Researcher-Practitioner Collaborations: Applying Developmental Science to Understand Sport Participation and Positive Youth Development

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ABSTRACT

We report data from the first year of a three-year collaboration between a sport-based youth development program, Positive Coaching Alliance (PCA), and a university-based research institute. The theory of change of PCA was tested with youth athletes, representing multiple sport types (e.g., individual/team) and seasons (e.g., fall/winter), who completed self-report surveys indexing a key facet of positive youth development—character. Noting assets and challenges of such researcher-practitioner collaborations, we discuss the results of the first year of data derived from this collaboration and differences in their use to the researchers and practitioners. Using this collaboration as a sample case, we discuss implications for refining how developmental scientists can advance outreach scholarship, and specifically researcher-practitioner engagement, through the use of developmental theory and methodology.

Keywords: outreach scholarship, university-community engagement, higher education, character virtues

BACKGROUND

Among the many challenges of outreach scholarship is building productive collaborations between academic researchers evaluating community-based programs and practitioners delivering these programs (Lerner, 1995; Lerner & Miller, 1998; Lerner & Simon, 1998). This challenge may be especially acute when the chief outcome of the work of researchers—data about program effectiveness—is viewed differently by the two groups. This difference in the orientation of researchers and practitioners may be especially salient to address when programs potentially involve millions of people. Youth sport is an instance of such a program, and the setting within which we address the challenges of researcher-practitioner relations involving different approaches to the findings of evaluation research.

Sport is a popular leisure pursuit in America. More than 80% of youth participate in sport (Sabo & Veliz, 2008; Vandell, Larson, Mahoney, & Watts, 2015). There is a vast literature on the positive outcomes associated with youth sport involvement that spans developmental science (see Vandell et al., 2015, for a review), sport psy-

chology (see Holt, 2016, and Weinberg & Gould, 2014, for reviews), and leisure and recreation studies (e.g., Caldwell & Witt, 2011). However, developmental science lags behind other fields in evaluations of youth sport programs (e.g., Smith & Smoll, 1997; Witt, Crompton, & Baker, 1995). More specifically, there are still few instances of theory-predicated developmental research that involve partnerships between researchers and practitioners seeking to promote positive youth development (PYD) through sport (Holt, 2016).

The goal of the present article is to use initial results from the first year of a youth sport program evaluation to illustrate the opportunities and challenges involved in researcher-practitioner collaborations. We describe an evaluation study involving a collaboration between university-based researchers and leaders of a youth sport program. We present initial findings from the first year of the three-year longitudinal evaluation, focusing specifically on the different approaches the groups may take to research findings. Using the evaluation as a sample case of a researcher-practitioner collaboration, we explain the different purposes evaluation work may have for researchers and practitioners and suggest how initial findings may serve the needs of both groups.

The researchers and practitioners involved in this collaboration share the same interest: They seek to learn if sport can be a vehicle to promote a key facet of PYD, namely character attributes (Clement & Bollinger, 2016; Thompson, 2010). Following Lerner and Callina (2014), character involves acting in one's social world to do "the right thing" (i.e., acting appropriately or morally) at specific times and in specific places. Doing the right thing means acting to contribute positively to a context that is supporting you as an individual. Therefore, character attributes are the individual characteristics that define the positive exchanges between an individual and his/her context, which of course can include the other individuals in the context.

One strength of developmental science is the use of longitudinal methods to test such causal assertions (e.g., Caldwell & Witt, 2011). However, if knowledge gained from the use of developmental methods is to be useful in youth sport programs, researchers and practitioners must collaborate to employ studies using such methods and, subsequently, to make results useful for research and practice. Following guidelines articulated in outreach scholarship (Lerner, 1995, 2004; Lerner & Miller, 1998) and higher education reform (Fitzgerald, Bruns, Sonka, Furco, & Swanson, 2016), we discuss the integration of the "culture" of the academe (i.e., university-based researchers) and the "culture" of the program (i.e., youth practitioners) involved in this program evaluation.

Theoretical Perspectives on Promoting Positive Youth Development Through Sport Programs

Sport programs may be key ecological assets promoting positive youth development (PYD; Vandell, et al., 2015). However, youth sport involvement is not invariantly associated with PYD (e.g., Zarrett et al., 2009). Sport participation may be linked to indicators of PYD, such as character attributes, when such participation is part of a program marked by the "Big Three" components of program design (Zarrett et al., 2009): 1) positive and sustained relations with an engaged, competent, and continuously available adult (e.g., a coach); 2) youth life-skill development opportunities; and 3) opportunities to enact these skills in valued family, school, or community settings (DeSouza, 2016; Hershberg, et al., 2015; Lerner, 2004). This link between PYD and engagement with a supportive

context may be conceptualized in many ways (Lerner, Lerner, Bowers, & Geldhof, 2015). Within contemporary developmental science, cutting-edge theoretical models of PYD are derived from relational developmental systems (RDS) metatheory (Overton, 2015).

From an RDS perspective, the organism is a self-regulating agent (Overton, 2015). Accordingly, the conceptual emphasis in RDS-based theories is placed on mutually influential exchanges between individuals and their contexts (i.e., individual ↔ context relations). The PYD perspective emphasizes the potential for these mutually influential individual ↔ context relations to be also mutually *beneficial*, and hence adaptive. This potential derives from the RDS idea that plasticity (the capacity for systematic change) is a fundamental strength in human development. Plasticity affords a basis for changing—for enhancing—human life and, thus, for promoting PYD. An RDS-based program of research might ask how specific attributes of the individual and specific features of the context coalesce over time to influence the substantive course of adaptive individual ↔ context relations. For example, what are the sport experiences that may best promote PYD among specific groups of youth at specific times in their development (Bornstein, 2017; Zarrett et al., 2009)?

Research to Practice: From Theories of Development to Program Theories of Change

The youth practitioners involved in this collaboration represent Positive Coaching Alliance (PCA), a national non-profit organization focused on character development through youth sport. The academic researchers and the leaders of PCA were each drawn to the convergence between RDS-based conceptions of character development and PCA's theory of change. Although not academics themselves, the PCA leadership has a Board of Advisors that includes many academics who are both developmental scientists and individuals interested in the impact of sport participation on youth development. Accordingly, it was not serendipitous that PCA leaders learned of RDS-based conceptions of character development. However, what was serendipitous was that gaining this knowledge occurred both at a time when PCA was seeking partnership with researchers to conduct a rigorous, developmental outcome evaluation, and at a time when there was interest within applied developmental science in testing RDS-based ideas about character development through sport (Lerner et al., 2015).

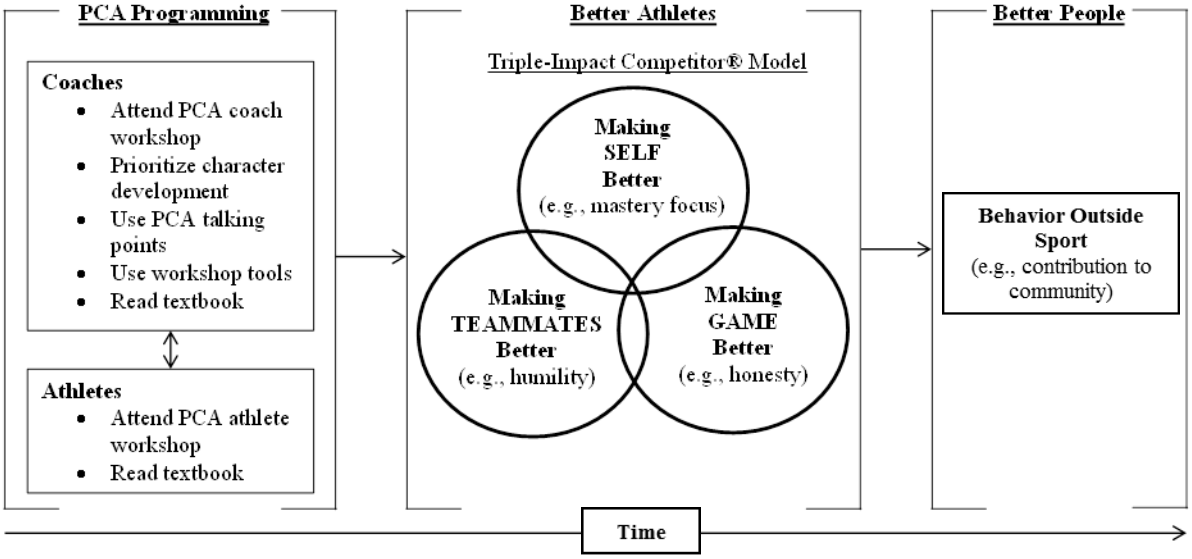
The goal of the collaboration was to develop and test a PCA theory of change (TOC) predicated on RDS-based conceptions of character development (Overton, 2015). Consistent with the approach to character noted earlier (Lerner & Callina, 2014), from an RDS perspective character is conceptualized as involving mutually beneficial individual ↔ context relations, as well as mutually beneficial individual ↔ *individual* relations (Lerner & Callina, 2014). For PCA, developing character means enhancing positive coach ↔ athlete and athlete ↔ athlete relations, such that: 1) if athletes engage in PCA programming (which includes participation of both athletes and their coaches in a 90-minute interactive workshop, consistent references throughout the season to a workbook comprising principles about character in sport, and discussing talking points each week with their coaches about the PCA principles and how to apply them); then athletes will 2) apply PCA principles in the athletic context, enhancing the character attributes of themselves (e.g., focusing on showing skill mastery versus seeking self-aggrandizement through sport), their teammates (e.g., enhancing peer teamwork and empathy), and

the game (e.g., playing with integrity and honesty); and 3) transfer these attributes beyond the sport context, for instance, to promote contribution to their communities (see Figure 1).

model was valid or, in other words, if their program was actually the basis for character development (e.g., Lerner, et al., 2015).

However, PCA practitioners were most eager to use the evidence gained from

Figure 1. The Positive Coaching Alliance (PCA) Theory of Change



Synthesizing Research and Practice: Evaluation May Have More Than One Purpose

As academic researchers, we were interested in testing a theory-predicated model of the role of ecological resources in promoting PYD and in applying knowledge gained from such tests to enhance the lives of diverse youth (e.g., Lerner et al., 2015). However, program leaders have somewhat distinct and more practical purposes pertinent to developing and sustaining their programs (Lerner, 1995, 2004; Lerner & Overton, 2008). Accordingly, PCA was motivated to test their TOC for several reasons, ones prototypic of the rationale of many programs for seeking partnership with university-based developmental researchers (Lerner & Simon, 1998; McHale & Lerner, 1996). Similar to their academic partners, PCA leaders were interested to learn if their tests of their TOC to make immediate improvements to their program. Ultimately, PCA leaders needed to be able to tell their stakeholders (e.g., school athletic directors, leaders of community sport organizations, PCA board members, parents, youth, and funders) that their program reflected evidence-based practice and, moreover, that they were using evaluation evidence to continually improve their program. Such information is needed by program leaders to garner the resources necessary to improve their programs, as well as to bring their programs to scale and/or to sustain them. As we noted, a challenge of outreach scholarship involves balancing the caution of researchers about the dangers of over-interpreting preliminary results with the needs of the practitioners to use preliminary results to enhance their program and its sustainability (Lerner & Simon, 1998; McHale & Lerner, 1996).

The collaboration between researchers and PCA program leaders constitutes a sample case of this challenge to successful university-community outreach scholarship (Lerner & Simon, 1998; McHale & Lerner, 1996).

Summary and Study Goals

The larger evaluation project of which the present article is based is a test of the PCA TOC. Thorough tests of change involve both pre- and post-test assessments and, as well, long-term follow-ups. Moreover, thorough tests of causality use comparison groups of youth to control for selection effects (Lerner, Agans, DeSouza, & Hershberg, 2015). The larger project from which the present data are derived includes these elements. However, for the current article, only initial data pertinent to testing the TOC were available. These data are useful illustrations of the above-noted contrasting purposes evaluation data serve for advancing the interests of academics and practitioners (e.g., Fitzgerald et al., 2016; Lerner & Miller, 1998). We present the initial results from this first year of testing and discuss the differences in the use of the findings by the researchers and practitioners involved in this collaboration.

The evaluation study design is a longitudinal waitlist control trial. This design was suitable to test the PCA TOC because it entails collecting information about athletes at multiple points in time (to test whether athletes changed across the time they spent in the program), as well as a control group of athletes who did not receive PCA programming; this comparison enabled us to test whether PCA programming was linked to athletes' changes. Survey methods were used to gather self-report information from athletes about character attributes relevant to the three foci of the PCA model to developing athletes of character: themselves, their teammates, and the game. In the current study, we provide an example of one operationalization of a PCA principle within the "self" tier: mastery focus, that is, "doing the right thing" by focusing on skill development, in contrast to the "wrong thing," that is, using the sport context as a means for ego inflation or self-aggrandizement.

METHOD

Data are from the first wave of an ongoing longitudinal evaluation study of the Positive Coaching Alliance (PCA) (Ettekal, Ferris, Batanova, & Syer, 2016; Ferris, Ettekal, Agans, & Burkhard, 2015). Following a waitlist control design, four schools were randomly assigned to one of two conditions: 1) two schools received PCA programming (i.e., intervention) in the first year of the study, and 2) two schools were "waitlisted" to receive PCA programming in the second year of the study.

Participants

This study uses the subset of athletes (N = 77; M_{age} = 16.38, SD = 1.15; see Table 1 for demographics) who, in the first year of the study, completed surveys at preseason (prior to the implementation of PCA programming), post-season, and three months following the end of the season. Athletes were recruited from four ethnically and socioeconomically diverse high schools (Grades 9 to 12) in the greater Boston area. Relatively equal numbers of athletes participated from each school and each condition (PCA programming schools: n = 35, 46%; waitlisted schools: n = 42, 54%). Adolescents participated in team sports (e.g., soccer, basketball; 67.6%) and individual sports (e.g., tennis, track and field; 32.4%) across fall, winter, and spring seasons.

We compared two samples to examine selection effects. First, we compared athletes who did not complete post-season

Table 1. ***Sample Demographics and Mastery Focus Descriptive Data***

	PCA programming (n=35)	No programming (n=42)	Total (n=77)
Female (%)	50.0	75.0	63.5
Race/ethnicity (%)			
White/Caucasian	17.1	80.0	50.7
Black/African American	8.6	2.5	5.3
Asian/Asian American	48.6	12.5	29.3
Hispanic/Latino	17.1	0.0	8.0
Other	8.6	5.0	6.7
Grade (%)			
9	10.0	18.8	15.4
10	30.0	21.9	25.0
11	15.0	28.1	23.1
12	45.0	31.2	36.5
Sport (%)			
Football	8.6	4.8	6.5
Volleyball	0.0	11.9	6.5
Soccer	20.0	26.2	23.4
Basketball	8.6	19.1	14.2
Indoor track	2.9	7.1	5.2
Baseball/softball	14.2	19.0	16.9
Tennis	45.7	11.9	27.3
Mastery focus (*M*[*SD*])			
Pre-season task orientation	4.20(.47)	4.28(.55)	4.24(.51)
Pre-season ego orientation	3.04(.95)	2.86(1.10)	2.94(1.04)
Post-season task orientation	4.30(.54)	4.06(.67)	4.17(.62)
Post-season ego orientation	2.79(.88)	2.98(1.01)	2.89(.96)
Follow-up task orientation	4.02(.94)	4.14(.74)	4.09(.83)
Follow-up ego orientation	2.66(.95)	2.49(.94)	2.56(.94)
Mastery focus categorizations (%)			
Across season task orientation	42.9 decrease 11.4 no change 45.7 increase	52.4 decrease 16.7 no change 31.0 increase	48.1 decrease 14.3 no change 37.7 increase
Across season ego orientation	57.1 decrease 11.4 no change 31.4 increase	33.3 decrease 11.9 no change 54.8 increase	44.2 decrease 11.7 no change 44.2 increase
After season task orientation	54.3 decrease 17.1 no change 28.6 increase	31.0 decrease 19.0 no change 50.0 increase	41.6 decrease 18.2 no change 40.3 increase
After season ego orientation	60.0 decrease 8.6 no change 31.4 increase	64.3 decrease 16.7 no change 19.0 increase	62.3 decrease 13.0 no change 24.7 increase

surveys (i.e., the cross sectional sample) with athletes who completed both pre-season and post-season surveys (i.e., the longitudinal sample) on key variables aligning with the three tiers of PCA programming (i.e., self, teammates, and game). We found no differences on these key variables. Second, we compared athletes who received the PCA programming in Year 1 to athletes who were waitlisted to receive the PCA programming in Year 2 on key demographic variables. Athletes who received PCA programming in the first year were more likely to identify as non-Caucasian/White and male than athletes who were waitlisted (results available from the first author).

Measures

Adolescents provided information about several demographic variables, including gender and race/ethnicity. We used quantitative survey measures and qualitative free-response questions to assess athletes' mastery focus and perceptions of PCA programming.

Quantitative data. One PCA goal is to enhance the character attribute of the individual athlete, or the "self," which was operationalized in the present article as *mastery focus* in sport. We used an existing measure of sport mastery focus (Duda, 1989), which had two subscales assessing athletes' task orientation (e.g., "I learn a new skill by trying hard;" 7 items; $\alpha = .90$) versus their ego orientation (e.g., "I can do better than my friends;" 6 items; $\alpha = .90$). All items were scored using 5-point Likert scales (1 = *strongly disagree*, 5 = *strongly agree*) and composite scale scores were created by averaging participants' responses across items. A high self-rating on task orientation and a low self-rating on ego orientation would be consistent with the goals of PCA programming.

To assess athletes' overall perceptions of PCA programming, we asked athletes who participated in PCA programming to answer four questions (1 = *strongly disagree*, 5 = *strongly agree*): To what extent did you 1) "find PCA valuable," 2) "dislike PCA," 3) "do things differently after PCA," and 4) "use the PCA tools."

Qualitative data. Open-ended free-response questions were used to elucidate adolescents' experiences with PCA. The open-ended questions were at the end of the survey and were only provided to adolescents who had participated in PCA programming. We asked adolescents to respond to five questions about their PCA programming: 1) "What was the most valuable thing you learned?"; 2) "What did you dislike about PCA?"; 3) "How did your coaches apply PCA tools?"; 4) "Did you apply the PCA tools outside of sports?"; and 5) "Is there anything else you would like to say about PCA?"

Analysis Plan

We used mixed methods for the purpose of complementarity; that is, we used quantitative and qualitative data analysis to measure overlapping, but distinct facets of the study (Caracelli & Greene, 1993). Specifically, in this study we used quantitative data to identify athletes whose sport mastery focus changed after participating in PCA programming. Then, we used qualitative data to enhance, illustrate, and clarify athletes' perceptions of PCA programming, particularly with regard to learning about mastery focus. Below, we describe the quantitative and qualitative analyses.

First, we used configural frequency analysis (CFA) (Von Eye, Mair, & Mun, 2010) to identify athletes who changed their mastery focus after participating in PCA programming (based on their quantitative survey responses at pre-, post-, and follow-up). CFA is a method similar to chi-square

analysis that assesses multivariate cross-classifications of categorical variables. We had insufficient statistical power to assess statistically significant quantitative change in adolescents' responses, and thus, we used CFA to assess *shifts* or behavior changes in specific directions. We coded adolescents' quantitative responses at pre-season, post-season, and three months after the end of the season (1 = *no change*, 2 = *increase*, 3 = *decrease*) into two categories: season shift (the shift from pre-season to post-season) and follow-up shift (the shift from post-season to three-month follow-up). We subjected the two shift variables, along with a categorical variable for condition (1= *did not receive PCA programming*, 2 = *received PCA programming*), to a CFA to identify configurations (i.e., patterns) across the three variables. First, we compared a baseline CFA with total independence of variables to a CFA allowing local interactions. If the latter had significantly better fit than the former, based on a likelihood ratio $\chi 2$ test, then types (i.e., configurations occurring more often than chance) and antitypes (i.e., configurations occurring less often than chance) were expected to emerge. We used z-tests, with a Bonferonni correction for the number of possible configurations, to test statistical significance of types and antitypes (i.e., the existence of certain types of athletes compared to chance).

Next, we used qualitative content analysis (Hsieh & Shannon, 2005) to elucidate athletes' perceptions of what they learned in PCA programming and to enhance our understanding of how and whether athletes applied PCA principles after receiving programming. Using qualitative data coding procedures (Ryan & Bernard, 2003), data analysis began with open coding for themes related to mastery focus. We began with a broad definition of mastery focus, that is, athletes' focus on self-improvement and learning new skills, as compared to performance outcomes and prioritizing winning. The definition was refined as the first two authors read all responses to open-ended questions and took memos on any mention of mastery focus, either explicitly using PCA terminology (e.g., effort) or implicitly discussing the concept (e.g., try harder). The first two authors compared the memos until a more narrow definition of the code for mastery focus was generated. We kept a code manual (see Table 2 for excerpts), which was continually updated as coding progressed (DeCuir-Gunby, Marshall, & McCulloch, 2011). Finally, all open-ended responses were coded for mastery focus separately by each author.

To establish inter-rater reliability (Hayes & Krippendorff, 2007), the authors discussed each discrepancy and consulted with the research team until full consensus on all code applications was reached. To report the prevalence of learning mastery focus, we coded whether each athlete perceived learning about mastery focus through PCA programming or thought that PCA programming contributed to them developing a mastery focus (yes/no).

We conducted two final sets of analyses to assess the alignment between the quantitative and qualitative findings. First, we used chi-square statistics to test the association between types of athletes identified (i.e., those who changed versus did not change their mastery focus, as identified using the quantitative survey data) and athletes' perceptions of learning about mastery focus through PCA programming (i.e., those who perceived versus did not perceive they learned about mastery focus, as identified using the qualitative free-response questions). Next, we used *t*-tests to assess whether athletes' overall perceptions of PCA programming (e.g., whether they liked the training; reported on 5-point Likert

scales) varied by the types of athletes identified or by athletes' perceptions of learning about mastery focus after PCA programming. Given our small sample size, we focused our quantitative tests on effect sizes rather than *p*-values (*phi* for chi-square tests and Cohen's *d* for *t*-tests).

RESULTS

Following our mixed methods design, we first present analyses describing quantitative changes in athletes' mastery focus. Next, we describe athletes' perceptions of learning about mastery focus based on their qualitative responses about PCA programming. Finally, we present analyses describing alignment between the quantitative and qualitative findings. Sample demographics and descriptive statistics for key study variables are presented in Table 1.

Quantitative Changes in Athletes' Mastery Focus

Following the first focus of PCA's TOC (i.e., self), we assessed whether athletes changed their mastery focus across the season (i.e., season shift) and then across the three months following the end of the season (i.e., follow-up shift). Increases in task orientation and decreases in ego orientation would indicate an improved mastery focus and, therefore, would be consistent with the goals of PCA programming. There were 18 possible configurations (*2 conditions* X 3 *season shifts* X 3 *follow-up shifts*).

There was a significant association between condition and shift for task orientation ($\chi^2(12) = 26.91$, $p = .008$), such that two types emerged: 1) A control group ($n = 15$) exhibiting decreases in task orientation across the season ($M = -0.76$, $SD = 0.54$) and increases after the season ended ($M = 0.48$, $SD = 0.36$) ($z = 3.28$, $p < .001$); and, 2) A PCA-trained group ($n = 11$) exhibiting increases in task orientation across the season ($M = 0.44$, $SD = 0.23$) and decreases after the season ended ($M = -1.08$, $SD = 1.34$) ($z = 2.97$, $p < .001$). Similarly, there was a significant association between condition and shift for ego orientation ($\chi^2(12) = 21.32$, $p = .004$), such that two types emerged: 1) A control group ($n = 17$) exhibiting increases in ego orientation across the season ($M = 0.69$, $SD = 0.46$) and decreases after the season ended ($M = -0.87$, $SD = 0.42$) ($z = 2.39$, $p < .001$); and, 2) A PCA-trained group ($n = 8$) exhibiting decreases in ego orientation across the season ($M = -0.94$, $SD = 0.82$) and increases after the season ended ($M = 0.77$, $SD = 0.42$) ($z = 3.59$, $p < .001$).

In sum, we found configurations of PCA-trained athletes who exhibited improved mastery focus across the season, which was not sustained after the season ended. In turn, we also found configurations of control participants who exhibited diminished mastery focus across the season, which improved slightly after the season ended.

Athletes' Perceptions of Learning about Mastery Focus

Among the 35 PCA-trained athletes, 29 provided responses to the open-ended questions and, of these, 15 athletes (51.7%) perceived learning about mastery focus through PCA programming. Twelve athletes mentioned task-oriented phrases such as learning to "try hard," "have good effort," "never give up," and "focus on the skills;" six athletes mentioned ego-oriented phrases, such as, learning to become "open-minded," "accepting of the outcome," and "less focused on winning" (three athletes mentioned both task- and ego-oriented phrases). These responses align with the specific wording/messages used in PCA's workshops, where "effort" and "learning"

and "mistakes" are emphasized as part of PCA's ELM (Effort, Learning, bouncing back from Mistakes) tree of mastery, suggesting that athletes learned the key concepts presented in PCA programming (see Table 2 for example quotations).

Table 2. Examples of Mastery Focus Themes From Athletes After the Positive Coaching Alliance (PCA) Training

Codebook excerpt for mastery focus
Mastery focus: Athletes' focus on self-improvement and learning skills, as opposed to winning, performance outcomes, or competing with others. Mastery focus has two dimensions, namely task orientation and ego orientation. Task: Athletes' focus on self-improvement (or improving others), as well as gaining or mastering skills. This includes effort, goal-setting, diligence, and working hard. For example, this code includes references to practicing and trying hard. *NOTE: This includes verbiage indicative of high or low task orientations.* Ego: Athletes' focus on winning or having a win-at-all-cost mentality, competing with others, and performance outcomes, such as looking good in front of a crowd or being known as a star athlete. This includes open-mindedness (high ego is having a closed mind or narrow focus) and perspective-taking (showing that the athlete is not only concerned with him/herself). *NOTE: This includes verbiage indicative of high or low ego orientations.*
Examples of how athletes increased task orientation following PCA programming.
"[After PCA] I treated my body better in order to perform better." –Female, soccer player "[What I found valuable from PCA was that I learned] "good sportsmanship, how to be a captain-like figure, positive thinking and hard work."- Male, baseball player "[After PCA] I focused more on my sport and I put all my effort in my sports." –Female, basketball player "[After PCA] I set goals with a plan so, [results] wouldn't be just my wish." –Female, tennis player "[After PCA] I treated everyone with respect and learned effort."- Male, tennis player
Examples of how athletes decreased ego orientation following PCA programming.
"[After PCA] I became very open-minded towards my peers and my coach." –Male, tennis player "[What I found valuable from PCA was that] I learned more about taking responsibility and that losing is a part of all sports. [I learned] to respect other teammates and to maintain a positive attitude." –Male, tennis player "[After PCA] I don't talk down on anyone even though they make a mistake and I help them to fix it. I became more aware of my surroundings and became a better person." –Male, baseball player "[After PCA] I shook hands with my opponents after games, even after I lost. And I was also sure to congratulate them and tell them that they played well." –Female, tennis player

Alignment Between Quantitative and Qualitative Findings

We examined the alignment between the qualitative and quantitative evidence for PCA's positive effect on mastery focus using chi-square tests. The association between quantitative change in mastery focus (yes/no) and perceptions of learning about mastery focus (yes/no) was statistically non-significant and had a very small effect size ($\chi^2(1) = .03$, $p = .86$; $phi = .03$). Among the 29 PCA-trained athletes, seven

exhibited quantitative change and perceived learning about mastery focus, eight perceived learning about mastery focus (but did not exhibit quantitative change), seven exhibited quantitative change (but did not perceive learning about mastery focus), and seven exhibited no quantitative change and did not perceive learning about mastery focus. These findings suggest that PCA programming had an unsystematic effect on athletes' self-reported behaviors and perceptions of learning. However, it is also important to note that the qualitative, free-response questions did not probe mastery focus specifically but, rather, allowed athletes to highlight what they perceived as most important.

Finally, we used *t*-tests to examine whether athletes' overall perceptions of PCA programming (based on responses to 5 -point Likert scales) were associated with quantitative change in mastery focus (yes/no) or perceptions of learning about mastery focus through PCA programming (yes/no). On average, athletes were either neutral or liked PCA programming and, as well, either agreed or strongly agreed that PCA programming was valuable. Athletes were largely neutral about changing their behaviors after receiving PCA programming, but agreed somewhat that they used the PCA tools. Athletes' overall perceptions of PCA programming were not statistically associated with whether they exhibited quantitative change in mastery focus (Cohen's d was <.24 for all items, which are small effect sizes; Table 3). However, athletes' overall perceptions of PCA programming were moderately statistically associated with whether they perceived learning about mastery focus. Athletes who perceived learning about mastery focus liked PCA programming more, placed higher value on PCA programming, and did more things differently after receiving PCA programming than athletes who did not perceive learning about mastery focus (Cohen's d = .58 – .67 which are medium effect sizes; Table 3).

DISCUSSION

The goal of the present article was to use initial results from a collaborative youth sport program evaluation to illustrate the opportunities and challenges involved in researcher-practitioner partnerships. Youth sport programs may be important ecological assets to promote a key facet of PYD, namely character attributes (Lerner et al., 2015; Vandell et al., 2015; Zarrett et al., 2009). However, theory-predicated developmental research involving partnerships between researchers and practitioners seeking to promote PYD are rare. The collaboration described in the present article involves university-based researchers partnering with the Positive Coaching Alliance (PCA), a national non-profit focused on character development through youth sport, to develop and test a theory of change (TOC) (Ettekal et al., 2016). The results presented are the initial findings from the first year of the three-year collaboration. Using these preliminary findings as one instance of a researcher-practitioner collaboration, we present the different approaches the groups take to research findings and their somewhat different uses of these data.

The Search for Evidence: Commonality and Divergence Between Researchers' and Practitioners' Interpretations of Initial Findings

In building effective collaborations between researchers and practitioners, common ground must exist if partnerships are to be organized and sustained (Lerner & Simon, 1998; McHale & Lerner, 1996). There was some commonality in interests between the academic and practitioner groups in-

Table 3. ***Feedback About the Positive Coaching Alliance (PCA) Training by Athletes Who Changed or Did Not Change Their Mastery Focus After PCA Training***

	Overall		Athletes Exhibiting Quantitative Change						Athletes Reporting Qualitative Change					
			Exhibited Δ		Did not exhibit Δ		Test statistic		Reported Δ		Did not report Δ		Test statistic	
Feedback	*M*	*SD*	*M*	*SD*	*M*	*SD*	*t*	*d*	*M*	*SD*	*M*	*SD*	*t*	*d*
Disliked training	2.55	1.06	2.57	1.28	2.53	.83	.10, *p*=.93	.04	2.27	1.22	2.86	.77	1.54, *p*=.14	.58
Found training valuable	4.07	.88	4.07	.92	4.07	.88	.01, *p*=.99	.00	4.33	.72	3.79	.98	1.73, *p*=.10	.63
Did something different	3.38	.94	3.50	1.10	3.27	.80	.66, *p*=.52	.24	3.67	1.11	3.07	.62	1.76, *p*=.09	.67
Used tools from training	3.52	.91	3.50	1.16	3.53	.64	.10, *p*=.92	.03	3.60	.99	3.43	.85	.50, *p*=.62	.18

Notes. All statistical tests have 27 degrees of freedom. Δ = change. *d* = Cohen's *d* effect size and is interpreted as .2 is a small effect, .5 is a medium effect, and .8 is a large effect.

volved in this sample case of outreach scholarship. The researchers and practitioners were both interested in testing the PCA TOC because of a common interest in RDS-based conceptions of PYD through sport. PCA practitioners were interested in learning if PCA programming actually was the basis for the growth of athletes' character development. The academic researchers were interested in assessing if this research could be translated or applied (e.g., brought to scale) in ways that enhance the lives of youth (e.g., McHale & Lerner, 1996; Lerner et al., 2015; Lerner & Miller, 1998). Of course, this goal is also a point that youth program practitioners involved in outreach scholarship are concerned with (Lerner & Miller, 1998). Indeed, programs need such translations to be efficacious in using research evidence productively.

The researchers and practitioners had different perspectives as well. The results described in the present article focused on one instance of character development through sport, namely athletes' mastery focus, as a sample of the outcomes of interest in the PCA TOC (Figure 1). To summarize, there were three main findings from the initial phase of the evaluation of PCA in regard to this instance of character: 1) Some PCA-trained athletes became more mastery-oriented across the sport season, but their mastery focus diminished after the season ended; 2) Some athletes believed mastery focus was more important after being involved in PCA programming; and, 3) Positive experiences with PCA programming promoted athletes' beliefs about mastery focus, but did not matter for their respective behaviors. Despite the above-noted points

of convergence in their respective approaches to program evaluation, the researchers and practitioners involved in the collaboration interpreted these initial findings from different perspectives.

From the researchers' perspective, these initial results provided *some* support for the PCA TOC. However, the findings were regarded as statistically weak. To a researcher, the evidence is limited by the lack of statistical power to test for "true" developmental change. A true test of change would involve testing whether changes are significantly different from zero (Baltes, Reese, & Nesselroade, 1988), which we did not have the statistical power to detect. Although we are optimistic about this potential for PCA to promote athletes' character development, researchers are trained to be cautious about making scientific conclusions from preliminary findings (e.g., Cumming, 2014). Initial results could be inconsistent with changes observed later in the project and, therefore, too much emphasis on initial results could lead to erroneous conclusions and wasted resources.

To a program practitioner, these initial results may be encouraging. Indeed, the youth program practitioners involved in this collaboration viewed these quantitative increases as "trending in the right direction," and therefore could suggest meaningful change. They took encouragement from the fact that, in the context of the initial phase of evaluation, there was some evidence of program effectiveness. The perspective of the practitioner, which suggests practical significance, represents a divergence from the researchers in the use of the word "significant." The word "significant" suggests importance: Results could be interpreted as statistically important (using evidence from null hypothesis significance testing) or as practically important (using the practitioners' expertise about how much change is meaningful in the context of the program). Researchers and practitioners must align to interpret findings through the lens of both statistical significance and practical significance (e.g., Cumming, 2014).

As illustrated by these diverging reactions to initial findings, researchers and practitioners collaborating in an outreach scholarship project may approach results in the context of different needs that must be met by the data derived from their partnerships. Researchers may be concerned with using these data to inform theories of development, a priority for many developmental scientists engaged in youth program research. Practitioners need to use data derived through partnerships with researchers to communicate to stakeholders that their program reflects evidence-based practice, a necessary step for program development and sustainability. Obviously, it is important to align these seemingly divergent needs in a successful collaboration involving program evaluation. We believe this sample case could be used to illustrate how such an alignment could be forged.

The researchers were interested in whether the findings could be used to enhance our understanding of how youth programs foster PYD. The initial results suggested that some athletes changed both their beliefs and behaviors about mastery focus, whereas other athletes changed either their beliefs or behaviors, but not both. These findings suggest a developmental phenomenon whereby youth cognitions and behaviors can be discrepant (e.g., Kendler & Kendler, 1962). Discrepancies in beliefs and behaviors have been observed in related character development research. For example, in a study of moral decision-making, youth character-relevant behaviors emerged later than their beliefs (e.g., see Hilliard et al., 2016). Accordingly, embedding the initial findings within developmental theory suggests that PCA may not change athletes'

beliefs and behaviors simultaneously.

As a consequence, knowledge of this possible sequence in the development of beliefs and (then) behavior may give PCA practitioners a strategy for adjusting the targets of their program across the span of time youth engage in it. Thus, despite cautions by researchers that initial results are not always representative of later findings, practitioners often do not have the luxury afforded academics to wait until more data are collected. The PCA partners were eager to use the initial findings to make immediate improvements to their program. The evidence of a possible developmental sequence may be the key to such use and, in fact, it may be a means to align the research and the applied interests of the academic and practitioner partners, respectively. These initial findings suggest that a *positive, interactive, and engaging workshop* may be important to change athletes' beliefs and then, over time, those beliefs may translate into positive character-relevant behaviors if reinforced by post-workshop program components. The positive changes in athletes' character-relevant behaviors were small and waned after the end of the sport season. This finding was initially disappointing to PCA practitioners. However, embedding this fade-out effect in the context of the above-noted possible developmental sequence can suggest to PCA practitioners that they may need to *continually reinforce* the PCA principles throughout and after a season (e.g., with brief "refresher" follow-ups) to promote larger changes in athletes' character-relevant behaviors and/or to encourage the maintenance of such behaviors beyond the season. In short, researcher and practitioner alignment may occur if collaborators in outreach scholarship seek to identify program revisions that may derive from even initial findings and then enact and evaluate mid-course corrections in program design and implementation.

CONCLUSIONS

We have presented preliminary findings from a youth program evaluation, conducted in partnership with youth practitioners and university-based researchers. The initial results presented challenges in the researcher-practitioner collaboration, but also served the needs of both sets of partners. The academic view of the initial results reflects that developmental scientists have been trained to be wary of making strong conclusions on the basis of only partial, initial information. The practitioner view of the initial results reflects the need to find immediate areas for improvement and encouragement that there will be future evidence, such that the program merits maintenance or even growth of support.

In the effective collaboration of academic researchers and youth practitioners, academic precedent and program sustainability must learn to co-exist (Fitzgerald et al., 2016; Lerner & Miller, 1998; McHale & Lerner, 1996). Researchers and practitioners will inevitably create a Venn Diagram wherein there is both commonality of interests in the intersection of circles representing their respective "cultures" (Lerner, 1995) and non-overlapping concerns pertinent to the priorities of these two cultures. In successful instances of outreach scholarship involving researcher and practitioner engagement, the two circles will themselves travel on a developmental trajectory, one marked by increasing alignment.

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