An Intervention to Support Collegiate Student-Athletes in the Transition to Meaningful Lifetime Physical Activity

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Abstract

Former student-athletes (SAs) experience unique barriers to maintaining their physical activity, such as loss of team support, less motivation without specific goals, and identity-related changes. Informed by a self-determination theory framework, we developed a six-week Pilates-based intervention to support the physical and psychological wellness of SAs by fostering self-determined motivation and basic psychological needs satisfaction as they make the transition to physically active alumni. In this case study, we outline the development and implementation of the program with final-year SAs \((n = 12)\) at a Division III institution. Feasibility was demonstrated through high adherence and positive participant feedback suggesting they valued their experiences in the program and felt more confident in pursuing new forms of physical activity beyond college sports. To extend this type of programming at other institutions, we recommend sport psychology professionals consider unique institutional barriers and opportunities for supporting SAs in their transition to meaningful lifetime activity.

Keywords: athletes, transition, physical activity, Pilates, self-determination theory
An Intervention to Support Collegiate Student-Athletes in the Transition to Meaningful Lifetime Physical Activity

Transitioning to sustainable lifetime physical activity following the end of a competitive sport career can feel daunting after years of focused training for a single sport. As student-athletes (SAs) enter this transition, learning to integrate physical activity within new life commitments can be frustrating when compared to the priority placed on training during college (Plateau et al., 2017). Being a SA does not necessarily predict greater involvement in physical activity in the future (Sorenson et al., 2015). In reality, former SAs may experience unique barriers to maintaining their physical activity after college, including loss of team support (Fuller, 2014; Reifsteck & Brooks, 2018) and less motivation without specific goals (Plateau et al., 2017). Year-round training for a specific sport can also contribute to difficulty in transitioning to other forms of physical activity beyond graduation (Sorenson et al., 2015). A highly salient athletic identity may compound transitional challenges if SAs have not developed self-perceptions rooted in broader physical activity beyond their sport (Reifsteck et al., 2016).

In line with these potential challenges, research suggests former SAs experience declines in their physical activity (Sorenson et al., 2015) and health-related quality of life (Simon & Docherty, 2014), which may have long-term implications. Alternatively, maintaining regular physical activity across the lifespan is associated with a variety of positive health outcomes, such as reduced mortality, decreased risk for cardiovascular disease, increased muscular strength, preserved bone mass, reduced risk of falling, improved psychosocial well-being (e.g., decreased depression and anxiety), and enhanced cognitive function and quality of life (CDC, 2020; Garber et al., 2011; WHO, 2020). Supporting self-determination among transitioning SAs may empower
them to seek meaningful opportunities to be physically active beyond competitive sports participation and enhance their future well-being overall.

During college, many SAs become driven by extrinsic motivators like scholarships, playing time, and competition. Extrinsic motivation arises from the desire to obtain rewards or avoid punishment and can include aspects such as social recognition, wealth, and image (Ingledew et al., 2009). When extrinsic factors are the primary source of motivation, it can be difficult for SAs to reframe the purpose of physical activity after college athletics conclude. This could have important implications for future physical activity participation, as extrinsic orientations are less predictive of well-being and task persistence in comparison to more intrinsic orientations (Ingledew et al., 2009; Ryan et al., 2009).

While extrinsic motivation is tied to performance of a behavior for attainment of a separate outcome, intrinsic motivation involves participation in an activity for the inherent satisfaction of involvement (Ryan & Deci, 2000). SA alumni have reported struggling with intrinsic motivation for physical activity without the specific goals that they relied on during their college training programs (Plateau et al., 2017). Further, experiencing a controlling and rigid sport environment can undermine individual interest in and enjoyment of participation (Ryan et al., 2009). Alternatively, the development of more self-determined, autonomous motivation is associated with greater feelings of ownership of physical activity behaviors (Vlachopoulos & Michailidou, 2006). Despite the unique challenges faced by SAs, few intervention programs integrate self-determined approaches that emphasize physical activity transition support for SAs (Reifsteck & Brooks, 2018).

Context
As former collegiate SAs and current faculty in the field of kinesiology, we were intrigued by the challenges that many SA alumni face during their transition out of competitive sports. We recognized the need for new strategies to support meaningful physical activity beyond the structure of college athletics. The development of the intervention outlined in this case study was informed by previous research on sport transitions, a self-determined theoretical approach to promoting meaningful physical activity, and reflections from our own personal experiences. Additionally, Author 1 is an experienced group exercise instructor, while Authors 2 and 3 have prior experience with developing transitional programming for SAs.

As kinesiologists, we place high value on promoting sustainable physical activity for diverse individuals, which drives our research and applied work. As former SAs (Authors 1 and 3), we also bring our own unique transition experiences and awareness of college athletics culture that influence our personal understandings of the topic. During the process of program development and evaluation, it was important for us to recognize our own positionality while remaining open to the unique experiences of program participants by engaging in purposeful reflexive practice throughout the process (Creswell, 2014). For example, Author 1 completed and reviewed written reflections of her experiences and questions after implementing each program session with SAs. This enabled her to reflect on her personal growth through facilitating the program, as well as note ways in which previous assumptions were challenged through direct experiences with SAs. The consistency of Author 1’s involvement through all phases (i.e., development, facilitation, and evaluation) combined with the research team’s previous experiences both as former SAs and professionals who have worked closely with SAs, added important context. This contributed to a deeper understanding of participant feedback and informed culturally relevant program recommendations (CDC, 2011; Ryba et al., 2013).
Self-determination theory (SDT) offered a valuable framework for developing our physical activity transition program for final-year SAs. SDT explains human motivation through exploring personality, goals, energy, behavior, well-being and social environment (Deci & Ryan, 2008). SDT emphasizes conditions that foster intrinsic motivation, which is characterized by interest, enjoyment, and inherent satisfaction (Ryan & Deci, 2000). Fulfillment of the basic psychological needs for competence, autonomy and relatedness enhances intrinsic motivation, which significantly predicts physical activity enjoyment and adherence (Barbeau et al., 2009; Ryan et al., 2009; Teixeira et al., 2012; Vlachopoulos & Michailidou, 2006). While these needs may have been fulfilled in specific ways during college athletics, innovative transitional strategies may be needed for former SAs to experience physical activity satisfaction (Smith et al., 2018).

Competence involves self-efficacy in mastering challenging tasks (Ryan & Deci, 2000). Competence may fade when SAs are no longer training for and competing in their specific sport. Autonomy refers to self-directed choice for personally endorsed and meaningful activities (Ryan et al., 2009). If their sport-specific training involved few choices, SA alumni may feel unprepared to navigate their newfound physical activity autonomy. Relatedness emphasizes belonging and connection, as individuals feel both included and cared for by others (Ryan et al., 2009). The natural disbanding of teams can lead SAs to fear that the camaraderie and social support that they experienced will not be replicated in the future (Fuller, 2014). These factors were central considerations in designing the core features of a Pilates-based intervention to support SAs in transition. Effective support during their final year in college may empower SAs to seek opportunities for enjoyable physical activity beyond graduation.
Author 1 is a certified Pilates instructor who has worked specifically with SAs during the past three years. We identified Pilates as a form of lifetime physical activity that would interest SAs and could form the foundation of a transition program that supports their psychological needs. In addition to training core muscular fitness, flexibility and balance, Pilates emphasizes personal responsibility, active self-care, and an experience of daily wellness (Siler, 2006). Pilates classes can create reflective environments for purposeful physical activity. Instruction emphasizes body alignment and breathing awareness, which foster mindfulness and well-being (Caldwell et al., 2013). Mindful physical activity can promote satisfaction of basic psychological needs (Chang et al., 2015; Hodgins & Knee, 2002). Autonomy and competence support are woven into Pilates training, as participants choose how to complete movements and receive constructive feedback.

With a theoretical foundation in SDT and evidence for Pilates as a mindful lifetime activity, we designed the PILATES Connect program for final-year SAs. Research highlights the barriers that SAs face in the transition to physically active lifestyles beyond college athletics. As we merged our own personal experiences with the growing body of research evidence, we identified the need for an effective intervention that prepares final-year SAs to transition to meaningful lifetime physical activity. Therefore, the PILATES Connect program was developed to support physical and psychological wellness as SAs transition to active alumni. The program fosters self-determined motivation and basic psychological needs satisfaction through a Pilates-based curriculum. The purpose of this case study is to describe the development, implementation, and evaluation of the PILATES Connect program to equip sport and exercise psychology professionals with effective strategies for supporting SAs as they transition to alumni.

The Case
The *PILATES Connect* program was implemented at a Division III institution with a group of final-year SAs. Prior to implementing the program, discussions with athletics department administrators, coaches, and SAs at the institution affirmed interest in offering a short-term physical activity transition program. Author 1 had built relationships over the past three years by regularly offering Pilates classes to SAs, providing feedback on class effectiveness to coaches, and attending athletics department meetings at least once each year. During that time, Author 1 was also consulted by various coaches for creation of individualized training plans and team Pilates workouts.

A three-week pilot of the *PILATES Connect* program was then implemented to further gauge interest and feasibility, as well as refine program content. Based on positive feedback from participants and lessons learned in the pilot, a six-week version was implemented with another group of SAs the following semester. After obtaining Institutional Review Board approval, recruitment of final-year SAs occurred during the beginning of the fall semester. Participants were recruited through an email that clarified the research purpose and criteria for involvement. SAs who completed the *PILATES Connect* program received a free yoga mat as an incentive. A description of program activities and outcomes are described below.

**Intervention**

*PILATES Connect* met once each week for 60 minutes. Two class times were offered (morning or afternoon) to accommodate SAs’ schedules and included 35 minutes of Pilates training, 15 minutes of reflection and discussion, and 10 minutes of evaluation. This structure provided sufficient time for individual progression in Pilates training and was a manageable commitment for SAs with full schedules. The program consisted of body weight training for two weeks and then incorporated small medicine balls for weeks three through six. Author 1’s
instructional style emphasized attention to the present, enjoyment, improvement, self-awareness of movement, and opportunities to connect with other participants. Pilates principles of control, precision, fluidity, center, concentration, breath, imagination, and integration formed the foundation for the classes (Siler, 2006).

Pilates was selected for this intervention, as a form of physical activity that few SAs had consistent training in previously. Through the introduction of this activity, SAs were also encouraged to consider other modes of exercise that would be personally meaningful for them in the transition to alumni. Although it was anticipated that some SAs would be interested in continuing Pilates after the conclusion of the program, the broader objective was to support proactive reflection and dialogue regarding personal interests. Through enhancing competence in a new form of activity, SAs were empowered to extend this learning into new physical activity avenues of their own choosing after graduation.

Pilates trains participants toward enhanced personal control by focusing on the quality of movements and deep engagement of core musculature. Pilates was founded on coordinating the body, mind and spirit (Adams et al., 2012). Throughout the intervention, SAs were encouraged to advance or modify components to meet their personal needs and goals. In contrast to highly structured training in college, Pilates offers an opportunity for SAs to individually progress in a new form of physical activity alongside peers from other sports. Self-controlled pacing and intensity allow SAs to engage in the movements with focus and attention to the present. It is void of comparison, competition, or physical pain from pushing beyond individual capabilities. In addition, Pilates was deemed an accessible form of physical activity for SA alumni who might be interested in continued participation after graduation. Pilates is offered as a common form of group exercise throughout many fitness centers. With no need for equipment, Pilates also
provides opportunities for at-home training with accessible, free online videos or self-designed workouts. Resources for continued Pilates training were shared with SA participants after conclusion of the final program session.

SAs received individual reflection and discussion guides for use within PILATES Connect. Discussion topics included future physical activity goals, action steps, self-confidence, social support and program experiences. Each session incorporated three questions to encourage journaling reflection and to enhance dialogue among participants. The Pilates training, reflections, and discussions were designed to provide final-year SAs with competence, autonomy, and relatedness support as they prepared to transition to lifetime physical activity (see Table 1 for description of program components).

Program Evaluation

We took a pragmatic approach (Creswell, 2014), utilizing different methods to evaluate effective support for SAs as they transition to lifetime physical activity. We triangulated information from a variety of data sources (i.e., attendance, survey ratings, open-ended responses, and participant feedback provided during focus groups) to evaluate the program and inform practical recommendations. Attendance was taken at each class to track program adherence. To evaluate the program, feedback forms were administered at the end of each session, and focus groups were conducted at the end of the program. After each session, participants used a 7-point scale (1 = Not at all true, 7 = Very true) to rate three statements adapted from the Intrinsic Motivation Inventory (CSDT, 2020). Statements assessed participants’ perceived physical activity competence (I think I’m pretty good at this activity), autonomy (I did this activity because I wanted to), and relatedness (I felt like I could really trust these people) in
that session. SAs also provided brief written feedback on strategies that they found most helpful, as well as how they would improve sessions.

At conclusion of the final class, participants completed a program evaluation survey using the same 7-point scale to assess competence, autonomy, and relatedness support overall (Because of PILATES Connect... I feel more confident in my ability to transition to meaningful physical activity after the conclusion of college athletics; I feel like I have greater control over my physical activity choices after the conclusion of college athletics; I feel more connected to other student-athletes who participated with me). SAs also provided ratings for statements on program recommendation (I would recommend PILATES Connect to other student-athletes) and their interest in participating in future group exercise (I would consider doing Pilates, or another type of group exercise, again in the future). SAs gave feedback on components of PILATES Connect that were most helpful, as well as recommendations for improvement. Session and program ratings were analyzed descriptively for means and frequency of responses.

SAs were then invited to participate in one of two brief focus groups that occurred two days after program completion. The focus groups were conducted to add context to survey responses and capture SAs’ views as key stakeholders related to psychological needs support provided in the program (What elements of PILATES Connect enhanced your confidence in a new form of physical activity? What elements of PILATES Connect empowered you to make your own choices? What elements of PILATES Connect facilitated connection with other final-year student-athletes?) and program strengths and improvements (How has PILATES Connect influenced your view of the transition out of college athletics? What suggestions do you have for improving PILATES Connect?). Focus group responses were audio-recorded and transcribed.
Reflexive thematic analysis was performed to systematically identify and organize meaningful patterns across the various data sources (Braun et al., 2016). Reflexive thematic analysis, which is a theoretically flexible method for descriptive, practical-oriented research, provided a framework to recognize commonalities and offer insight regarding participants’ shared experiences and interpretations relevant to the program (Braun et al, 2016). Our analysis reflected the interaction of our various data sources, our own positionality as researchers, and the environmental context in which our program was implemented. We were actively involved with the data by listening to the focus group recordings, engaging in multiple readings of the transcripts and program evaluations, and making reflective notes of areas pertinent to the goals of the project. We took a deductive approach to evaluate program feasibility through the theoretical lens of SDT, which was instrumental in the program design. This process enabled us to triangulate different data sources to evaluate the PILATES Connect program. Focus group responses and written participant statements from session and program evaluations were coded to form the primary evaluation themes of 1) components of PILATES Connect supported basic psychological needs satisfaction, 2) components of PILATES Connect could be improved to sustain participation and 3) future physical activity interests. Emphasis was placed on evaluating perceived basic psychological needs support (i.e., competence, autonomy, relatedness) through program participation, as well as evaluating program strengths and areas to improve. Open-ended responses and focus group feedback were organized into sub-themes within the larger program evaluation themes to develop an overall interpretation of participants’ experiences in the program.

Participant quotes included throughout this case study were purposely selected to be inclusive of the perspectives of male and female SAs’ across multiple sports. Program
participants were the primary stakeholders in this research and the selected quotes give them a
voice to share their own experiences. Further, these quotes provide transparency into our process
of interpreting the data; they were chosen to illustrate the identified sub-themes and represent the
blending of our research interpretation with the exact words of program participants. Quotes are
presented in conjunction with the participants’ written feedback and survey responses to provide
deeper insight into the main evaluative themes.

Program Outcomes

Twelve final-year SAs (5 men, 7 women; M age = 21.3, SD = .49) participated in the six-
week program. Eight SAs attended the morning sessions and four SAs attended the afternoon
sessions, which promoted effective small group exercise and discussion. Eleven participants
identified as white, with one SA choosing not to respond. Participants were injury-free and
represented women’s soccer, men’s baseball, women’s field hockey, men’s lacrosse, and men’s
track and field. Outside of class, participants were physically active three to four times each
week (n = 4) or five or more times each week (n = 8). A few participants had moderate
experience with Pilates (n = 3), while most had little to no experience (n = 9). Participants
consistently attended program sessions, with an overall adherence rate of 94.4%. Participants
from both the morning sessions (n = 7) and afternoon sessions (n = 3) attended the focus groups,
as well. Focus groups were brief (lasting approximately 20 minutes), as they were designed to
elicit specific feedback on the program while accommodating SAs’ busy schedules. Program
evaluation themes and sub-themes are presented in Table 2, with key findings summarized
below.

Program Components Supported Basic Psychological Needs Satisfaction. PILATES

Connect was viewed as supportive to basic psychological needs satisfaction throughout the
program (Table 3), which was identified as a primary theme. Ratings of perceived autonomy and relatedness remained consistently high throughout the six sessions. Perceived competence increased from the first to sixth sessions, suggesting that participants experienced progress in a new form of physical activity within a relatively short time. At program conclusion, participants strongly recommended *PILATES Connect* to other SAs ($M = 6.8$) and would consider doing Pilates or other group exercise in the future ($M = 6.8$).

The sub-theme of competence support through progressive new physical challenges was identified. As evidence of this perceived support, SAs enjoyed learning to move more fluidly through Pilates training. A men’s baseball player reflected on his personal growth in different exercises through participation in *PILATES Connect*. He stated, “I thought it was nice to see how you progressed every week in some of the exercises. I mean, whether it be the first week and your knees are shaking and stuff like that. But then you start to develop strength through the movements.” In written feedback after *PILATES Connect* sessions, SAs valued the fitness benefits of Pilates, including flexibility, core stability, and controlled movement ($n = 10$). Competence increased, as participants recognized how the training progressions and new challenges were helpful in their growth ($n = 11$).

The sub-theme of autonomy support included the perceived benefits of personal choice with exercise intensity, pacing and the inclusion of movement modifications or challenges. In written feedback after the sessions, SAs appreciated a relaxed environment to clear their minds ($n = 5$). The *PILATES Connect* instruction and environment supported SAs in making choices regarding their own physical activity within the class. A women’s soccer player reflected on the opportunity to adapt her training during each class. She noted that participants could make the
choice of “whether or not to try the more advanced movements, depending on how you felt that day.”

A sub-theme of relatedness support through group exercise and discussions with peers was also recognized. In written feedback after sessions, participants highlighted the benefits of sharing the group exercise experience with other final-year SAs and the opportunity to talk in small groups ($n = 7$). During a focus group, a men’s baseball athlete shared about the benefits of learning from his peers’ ideas. He noted, “I think the reflection questions we had at the end of each session helped to get to know like what other student athletes think.” Participants experienced relatedness support during the class, with designated time to slow down and think about their future physical activity choices with other final-year SAs. A women’s soccer player expressed feeling greater affirmation for her own feelings of ambiguity as she approached the transition. She stated, “It's just nice connecting with other people and be like, yeah, your thoughts are okay. It's okay to be scared right now, like what you're doing. But you'll figure it out and you will make the transition.” In summary, participants enhanced their competence in Pilates, enjoyed autonomy to modify or advance exercises, and experienced relatedness as they exercised and shared ideas with other SAs during the sessions. Evaluation rating means and related focus group responses regarding basic psychological needs support are provided in Table 4.

Program Components Could Be Improved to Sustain Participation. Participants provided feedback on components that could be improved to sustain participation in the program, a second primary theme. When evaluating ways to improve the program, we identified a sub-theme of extending programming time. Specifically, participants recommended that PILATES Connect meet more often or for longer times. A men’s baseball player expressed that additional
class time would be helpful for his growth. He stated, “I thought it might be beneficial to maybe do it twice a week or to just have a little bit longer session”. Participants suggested continuing *PILATES Connect* for more than six weeks for continued progression and support.

Participants also highlighted the perceived benefits of recruiting more SAs for the program, a second sub-theme. A women’s soccer player recognized the value of learning from the ideas of numerous participants. She noted, “It's valuable to have one or two people who had different opinions. But I mean the more you have, the more connected you can be with people about how they're feeling.” When discussing program recruitment, SAs thought that it would be helpful to have previous participants reach out to other SAs to encourage future involvement. Participants would tell other SAs that Pilates transfers to sport-related training. A men’s baseball player recognized the benefits of Pilates training for sport performance, as well as health. He stated, “It really helps with your overall core strength and flexibility. Those two things are extremely important no matter what sport you play. I think it's just good for your overall health.”

A women’s soccer player agreed that she often found connections between Pilates training and the movements required within her sport. She summarized, “There were multiple times where we were doing a movement and I was like, this is a movement I will make in my sport. So I think there are moments where the movements are really applicable.”

SAs within the *PILATES Connect* program would also recruit future participants by encouraging them to try something new. A women’s soccer player valued the opportunity to learn a unique form of exercise that she could continue to enjoy after the conclusion of college sports. She noted that she appreciated “the time to be calm and just a different way to train when a lot of people haven't done it before… And especially for senior athletes, like it's maybe another possibility for the future. I would tell them that. Just you never know until you do it.” Another
women’s soccer player agreed about the benefits of trying something different within a supportive class structure. She stated, “I would just say be an advocate for something new, do something different. And don't be intimidated by it. It was a really welcoming environment obviously, too.” Equipping SAs, who are the primary stakeholders, to effectively advocate for program participation among peers strengthens transition support. By offering this program when final-year SAs are either in-season or approaching their season, the training benefits of Pilates may provide initial motivation to participate. Once involved in the program, SAs have opportunities to reflect on future physical activity beyond sport and learn from the ideas of their peers.

**Future Physical Activity Interests.** Through participation in *PILATES Connect*, final-year SAs identified a variety of future physical activity interests, a third primary theme. While recognizing the challenges of transition, participants also expressed greater openness to considering new forms of physical activity for future participation, which was identified as a sub-theme. A men’s baseball player discussed his willingness to explore different forms of exercise. He shared, “Since I did Pilates, who knows what could happen! I think it gave me more openness to find new things.” SAs talked about redefining physical activity after college sports, with novel ideas that interested them. A women’s soccer player recognized an expanded view of physical activity options that she might find enjoyable. She remarked, “I think it changed my view a little bit of what I might be interested in after college because at first, I always thought, oh, I have to go to the gym every day to get my exercise in when I don't have soccer. I think going through this made me realize that I'm going to look into classes like this in the future, that are fun and not the gym.” A men’s baseball participant looked forward to making his own exercise choices to promote health. He stated, “There are a bunch of different realms of physical
activity that we could get involved with. It's just good for the transition that we're going to be able to do what we want and stuff like that instead of constantly beating up our bodies, doing the same thing every day at practice.” Throughout the program, SAs progressed in recognizing a broader view of future physical activity options.

As the program progressed, participants were able to identify specific forms of personally meaningful physical activity that they would consider pursuing after college sports. This second sub-theme was expressed through the diverse physical activity interests of individual participants. SAs suggested future physical activity options including cycling, running, Pilates, yoga, lifting weights, barre, skiing and snowboarding. Only one SA, a women’s soccer player, specifically expressed interest in a recreational league to participate in the sport that she played during college. This was an interesting contrast to the other participants who expressed stronger interest in pursuing new forms of physical activity or returning to activities that they were not able to pursue during college. SAs expressed greater optimism about the transition as they anticipated having more activity choices. A men’s baseball player shared about his excitement to become involved in new recreational sport opportunities. He looked forward to “having the freedom to pick and choose what you want to do now. Like now I can play church-league softball if I want to.” These comments reflect SAs’ perceptions of how PILATES Connect positively impacted their views of the upcoming transition to physically active alumni.

Reflections

Based on our findings in this case study, we determined that offering a six-week PILATES Connect program was feasible at this institution. This was demonstrated by high adherence rates and positive feedback among both in-season and off-season final-year SAs. Participants noted the benefits of a scheduled time to slow down, experience a new mode of
mindful physical training, and spend time with their peers. Consistent with the SDT-informed framework used to develop the program (Deci & Ryan, 2008; Ryan & Deci, 2000; Wilson et al., 2008), participants agreed that the program supported their competence, autonomy, and relatedness in physical activity as they approached the transition to alumni.

PILATES Connect was intentionally designed for the fall semester of the SAs’ final year of collegiate competition. This timing was implemented to encourage SAs to proactively think about the transition before it was imminent. The program was created to help participants begin planning action steps toward personally meaningful physical activity before graduation. Pilates training provided a medium for SAs to experience progression in a lifetime activity while exploring ideas and challenges related to future physical activity participation beyond college sports. PILATES Connect was designed to offer a space for SAs to try something new without a specific expectation for performance. Participants were encouraged to take the discussions from the program back to their teammates and continue conversations on how physical activity is relevant to their future as alumni.

Challenges and Future Directions

Recruitment remains a key issue when implementing programming for SAs. Communication with athletics departments is important for coordinating schedules to ensure that programs are offered at times that work for SAs. Ideally, transition programs would be integrated within the overall framework of SA support at an institution. This requires educating coaches and administrators on the significance of physical activity transition support. With full academic and athletic schedules, programming must be viewed as adding value to the SA experience rather than one more commitment. To support recruitment efforts, SAs in this study recommended having program participants encourage upcoming final-year SAs to try something new, as they...
highlighted the benefits for both performance and transition preparation. Empowering SAs to
serve as champions of these opportunities enhances our transition support, as the participants
themselves take ownership of the programming.

Resources contributing to the feasibility of offering the program included the availability
of a group exercise room in the institution’s fitness center and Author 1’s interest in teaching the
class. Thus, Pilates Connect provided tailored resources for final-year SAs with limited costs
to the institution. Athletics coaches supported the initiative and recommended the program to
their own SAs, which enhanced participation. In addition, the institutional culture promotes
holistic wellness support for their undergraduate students. Reflecting on these experiences,
stakeholder buy-in is critical to sustained success of any SA development program (Andrassy et
al., 2014). In this case, conversations with athletics department colleagues and previous SA
involvement in Pilates training created an ideal environment to implement this intervention.
There was participant interest in the mode of training, institutional belief in the value of this
work, and ample resources to follow through with program implementation.

To extend this type of programming to other institutions, sport psychology professionals
should consider unique institutional barriers and opportunities for supporting final-year SAs in
their transitions to lifetime activity. Additional modes of exercise may be relevant within other
settings, and program facilitators may have different areas of instructional expertise. Supportive
programming for final-year SAs could incorporate other lifetime group activities such as yoga,
tai-chi, taekwondo, high-intensity interval training, Zumba, indoor cycling, or aquatics (Smith et
al., 2018). In this case study, the foundation for Pilates Connect was built on a lifetime
physical activity that was deemed valuable by coaches and SAs. The Pilates training brought
final-year SAs together, creating intentional space for transition discussions that may not have
occurred otherwise. Evaluating the impact of the SAs’ training status (i.e., before, during, or after the final season) could provide greater context for effective timing of interventions.

Limitations

There were several limitations evident in our case study. Our sample size was small and represented only five collegiate sports from one predominantly white Division III institution. This may limit generalizability of the implications and recommendations for other final-year SAs and institutions. Additional research that spans Division I, Division II, and community colleges would help broaden future application for SA transition support. It is also important to further explore the experiences of SAs of diverse cultural, racial, gender, and socio-economic backgrounds as they transition to lifetime activity.

Though Pilates was selected as the physical activity mode for this intervention for a variety of reasons, it is possible that this form of activity may not have interested some final-year SAs, limiting program participation. In the future, the program could be expanded to provide opportunities for SAs to self-select options for physical activity during the intervention itself. After introducing an example activity like Pilates, SAs could be exposed to other exercise options available at the institution during the times the class meets. With the encouragement to reflect on physical activity options that are personally motivating, and then opportunities to take initial action steps toward self-selected participation, SAs could further prepare for the transition.

Conclusion

Through our implementation of PILATES Connect, we gained valuable insight regarding the type of transition support that final-year SAs find meaningful. Participants noted that PILATES Connect served as a stepping-stone toward building personal confidence in new forms of activity beyond college sports. Participants especially valued their autonomy within the
program and enjoyed the time to discuss the transition with their peers. SAs recommended longer programming and recruiting more participants to sustain interest and participation at the institution.

After completing the program, SAs were able to verbalize specific ways in which the program positively affected their view of the transition. They discussed their upcoming personal transitions with greater confidence and clarity. This case study affirmed the importance of supporting final-year SAs as they explore ideas for their own unique future physical activity. For example, the variety of interests verbalized by participants in this study included physical activities such as cycling, running, yoga, and snowboarding. SA alumni have their own unique experiences, interests and redefined goals, which will influence their physical activity journeys after college sports conclude. Recognizing the various ways in which SAs define personally meaningful future physical activity is central.

Future work could emphasize a core curriculum that can then be customized by additional institutions. A similar approach has been used in the development of other transitional programming for SAs (Brooks et al., 2019; Reifsteck & Brooks, 2018; Shriver et al., 2019). Investigating the ideal length and timing of the program and focusing on effective recruitment will enhance sustainability. Supporting SAs as they transition to physically active lifestyles beyond graduation is an interdisciplinary issue. Continued success will require collaboration between relevant stakeholders such as athletics departments, coaches, SA alumni, educators, and sport and exercise psychology professionals. This will enhance support for final-year SAs, as they explore ideas for physical activity that they feel inherently motivated to adopt into their future lifestyles.


### Program Components and Strategies

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<thead>
<tr>
<th>Component</th>
<th>Objectives</th>
<th>Program strategies</th>
<th>Reflection questions</th>
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<tbody>
<tr>
<td>Autonomy</td>
<td>Encourage personal choice in Pilates training</td>
<td>Modify or advance Pilates exercises at a self-selected pace</td>
<td>Session 1: What was your experience with Pilates like today? What personal goals do you have for PILATES Connect? As you look ahead, what do you believe will be most challenging about the transition out of college sports?</td>
</tr>
<tr>
<td></td>
<td>Develop initiative for choosing future physical activity options</td>
<td>Reflect on personal goals and motivators for future activity</td>
<td>Session 2: What forms of physical activity could you see yourself enjoying after college sports conclude? What personal physical activity goals do you have for the future? What do you believe will motivate you to be active after college sports conclude?</td>
</tr>
<tr>
<td>Competence</td>
<td>Develop competence in Pilates, a lifetime activity</td>
<td>Progress in physical activity skills outside of college sports</td>
<td>Session 3: In what ways are you growing and progressing in PILATES Connect? How does being a student-athlete influence your personal confidence? In addition to being a student-athlete, what are two other areas of your life that give you confidence?</td>
</tr>
<tr>
<td></td>
<td>Strengthen self-efficacy for future physical activity</td>
<td>Reflect on individual growth in Pilates and future action steps</td>
<td>Session 4: What fears or concerns do you have regarding physical activity beyond college sports? What excites you most about future physical activity? What action steps will help you emphasize regular physical activity in your future?</td>
</tr>
<tr>
<td>Relatedness</td>
<td>Develop connections with peers who are approaching transition</td>
<td>Participate in group exercise and small group discussions with peers</td>
<td>Session 5: What do you value most about being part of a college sports team? What do you believe will be most challenging when you are no longer part of a college sports team? What has it been like to participate in PILATES Connect with other student-athletes?</td>
</tr>
<tr>
<td></td>
<td>Consider strategies for physical activity support after college</td>
<td>Reflect on social support strategies for physical activity as alumni</td>
<td>Session 6: How has PILATES Connect influenced your view of future physical activity? What people or groups could provide physical activity support for you in the future? What resources or information would be most helpful to you in preparing for meaningful physical activity after college sports?</td>
</tr>
</tbody>
</table>
### Table 2

**PILATES Connect Program Evaluation: Themes and Sub-themes**

<table>
<thead>
<tr>
<th>Theme</th>
<th>Sub-themes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Components of PILATES Connect</strong> supported basic psychological needs satisfaction</td>
<td>Competence support: progressive Pilates challenges</td>
</tr>
<tr>
<td></td>
<td>Autonomy support: choice of personal effort, pacing, and modifications</td>
</tr>
<tr>
<td></td>
<td>Relatedness support: small group exercise and discussion with peers</td>
</tr>
<tr>
<td><strong>Components of PILATES Connect could be improved to sustain participation</strong></td>
<td>Longer sessions or more sessions</td>
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<tr>
<td></td>
<td>Recruit additional participants</td>
</tr>
<tr>
<td><strong>Future physical activity interests</strong></td>
<td>Openness to new ideas for what is personally interesting</td>
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<tr>
<td></td>
<td>Activity variety (i.e. cycling, running, Pilates, yoga, lifting, barre, skiing, snowboarding, recreational sport league)</td>
</tr>
</tbody>
</table>

*Note. Sub-themes identified through session evaluations, program evaluations, and focus groups*
Table 3

Session Evaluations of Basic Psychological Needs Support

<table>
<thead>
<tr>
<th>Evaluation Component</th>
<th>Session 1 M</th>
<th>Session 2 M</th>
<th>Session 3 M</th>
<th>Session 4 M</th>
<th>Session 5 M</th>
<th>Session 6 M</th>
<th>Session 1-6 M</th>
</tr>
</thead>
<tbody>
<tr>
<td>I think I am pretty good at this activity. (Competence)</td>
<td>4.1</td>
<td>4.2</td>
<td>4.5</td>
<td>5.0</td>
<td>5.4</td>
<td>5.7</td>
<td>4.857</td>
</tr>
<tr>
<td>I did this activity because I wanted to. (Autonomy)</td>
<td>6.6</td>
<td>6.6</td>
<td>6.3</td>
<td>6.5</td>
<td>6.6</td>
<td>6.8</td>
<td>6.660</td>
</tr>
<tr>
<td>I felt like I could really trust these people. (Relatedness)</td>
<td>6.0</td>
<td>6.0</td>
<td>6.5</td>
<td>6.5</td>
<td>6.7</td>
<td>6.5</td>
<td>6.663</td>
</tr>
</tbody>
</table>

*Note. 7-point Likert scale (1 = Not at all true, 7 = Very true)*
Table 4

**Summary of SA Feedback on Basic Psychological Needs Support**

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean Rating</th>
<th>Participant Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Because of PILATES Connect, I feel more confident in my ability to transition to meaningful physical activity after the conclusion of college athletics. (Competence)</td>
<td>5.5</td>
<td>“By the end I was like, ‘Okay, I feel more smooth and purposeful with movement without having to really think what am I doing.’ So I think that was good from a confidence perspective… Like I can translate in different environments.” (women’s soccer)</td>
</tr>
<tr>
<td>Because of PILATES Connect, I feel like I have greater control over my physical activity choices after the conclusion of college athletics. (Autonomy)</td>
<td>5.9</td>
<td>“This whole experience for me was completely 100% new. I've never done anything like this. But I've always wanted to, I've just never done it. So it was good to just try new things and I guess it did give me some confidence and this is like my first step into something that isn't [sport]. And that isn't for my team, I guess.” (women’s soccer)</td>
</tr>
<tr>
<td>Because of PILATES Connect, I feel more connected to other student-athletes who participated with me. (Relatedness)</td>
<td>6.0</td>
<td>“You had the choice of whether or not you really want to push yourself to the limit or not go as hard.” (men’s baseball)</td>
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<td></td>
<td></td>
<td>“I think it also reflects on the weighted balls we use, like how heavy did you want to use? What would be best for you? You had the choice.” (men’s baseball)</td>
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<td>“Also knowing that we're sore and tired, too, sometimes, so hey, if your back hurts today be wise, be smart. I didn't feel pressured to train, like to go all out and kill myself trying to.” (women’s soccer)</td>
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<td></td>
<td>“It was nice to be in a class where other people are learning the same thing and so you recognize that you're not alone in this situation. That everyone else is going through the same thing, so being able to relate to other people is really helpful.” (women’s soccer)</td>
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<td></td>
<td>“The discussions after, I liked that a lot. Just hearing other people's point of views. And realizing that most of ours were super similar. I think that was cool.” (women’s soccer)</td>
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<td></td>
<td></td>
<td>“I think it was a good way to do something different that's not like a sport and it's not like school. So it's like a good way to kind of like connect with other people.” (women’s field hockey)</td>
</tr>
</tbody>
</table>

*Note. 7-point Likert scale (1 = Not at all true, 7 = Very true)*