiva-Bartoll & Fernández-Río (2022) emphasize that the implementation of SL is distinguished by its unique emphasis on community service. This distinctive feature is supported by Capella et al. (2014), who highlight its dual contribution: (a) as a driving force for population health promotion and (b) as a mechanism for enhancing individual quality of life.

In the specialized literature, numerous SL experiences in physical education (PE) have been documented across various social contexts of application (Abellán, 2021; Chiva-Bartoll et al., 2021; Fernández-Bustos et al., 2024; Santos et al., 2018; Santos-Pastor & Martínez-Muñoz, 2019). These contexts make it possible to address different domains such as civic competence (Chica & Peña, 2024) and professional competence (Ruiz-Montero et al., 2022). Along these lines, several studies have shown that SL in the field of university-level PE increases personal commitment to active lifestyles and enhances components of self-determined motivation, as summarized by Chiva-Bartoll et al. (2019). However, questions remain regarding its differential impact depending on role (mentors vs. mentees) and gender, as well as its capacity to break sedentary habits through mechanisms of socialization and enjoyment (Pérez-Pueyo et al., 2019).

In this context, the study focuses on the analysis of three dimensions related to the intervention: (1) motivation toward engaging in PA (IPA), understood from the perspective of Self-Determination Theory (Ryan & Deci, 2020) as a continuum ranging from amotivation to controlled forms of extrinsic motivation and, ultimately, intrinsic motivation oriented toward personal enjoyment and well-being; (2) IPA, defined as the cognitive predisposition prior to sustained PA participation, acting as an immediate predictor of future behavior (Ajzen, 1991; Saiz-González et al., 2024); and (3) socioemotional competencies, which in this study are operationalized through different manifestations of empathy (prosocial, situational, and emotional contagion), related to the ability to understand, share, and appropriately respond to the emotional states of others (Decety & Cowell, 2014).

Within this theoretical framework, the main objective of the study was to evaluate the impact of the SL program "Muévete Conmigo" on self-determined motivation toward PA, IPA, and the development of socioemotional competencies (prosocial empathy, situational empathy, and emotional contagion), also considering possible differences based on gender and the role assumed (mentor vs. mentee). The primary hypothesis posited that participation in the "Muévete Conmigo" SL program would produce significant improvements in self-determined motivation toward PA, IPA, and socioemotional competencies, with variations depending on the role performed (mentor vs. mentee) and gender.

Method

Study Design and Participants

The "Muévete Conmigo" program was designed to promote PA through an active mentoring approach across different educational stages (Pérez-Pueyo et al., 2019). In the present study, university students of Physical Activity and Sport Sciences (PASS) acted as mentors for initially sedentary individuals (mentees). A longitudinal quasi-experimental design was employed, including pre- and post-intervention measurements and comparative analyses by gender. The study involved a total sample of 805 participants, divided into two groups according to their role in the program. A total of 419 adults participated as mentees (M = 32; SD = 17), with a gender distribution of 260 women (62.1%) and 159 men (37.9%). For the mentors, 419 adults initially participated; however, due to pre-post questionnaire non-response, 33 participants were lost, resulting in a final sample of 386 mentors (M = 23; SD = 5), with a balanced gender distribution of 184 women (47.7%) and 202 men (52.3%).

Mentees enrolled in the program on a voluntary basis. Most of them came from a middle socioeconomic background in various cities in northern Spain. The inclusion/exclusion criteria for their participation were as follows: (1) absence of medical conditions contraindicating PA, (2) metabolic risk profile (sedentary behavior confirmed via IPAQ-SF or body mass index ≥25), and (3) commitment to a minimum adherence to the program (≥3 hours/week of structured PA for one month).

Regarding the mentors, the sample consisted of voluntary university students enrolled in the PASS degree. The inclusion/exclusion criteria were as follows: (1) identifying a sedentary or overweight/obese person within their immediate environment, (2) designing a monthly PA plan/program tailored to the mentee's characteristics, and (3) collecting evidence of PA participation across the different sessions carried out.

The professors coordinating the project were affiliated with the same university and had prior experience in implementing SL in various projects, as well as in executing the "Muévete Conmigo" program in different educational contexts.

Instruments

Based on the analysis of previous literature, no validated instruments were found that jointly and contextually captured the three dimensions under study within the present SL program (mentors vs. mentees). Although validated questionnaires exist to assess these variables separately, their direct application was limited due to the specificity of the participants' profiles and the program's objectives. Consequently, two ad hoc questionnaires with Likert-type scales were developed, tailored to the distinct contexts of the participants. Five-point scales (1=strongly disagree, 5=strongly agree) were used for most items, except for the sections on intrinsic motivation for PA, for which a seven-point scale was employed.

Questionnaire for Mentees: This questionnaire assessed IPA and motivation toward PA. It consisted of 9 items organized into two sections: the first section (5 items) explored IPA through statements such as "I am interested in improving my physical fitness" or "I usually practice sports in my free time." The second section (4 items) evaluated motivation toward PA, focusing on intrinsic reasons such as enjoyment, fun, and personal satisfaction (e.g., "I engage in physical activity because it is enjoyable," "Because it is exciting," "Because I have fun"). Additionally, the number of weekly hours of PA was recorded using five response categories (none, less than 1 hour, 1 hour, 2 hours, 3 hours, or more than 3 hours).

Questionnaire for Mentors: This questionnaire measured motivation toward PA and socioemotional competencies (empathy components). It was structured in three sections: the first section (4 items) assessed motivation through statements such as "I engage in physical activity because it is exciting" or "Because it is fun"; the second section (5 items) explored IPA (e.g., "I am interested in improving my physical fitness," "I usually practice sports in my free time"); the third section (20 items) evaluated dimensions of empathy, including items such as "My friends' emotions affect me greatly" and "After spending time with a sad friend…"

To ensure the reliability and validity of the designed questionnaires, a Delphi method was employed. First, each questionnaire was developed based on the study objectives and a literature review, which allowed them to be structured around key dimensions. Subsequently, a panel of five experts in the fields of PA, education, and SL was selected, meeting the following criteria: (a) a minimum of five years of experience in research or teaching in the areas of PE and SL, (b) prior participation in educational or community intervention projects, and (c) availability to participate in all three evaluation rounds. In the first round, the experts individually reviewed the items, suggesting modifications or eliminations based on clarity, relevance, and coherence. In the second round, a summary of the responses was presented, and the evaluators were asked to reconsider their answers in light of the others' feedback. In the third round, the evaluators made final adjustments to reach greater consensus. The final responses were analyzed using descriptive statistics and concordance measures, employing Kendall's coefficient, which yielded a W of 0.75, considered optimal (Maskavizan et al., 2023). Internal consistency of the questionnaires was also assessed using Cronbach's alpha, obtaining values of 0.86 for the mentors' questionnaire and 0.94 for the mentees' questionnaire, indicating adequate reliability (Carvajal et al., 2011).

Procedure

Prior to the intervention, and to ensure the ethical rigor of the study, the code of ethics of the University of León was followed. Subsequently, the professors responsible for coordinating the intervention contacted the students enrolled in the PASS degree to explain the objectives and procedures of the research.

All mentees signed an informed consent form detailing their voluntary participation, the confidential handling of data, and the possibility of withdrawing from the project at any stage. Questionnaires were administered to participants at two time points (pre- and post-intervention) in a quiet environment, with a maximum duration of 20 minutes per session. The process adhered at all times to fundamental ethical principles in human research (McMillan & Schumacher, 2001). Emphasis was placed on the importance of responding honestly, ensuring that their answers would not affect their academic evaluation. Confidentiality was maintained through anonymous responses and the exclusive use of the data for scientific purposes.

Intervention

In the initial phase, students enrolled in the PASS degree identified a sedentary person within their immediate environment. They then designed a monthly plan ensuring at least three hours per week of PA with the mentee, tailored to their needs. The plan was reviewed and supervised by the responsible faculty, who provided guidance and feedback to ensure that the sessions were appropriate for the mentees' requirements. Additionally, the students received specific training beforehand on mentoring strategies, session design, and safety in PA practice.

Once the commitment was established, both participants completed their registration on the program's web platform. During the program, each PA session was documented through audiovisual evidence. At the conclusion of the project, the students prepared a final dossier summarizing the evidence for each day of participation.

Furthermore, both mentors and mentees completed pre- and post-intervention questionnaires.

Statistical Analysis

SPSS v.30 software (IBM, USA) was used for data analysis. First, reliability was assessed using Cronbach's alpha, yielding a reliability of 0.86 for the mentors' questionnaire and 0.94 for the mentees' questionnaire, both within the acceptable range for reliability coefficients (0.7–0.9) (Carvajal et al., 2011). Descriptive statistics and frequency analyses were then conducted for the participants' responses. The Kolmogorov-Smirnov test indicated a non-normal distribution for all items analyzed ($p < 0.05$). Inferential analyses were performed using the non-parametric Wilcoxon signed-rank test to compare pre- (before the intervention) and post-intervention (after the intervention) responses for each item. Additionally, the non-parametric Mann-Whitney U test was applied to compare responses between

women and men for each item and time point. Effect sizes for pairwise comparisons were calculated using the Wilcoxon signed-rank test (r) and classified as small (0.1), moderate (0.3), or large (0.5) (Cohen, 1988; Coolican, 2009). Results are reported as mean (standard deviation) [M (SD)], with the significance level set at 0.05.

Although it is common to perform analyses at the level of dimensions or overall factors, the analysis was conducted at the individual item level due to the exploratory nature of the designed instruments, the diversity of participant profiles, and the initial phase of intervention validation.

Results

The results of the response frequency analysis for each item in the mentors' questionnaire are presented. Most responses tended to fall between "agree" and "strongly agree," except for items 8 ("I do not care about other people's feelings"), 18 ("I am indifferent to my friends' misfortunes"), and 20 ("I find it difficult to notice when my friends are happy") in Block 3, which clustered around "strongly disagree" and "disagree." This pattern suggests greater sensitivity to others' negative emotions than to positive ones (see Supplementary Material 1).

Table 1 shows the means and standard deviations for the various items answered by mentors at both the pre-mentoring and post-mentoring time points. The intervention produced significant improvements ($p < .05$) in 8 out of 29 items, concentrated in prosocial empathy (Block 1: +0.2–0.4 points) and emotional contagion (Block 2: +0.1–0.2). Only 2 items in Block 3 showed moderate gains (+0.1), suggesting a differentiated impact depending on the type of emotional competency assessed.

Table 1

Mean (SD) at pre-mentoring and post-mentoring, comparison between time points (p-value), and effect size (r) of the intervention for the results obtained for each item analyzed in mentors

Item	Pre	Post	*p*-value	r
1_1	4.3 (0.8)	4.4 (0.7)	**0.001**	**0.17**
1_2	4.0 (0.9)	4.2 (0.8)	**<0.001**	**0.20**
1_3	4.4 (0.8)	4.6 (0.7)	**0.001**	**0.17**
1_4	4.3 (0.8)	4.4 (0.8)	**0.003**	**0.15**
2_1	4.4 (0.7)	4.5 (0.7)	**0.05**	**0.10**
2_2	4.3 (0.9)	4.4 (0.8)	0.49	0.04
2_3	3.9 (1.1)	3.9 (1.0)	0.26	0.06
2_4	4.4 (0.8)	4.4 (0.7)	0.64	0.02
2_5	4.0 (1.1)	4.2 (1.0)	**0.002**	**0.16**
3_1	3.6 (1.0)	3.7 (0.9)	**0.02**	**0.12**
3_2	3.5 (1.0)	3.5 (0.9)	0.61	0.03
3_3	4.4 (0.6)	4.4 (0.7)	0.39	0.04
3_4	2.9 (1.3)	2.9 (1.3)	0.65	0.02
3_5	3.5 (1.0)	3.6 (0.9)	0.13	0.08
3_6	2.5 (1.1)	2.5 (1.1)	0.90	0.01
3_7	3.9 (0.9)	3.8 (0.9)	0.21	0.06
3_8	1.6 (0.9)	1.7 (1.0)	0.47	0.04
3_9	3.7 (0.8)	3.7 (0.8)	0.40	0.04
3_10	3.5 (0.8)	3.6 (0.8)	**0.03**	**0.11**
3_11	3.5 (1.1)	3.4 (1.0)	0.39	0.04
3_12	3.6 (0.8)	3.7 (0.8)	0.40	0.04
3_13	3.4 (1.0)	3.4 (1.0)	0.85	0.01

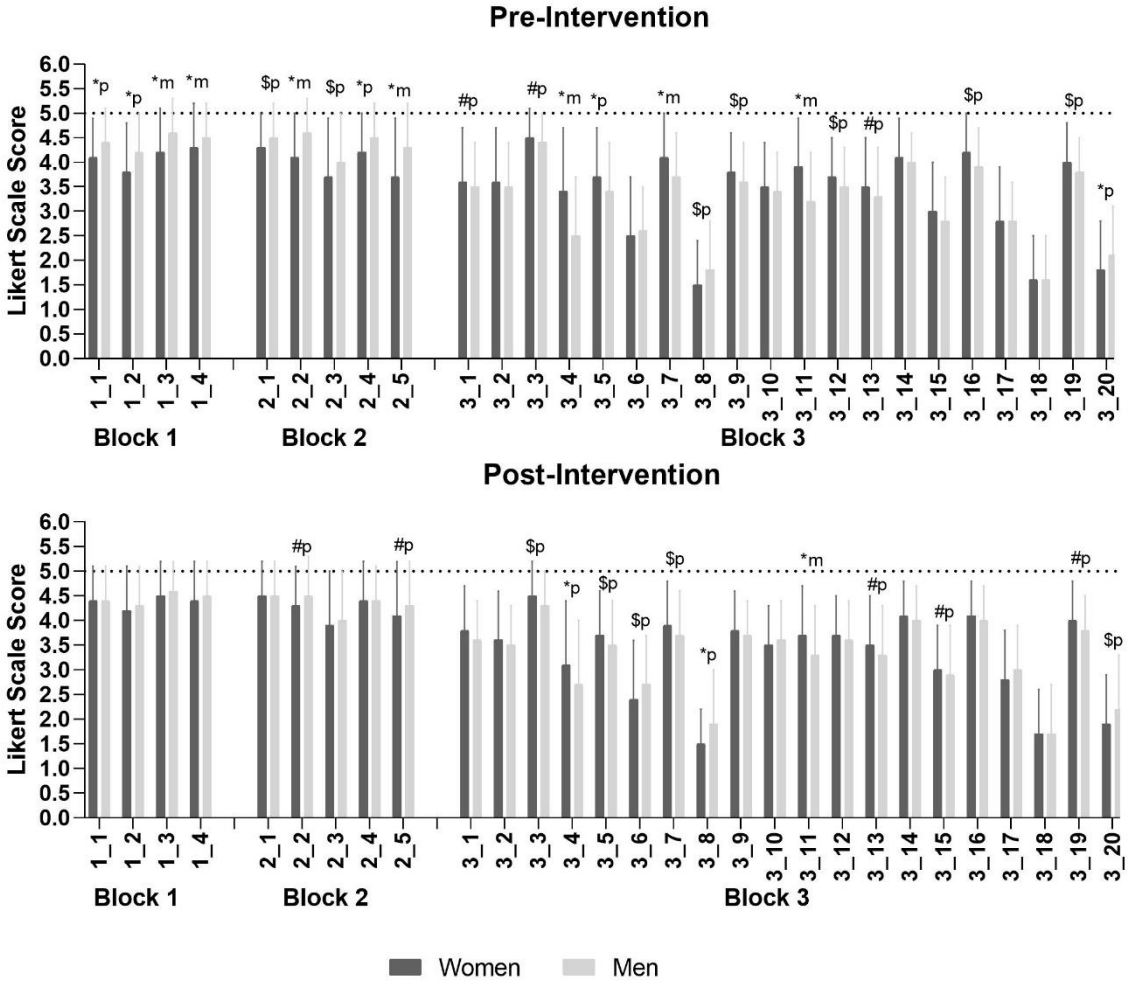
3_14	4.0 (0.7)	4.1 (0.7)	0.46	0.04
3_15	2.9 (0.9)	2.9 (1.0)	0.28	0.05
3_16	4.0 (0.8)	4.0 (0.7)	0.75	0.02
3_17	2.8 (1.0)	2.9 (1.0)	0.27	0.06
3_18	1.6 (0.9)	1.7 (1.0)	0.14	0.07
3_19	3.9 (0.8)	3.9 (0.8)	0.64	0.02
3_20	1.9 (1.0)	2.0 (1.1)	0.11	0.08

Note. Bold indicates results with statistically significant differences.

Figure 1 presents the comparison of results between women and men before and after mentoring. Men scored significantly higher in Blocks 1 (prosocial motivation) and 2 (emotional contagion), whereas women predominated in 13 out of 20 items in Block 3 (situational empathy), except for items 8 ("I do not care about other people's feelings") and 20 ("I find it difficult to notice when my friends are happy"), where men reported greater self-perceived emotional limitations. These differences decreased post-intervention.

Figure 1

Mean (SD) of the pre-accompaniment and post-accompaniment moments for male and female responses, for each of the questions analyzed for the companions.



Note. Different symbols indicate statistically significant differences: # $p \leq 0.05$; \$ $p \leq 0.01$; * $p \leq 0.001$. Letters indicate the effect size of the differences between men and women in statistically significant comparisons: p small effect size; m moderate effect size; g large effect size.

After the mentoring program, gender-dependent differences persisted, with men showing higher scores on items related to recognition of emotional limitations (Block 3, items 6: "I find it difficult to notice when my friends are scared," 8: "I do not care about other people's feelings," and 20: "I find it difficult to notice when my friends are happy") and aspects of emotional management (Block 2, items 2: "I easily catch other people's feelings" and 5: "After being with a sad friend, I feel sad"). Women, in turn, excelled in items associated with situational empathy (Block 3, items 3, 4, 5, 7, 11, 15, and 19, e.g., "I understand my friends' happiness when something goes well for them"). The absence of differences in 61% of the items indicates that the program partially mitigated the initial gaps.

The results of the analysis of response frequencies for each of the questions in the accompanied participant questionnaire show that most responses were concentrated at the "agree" level, except for question 5 in the first section ("I usually practice sports in my free time"), where the highest number of responses was recorded at the "disagree" level in the pre-intervention phase, indicating a low initial adherence to physical activity. In question 2 of the second section ("Apart from classes, I enjoy practicing sports"), most responses were at the "indifferent" level in the pre-intervention phase, suggesting a disconnection between physical activity and voluntary participation. These exceptions highlight behavioral and attitudinal barriers prior to the accompaniment process (see Supplementary Material 2).

In the case of the accompanied participant, a statistically significant increase was observed in the scores for all questions following the intervention (Table 2).

Table 2

Mean (SD) of the pre-accompaniment and post-accompaniment moments, and comparison between the moments (p) before and after the intervention, along with effect size (r), for the results obtained for each of the questions analyzed for the accompanied participants.

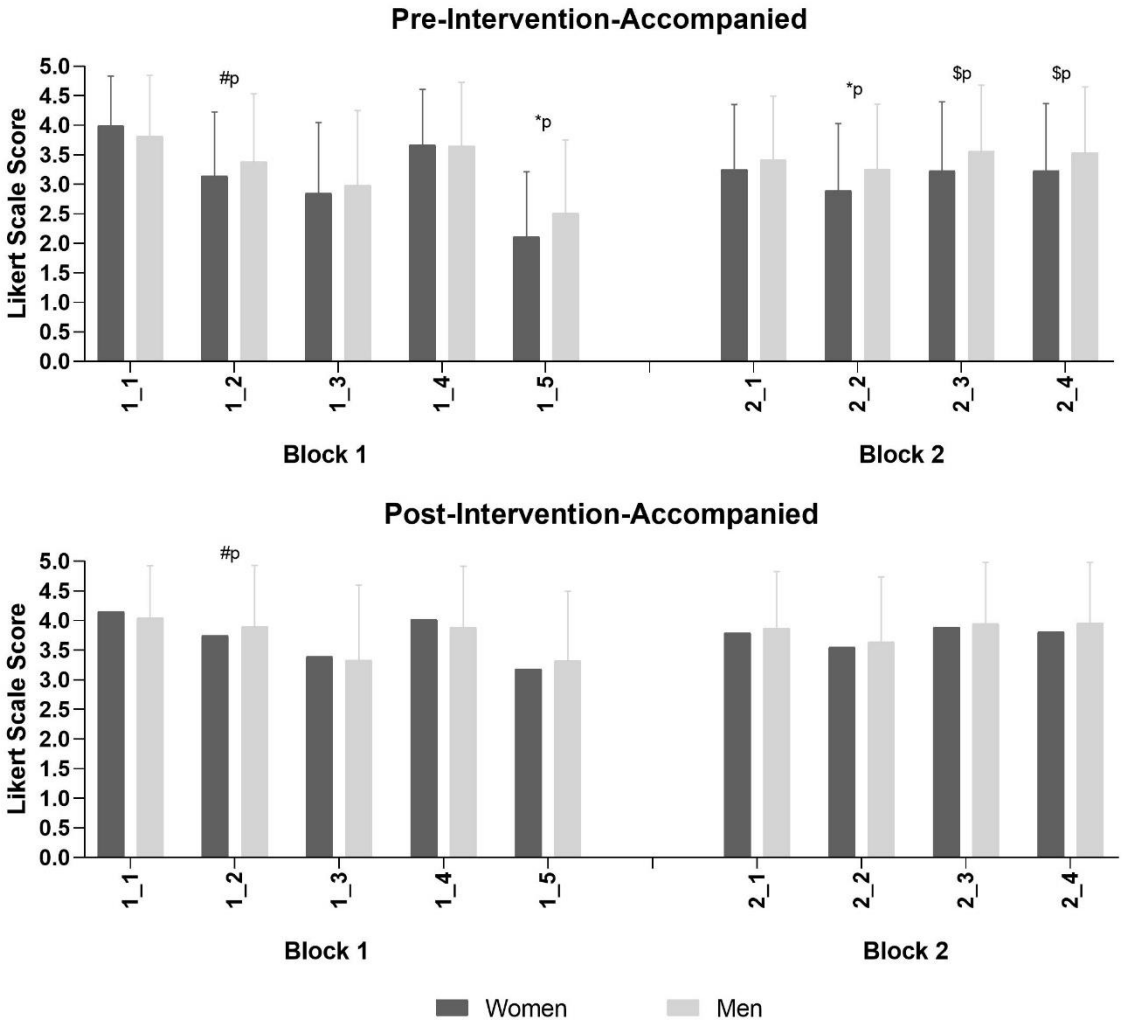
Item	Pre	Post	p (r)
1_1	3.9 (0.9)	4.1 (0.8)	**<0.001 (0.21)**
1_2	3.2 (1.1)	3.8 (1.0)	**<0.001 (0.48)**
1_3	2.9 (1.2)	3.3 (1.2)	**<0.001 (0.41)**
1_4	3.7 (1.0)	4.0 (0.9)	**<0.001 (0.30)**
1_5	2.3 (1.2)	3.2 (1.1)	**<0.001 (0.62)**
2_1	3.3 (1.1)	3.8 (0.9)	**<0.001 (0.45)**
2_2	3.0 (1.1)	3.6 (1.0)	**<0.001 (0.47)**
2_3	3.4 (1.2)	3.9 (1.0)	**<0.001 (0.44)**
2_4	3.3 (1.1)	3.9 (1.0)	**<0.001 (0.42)**

Note. Bold indicates results with statistically significant differences.

On the other hand, when considering gender (Figure 2), statistically significant differences emerge between women and men in the first section for question 2 ("Apart from classes, I enjoy practicing sports") at the pre-intervention moment [women vs. men: 3.1 (1.1) vs. 3.4 (1.2)] and post-intervention [women vs. men: 3.7 (0.9) vs. 3.8 (1.0)], and for question 5 ("I usually practice sports") at the pre-intervention moment (women vs. men: 2.1 (1.1) vs. 2.5 (1.2)). This suggests that sociocultural factors influence autonomous adherence, although the program partially reduced these inequalities. In the second section, statistically significant differences were observed at the pre-intervention moment for questions 2 [women vs. men: 2.9 (1.1) vs. 3.3 (1.1)], 3 (women vs. men: 3.2 (1.2) vs. 3.6 (1.1)), and 4 [women vs. men: 3.2 (1.1) vs. 3.5 (1.1)], reflecting a higher initial internalization of intrinsic motivations.

Figure 2

Mean (SD) of the pre-accompaniment and post-accompaniment moments for men and women before and after the intervention, for the results obtained for each of the questions analyzed for the accompanied participants.

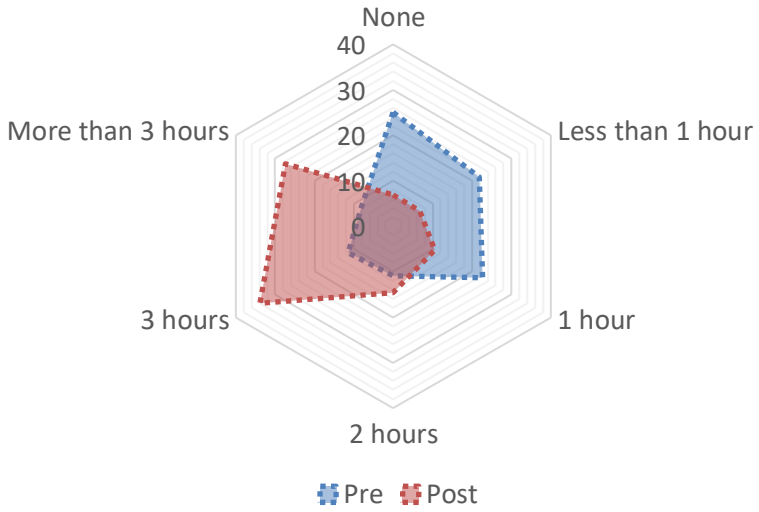


Note. Different symbols indicate statistically significant differences: # p≤0.05; $ p≤0.01; * p≤0.001. Letters indicate the effect size of the differences between men and women in statistically significant comparisons: p small effect size; m moderate effect size; g large effect size.

Finally, Figure 3 shows the change in the number of hours of physical activity performed by the accompanied participants in the study before and after the intervention. It can be observed that, before the intervention, almost 70% of participants engaged in between zero and one hour of physical activity per week, whereas after the intervention, more than 75% of participants engaged in more than two hours of physical activity per week.

Figure 3

Hours of PA performed by the accompained Participants before (pre- blue) and after (post – red) the accompaniment.



Note. Results are expressed as a percentage of responses.

Discussion

The main objective of the study was to evaluate the impact of a SL program on self-determined motivation toward PA, IPA, and the development of socio-emotional competencies, while also considering potential differences based on gender and the role assumed (mentor vs. mentee). The results obtained show a positive effect of the program across all dimensions analyzed, for both mentors and mentees. These findings are consistent with previous studies that have examined SL programs in PE, which have demonstrated that SL is a pedagogical model that promotes learning and enhances participants' attitudes (Lleixá & Ríos, 2015; Webster et al., 2017). Nevertheless, it is worth noting that, although the SL methodology represents a central component of the intervention, the results may also have been influenced by specific features of the "Muévete Conmigo" program, such as the supervision provided by experienced teachers or the direct interaction between mentors and mentees.

Motivation and Adherence to PA

Among the mentors, the results revealed some significant differences in motivation. Prior to their participation in the program, the data already indicated high scores—levels 4 and 5—for almost all items in the motivation and IPA blocks, and slightly lower scores for empathy. The fact that participation must be voluntary to achieve its full potential requires that mentors already have a prior relationship with PA, understanding it as an important and integral part of their daily lives and as an area for personal development. In this regard, several studies have linked SL programs with the promotion of PA among prospective PE teachers or future PA professionals (Pérez-Ordás et al., 2021), who typically already maintain a strong relationship with PA. However, the results of this study show that, despite beginning with positive motivation and intentions, these were further enhanced after completing the program. Thus, the program demonstrates that it not only impacts the mentees but also benefits the mentors by improving their motivation and social engagement around PA, which in turn contributes to greater adherence to PA and the development of social competences (Sánchez et al., 2025).

Differences by Rol and Gender

The results indicate that, prior to the intervention, motivational and intentional aspects were generally higher among men, whereas aspects related to socio-emotional competences tended to be more pronounced among women. These findings are consistent with previous evidence; for instance, the meta-

analysis conducted by Ortega-Martínez et al. (2025) showed that men, on average, exhibit higher motivation toward PA than women, although this difference tends to diminish with age. However, following participation in the program, women demonstrated a substantial increase in their levels of motivation and intentionality, to the extent that the difference with men was no longer statistically significant. In this regard, methodologies such as SL enable participants to make decisions about their own development (Carson & Raguse, 2014), granting them freedom to choose the type of PA or to engage in it through non-compulsory social interactions, which directly enhances motivational levels and appears to be particularly beneficial for women (Miletić et al., 2024).

Regarding the mentees, the results show that the program led to a significant improvement across all aspects associated with motivation and IPA. Sedentary behavior is closely linked to a lack of motivation toward engaging in PA, which may stem from multiple socio-environmental factors (Keegan et al., 2016). Although individuals often express a desire to change such behaviors, they tend to persist despite attempts at modification. Furthermore, the increase in the number of hours of weekly PA practice supports the conclusion that the mentoring project was successful in enhancing the mentees' motivation to engage in regular PA.

Practical Implications and Limitations

Based on the results of this study, one of the most effective practical implications for teachers may be the implementation of SL programs in the classroom—particularly in subjects such as PE—where students with greater experience can guide their peers in planned activities, thereby promoting not only PA but also socio-emotional competences. In the university context, SL programs can be integrated into the initial training of future teachers, allowing students in PASS degrees to develop planning, leadership, and mentoring skills, while fostering critical and reflective thinking about their own attitudes. This process helps them to identify how they may reproduce or challenge the hidden curriculum in their future professional practice. Another key strategy involves the use of cooperative activities with assigned roles that enhance both self-efficacy and emotional development, balancing individual strengths without reinforcing gender stereotypes. Finally, it is recommended to promote student autonomy—particularly among female students—through activities that allow them to design and lead their own routines or physical challenges, thereby strengthening their intrinsic motivation.

Among the main limitations of the study are the use of self-reported instruments completed by the participants themselves, as well as the absence of a control group, which would have allowed for a more rigorous evaluation of the program's effects. Additionally, the program's duration may limit the consolidation of long-term learning. Another relevant limitation concerns the potential self-selection of participants who assumed the role of mentors. As participation was voluntary, it is likely that mentors already had high levels of motivation toward PA, which could have biased the results and limited the generalizability of the findings to less motivated populations. Furthermore, it should be noted that the findings are based on a program applied to university PE students in a specific context, and therefore their generalization to other populations or educational settings may be limited.

Future research should replicate the program across different contexts, educational levels, and sociocultural groups to assess external validity and determine whether the observed effects are maintained in diverse scenarios. In this regard, subsequent studies should also explore the sustainability of the observed changes over time through longitudinal designs and incorporate mixed-methods approaches.

Conclusions

The "Muévete Conmigo" program suggests that providing freedom to choose what, when, and where to engage in PA, offering guidance during its practice, and learning to maintain it over time, among other aspects, has significant positive effects on mentees' motivation to engage in PA, socio-emotional competences, and IPA. In this regard, SL emerges as an effective methodology to overcome the initial and persistent barriers posed by high levels of sedentary behavior in adults. Moreover, the

project indicates a partial reduction of gender disparities in terms of intentionality and motivation toward PA, particularly enhancing these aspects among women.

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