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Examining Differences in Program Quality and Needs Support in two Physical Activity-based In-School Mentoring Programs

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Abstract

The purpose of this study was to examine program quality and basic needs support across two physical activity-based in-school mentoring programs (one girls'-only, one boys'-only). Twenty-four youth participated across both programs. A mixed-methods approach was used. Program quality was assessed quantitatively from two perspectives: observations conducted by researchers and youth self-report. Needs support was assessed quantitatively from the youth perspective. Researcher field notes were analyzed qualitatively to further understand the program context. Results revealed a significant difference in observed and self-report program quality. Significant differences were found related to needs support between programs. Moreover, program quality significantly predicted needs support within the girls' program, but not in the boys' program. Four themes emerged from the qualitative data: (a) supportive environment, (b) intentional opportunities for skill-building, (c) supported leadership and mentoring opportunities, and d) planned opportunities for youth choice. Practical implications and future research directions are outlined.
Keywords: basic needs support; program quality; mentoring; physical activity; youth programming; mixed-methods

Résumé

Le but de l'étude est d'évaluer la qualité et le besoin d'appui de deux programmes de mentorat scolaire orientés vers la pratique d'activité physique, un pour les filles et un pour les garçons. Cette étude regroupait 24 participants. Une approche de recherché mixte a été utilisée. La qualité des programmes a été évaluée quantitativement par le biais d'observations du chercheur et des commentaires des jeunes. Le besoin d'appui a été évalué quantitativement à partir du point de vue des jeunes. Les notes d'observation du chercheur ont été analysées qualitativement pour avoir une meilleure comprehension du contexte. Les résultats révèlent une difference significative entre la qualité du programme telle qu'observée et telle que rapportée dans les commentaires des jeunes. Une difference significative est également apparue en ce qui a trait au besoin d'appui entre les deux programmes. De plus, la qualité du programme prédit significativement le besoin d'appui dans le programme chez les filles mais pas chez les garçons. L'analyse des données qualitatives a fait ressortir quatre thèmes: (a) appui de l'environnement, (b) occasions orientées vers le development d'habiletés (c) leadership soutenu et des occasions de mentorat et (d) des occasions planifiées de choix pour les jeunes. Des implications pratiques et des orientations pour des recherches à venir sont offertes.

Mots clés: besoin d'appui; qualité de programme; mentorat; activité physique; programmes pour les jeunes; méthode mixte.

Introduction

The prevalence of in-school mentoring programs has increased in recent decades as an avenue for youth to engage in constructive leisure as such programs require "effort and provide a forum in which to express one's identity or passion in sports, performing arts, and leadership activities" (Eccles & Barber, 1999, p. 11-12). Youth spend considerable time within school, suggesting in-school mentoring programs are an attractive environment to foster youth self-esteem and positive relationships (King et al., 2002). Mentoring programs first emerged with at-risk youth (e.g., DuBois, Holloway, Valentine, & Cooper, 2002), yet have recently extended to school communities nation-wide as a means of increasing the availability of adult support in the lives of youth (Rhodes & Spencer, 2005). Research has outlined the effectiveness of youth mentoring programs related to improving outcomes in social, behavioral, and academic domains (Dubois et al., 2002). Specifically, Dubois and colleagues (2002) found that programs were most effective when there was a strong fit between program goals and mentor's education, when mentors and youth shared similar interests, and when programs were structured to support mentors acting in a supportive role with youth. A challenge for researchers is to distinguish between effective and ineffective programs and understand the circumstances that give rise to each (Grossman & Tierney, 1998). As mentoring programs continue to assume an important role in today's society (Rhodes & Spencer, 2005), this study attempts to address this challenge.

Many researchers have advocated for the use of sport and physical activity as hooks to attract and engage youth when facilitating youth development programming (Danish et al., 2004; Gould & Carson, 2008). The effectiveness of in-school mentoring programs that integrate physical activity and sport have recently been examined (e.g., Dowd, Harden, & Beauchamp, 2015). A study conducted within a sport-based mentoring program found youth were attracted to the program because they were able to establish relationships with caring adults and develop sport and life skills (Choi et al., 2015). Such motives were related to the nature of the mentor–mentee relationship.

Given the importance of in-school mentoring programs as an avenue to promote positive experiences for youth, it is necessary to understand features that enhance program quality within this context (Mueller et al., 2011). Although researchers have begun to emphasize the importance of program quality in youth programming (e.g., Yohalem & Wilson-Ahlstrom, 2010; Bean & Forneris, 2016a), limited research has examined how this influences youth. From this limited research, Baldwin and colleagues (2015) investigated programs that had low quality outcomes. Results outlined programs with lower quality outcomes had less choice in activities for youth, suggesting the importance of autonomy related to program success. The study also isolated explanations for lack of program improvement including inconsistent attendance, absence of planned activities, and poor behavioral management practices.

The importance of mentors has been thoroughly examined, as meaningful relationships between youth and non-parental adults are critical and can yield resiliency and positive outcomes for participating youth (DuBois et al., 2002). Although several evaluations have been conducted on in-school mentoring programs, limited research has explored the mentor-mentee relationship within a sport or physical activity in-school mentoring context. One study conducted by Dowd et al. (2015) found that youth believed they developed meaningful relationships with mentors and that mentors were perceived by youth as having a number of positive personal characteristics, created a positive environment and were effective leaders. Research within other sport and physical activity-based contexts have shown that youth programs are more effective at enhancing

development when youth have the opportunity to build supportive relationships with adult mentors (Ullrich-French & McDonough, 2013; Bean, Forneris, & Fortier, 2015).

It has been argued that defining youth outcomes solely in terms of competencies (e.g., skills, behaviors) and not broader psychosocial characteristics that help prepare them for the future, limits the strategies that can be used and undermines the potential for success in youth programs (Pittman et al., 2011). One theory that has recently been utilized by researchers to examine youth development that extends the typical outcomes is basic needs theory (BNT; Deci & Ryan, 1985). This theory proposes that humans function and effectively develop as a result of the social environment and its potential for basic needs support (Ryan & Deci, 2000). The authors argue humans have three needs: autonomy, competence, and relatedness. Research indicates that environments that foster these needs will result in positive psychological development and well-being (Ryan & Deci, 2000). Autonomy is an individual's ability to make choices and act in accordance with one's sense of self (Adie, Duda, & Ntoumanis, 2008). Competence is having a sense of mastery and opportunities to display skills (Deci, Ryan, & Williams, 1996). Relatedness is having a sense of belonging both with other individuals and community (Ryan & Deci, 2002). Researchers that examined BNT in physical education found supporting basic needs aided in youth engagement, motivation, and satisfaction (e.g., Mitchell, Gray, & Inchley, 2013; Standage, Duda, & Ntoumanis, 2005). Although research within youth physical activity contexts has indirectly explored constructs of needs support (e.g., establishing meaningful relationships), no research has examined youth perceptions of needs support within mentoring programs.

Despite numerous studies that have yielded significant results suggesting a positive link between in-school mentoring programs and youth development, many studies have focused on school-related outcomes (e.g., attendance, academic performance). Rhodes and Spencer (2005) argue important questions about the effectiveness of mentoring programs remain unresolved. To date, no research has explored needs support within in-school mentoring programs, specifically those that utilize a sport or physical activity context. Further, no research has examined the relative influence of program quality on basic needs support within this context. As such, the purpose of this study was twofold: (a) to use a mixed-methods approach to examine program quality and needs support in two physical activity-based in-school mentoring programs; and (b) to examine how youths' perceptions of program quality influenced basic psychological needs support. Two research questions guided this study. First, do scores of program quality and basic needs support differ across the two in-school mentoring programs? Given that this question was exploratory in nature, no directional hypotheses were proposed. Second, does total program quality predict basic psychological needs support within the two in-school mentoring programs? It was hypothesized that higher scores in program quality would predict higher perceived needs support by youth. The rationale for this hypothesis stems from literature that has outlined that the features and strategies proposed to indicate a high quality program are a precursor for supporting a needs supportive environment (e.g., Bean & Forneris, 2016b; Eccles & Gootman, 2002). Specifically, a program has to first be in place prior to the needs of youth being supported or hindered as a result of the program and its environment, including the mentor.

Methods

This research used a mixed-methods approach. An embedded design was employed whereby both quantitative and qualitative data were collected, yet the quantitative data played a supplemental role into a larger quantitative study (Caracelli & Greene, 1997; Creswell & Plano

Clark, 2011). This type of design is useful, as using a mixed-methods approach allows for greater breadth and depth of understanding and corroboration of the data, while offsetting the weaknesses of each approach. The quantitative data were intended to examine program quality from two perspectives (researcher, youth), as well as needs support from the youth perspective. The qualitative data were intended to provide a greater understanding of the researchers' perceptions of program quality and needs support.

Context and Participants

This project was part of a larger study that focused on examining program quality within youth programming. In the current study, two physical activity-based in-school mentoring programs were involved: one with solely male youth and one with solely female youth. Both programs were designed and delivered as part of the same not-for-profit organization and shared a similar objective: to provide information and foster skills necessary for youth to live healthy and active lifestyles. Specifically, the two programs were designed to incorporate the delivery of life skill activities (e.g., self-esteem, communication, balanced eating) in a physical activity and sport context. Both programs ran concurrently over the course of 3 months at the same school located in Southern Ontario, Canada. The programs ran for 1 hour in length and took place during lunch. The structure of both programs were the same in which the mentors held an informal check-in with youth at the beginning of the program while youth ate their lunch. This provided an opportunity for youth to develop relationships with both mentors and youth. Often, a short relational activity was done during this time. The remainder of the session involved a physically active component and a life skills component. There was flexibility in terms of which component youth did first; this was often left up to youth choice. During the active component, program space was used to engage in a sport or physical activity of the youth's choice (e.g., soccer baseball, dodgeball, tag). During the life skills component, a specific life skill activity was facilitated (e.g., communication, balanced eating). This is where the two programs differed most significantly. Although the life skills of focus tended to be very similar, the program curriculums were designed slightly different based on the targeted interests of both male and female youth. Specifically, the organization had developed specific gender-based activities in which they perceived to be effective in mentoring program implementation. For example, craft-based activities were integrated into the girls' program, while the use of technology (e.g., video games, cell phones) and the media were used in the boys' program.

Youth participants (hereafter referred to as 'youth') ranged between 9 and 12 years old. Twelve boys (M_{age} = 11.00, SD = .85) and 12 girls (M_{age} = 10.5, SD = 1.00) participated in each program. Youth identified as predominantly Caucasian (83%). Three boys and one girl were participating in their respective programs for a second time, while the remaining youth were participating for the first time. Four mentors were involved in program delivery (two male mentors responsible for implementing the boys' program, two female mentors responsible for implementing the girls' program). Mentors were either 20 or 21 years of age (M = 20.5, SD = .58) and were local college students that facilitated these programs as part of a school internship. The mentors received a general safety training upon their commencement as a volunteer in the organization. Additionally, they received a 1-hour informal training session with the program coordinator in which they discussed the programs' goals, outlined the programs' structure and processes, and went through the program manual. During this session, the program coordinator emphasized the importance of taking on a youth-driven approach within these programs.

Procedure

Consent was attained for mentors and through parental consent for youth. All procedures adhered to ethical standards when working human participants and were approved by the University's Office of Research Ethics and Integrity. Data collection consisted of 18 one-hour program observations (9 with each program) by two researchers. Youth completed two paper-based questionnaires during the final session outlining their perceptions of program quality and basic needs support throughout program participation. Youth were reminded that participation in this study was voluntary and assured that responses to the questionnaires would remain confidential and leaders were ensured their rights to anonymity and confidentiality would be protected. As the age of youth was fairly young, researchers involved in the study worked with youth in small groups and read each question out loud, which provided opportunities for youth to ask questions if needed, optimistically enabling better comprehension.

Measures

For this research study, program quality was measured based on the eight strategies proposed by the National Research Council and Institute of Medicine (NRCIM): (1) physical and psychological safety; (2) appropriate structure; (3) supportive relationships; (4) opportunities to belong; (5) positive social norms; (6) support for efficacy and mattering; (7) opportunities for skill-building; (8) integration of family, school, and community efforts (Eccles & Gootman, 2002). Yohalem and Wilson-Ahlstrom (2010) argue that program quality is best measured using multiple measures from multiple sources over multiple time points throughout the course of a program. As such, two perspectives (researchers, youth) and four data sources were attained for this study.

Youth program quality assessment (YPQA) tool. Observations were conducted utilizing the YPQA; a valid and reliable tool used when conducting evaluations within youth programs (Smith & Hohmann, 2005). The YPQA is based on the NRCIM's eight contextual features that can promote psychosocial developmental in youth (Eccles & Gootman, 2002). The measure is comprised of a total of 63 items within 18 subscales under four domains: Safe Environment, Supportive Environment, Interaction, and Engagement (High/Scope Educational Research Foundation, 2005). For each question, tangible descriptions are provided for scoring items from 1 (*no evidence*) to 5 (*consistent evidence*). Previous work with this tool used a 3-point scale; however, to allow for greater variance, a 5-point scale was used.

YPQA field notes. Researchers took field notes during the sessions and then coded them under each item allowing for objective and detailed accounts that provided reference to the subsequent item scored within the YPQA. Such field notes are required as part of the comprehensive completion of the YPQA. Within this measure, it is outlined that observers should take factual and objective field notes that are specific and detailed. It is recommended that these notes should also include anecdotal descriptions of interactions, quotations of youth/staff interactions, as well as the sequence of events within the program. For full details of these instructions, see High/Scope Educational Research Foundation (2005).

Youth program quality survey (YPQS). The YPQS examines youth's ratings of their experiences within extra-curricular programs (Silliman & Schumm, 2013). The YPQS is also based off the NRCIM's eight contextual features of youth programs shown to promote positive development (Eccles & Gootman, 2002). Bean and Forneris (2016c) recently found a poor model fit for this measure. As such, modifications were made based on the results of an exploratory factor analysis that showed good model fit. The modified version of the YPQS used in this study is a 19-item, 4-factor measure that includes: (a) Appropriate Adult Support and Structure (5;

adults listened), (b) Empowered Skill-building (7; challenged to build skills), (c) Expanding Horizons (4; activities related to community), and (d) Negative Experiences (3; embarrassed). The measure uses a 4-point Likert scale: 1 (*strongly disagree*) to 4 (*strongly agree*). Utilizing this measure allowed for triangulation of program quality perceptions and the opportunity for youth voice (Larson, Hansen, & Moneta, 2006). Internal consistency for all items was high within the current sample (α = .85-88).

Learning climate questionnaire (LCQ). Adapted by Standage and colleagues (2005), the LCQ is a 24-item measure that examines perceptions of support for the basic psychological needs, including the degree to which mentors supported youth's sense of autonomy (15; choices and options), competence (4; improve skills), and relatedness (5; friendly and approachable). The questionnaire was measured on a 6-point scale: 1 (*strongly disagree*) 6 (*strongly agree*). The LCQ has been validated with youth and has good internal consistency (e.g., Bean, Harlow, & Forneris, 2016; Standage et al., 2005). Factors showed good internal consistency (α=.85-.88).

Data Analysis

Quantitative data were analyzed using SPSS 23.0. Descriptive statistics were calculated for all subscales. To examine if significant differences existed between the two programs related to program quality and needs support, two one-way multivariate analysis of variance (MANOVA) tests were conducted. A MANOVA was conducted to examine differences across the two programs between researcher-observed program quality. Program quality was coded for reliability to determine consistency among raters ($k = 0.83$; $p < .0.001$). To examine differences between youth perceived program quality, a one-way MANOVA was conducted on the YPQS subscales. A one-way ANOVA was conducted utilizing the total score of needs support from the LCQ, which has been utilized in previous studies (Bean, Forneris, & Brunet, 2016; Standage & Vallerand, 2014). Wilks' Lamba was used as the multivariate test. Due to the small sample size within this study, resulting in low power (.13-.64), effect sizes were calculated using Cohen's *d* (1988). To examine if program quality predicted needs support, two regression analyses were performed, one for each program, using a combined needs support score.

Qualitative data (field notes) were analyzed using a deductive–inductive thematic analysis (Braun & Clarke, 2006) to help further understand if and how program quality strategies were delivered and needs support was fostered. This type of analysis allowed researchers to understand important topics within the literature deductively (e.g., program quality, BNT), while including elements that emerge inductively from field notes. The field notes resulted in 64 pages (girls' program = 38 pages). Data within the field notes were broken into smaller meaning units and organized into themes and categories (Braun & Clarke, 2006). Identification codes were created for each quotation to identify the context (Girls/Boys) and session (date; e.g., G-3/15 indicates the excerpt was written during the Girls' program on March 15th). To further support field note excerpts, quotations from youth and mentors that occurred during the sessions are often provided in brackets.

Results

As an embedded mixed-methods approach was used where quantitative data took on a primary role, these findings are presented first followed by the qualitative findings.

Quantitative results

Preliminary analyses were performed to ensure assumptions were met. Table 1 outlines descriptive statistics of researcher-observed program quality, youth perceived program quality,

and youth perceived needs support from both programs. Results of the first MANOVA revealed a statistically significant difference in observed program quality between the programs (F (4, 13) = 11.95, $p < .0005$; Wilks' Lamba = 0.214). Given the significant finding, dependent variables were examined separately with a Bonferroni adjusted alpha (.013). Results revealed statistically significant differences for three of the four subscales (supportive environment, interaction, and engagement), with the girls' program scoring higher on these three subscales than the boys' program. Supportive environment had a large effect size (d = .83) and interaction and engagement had medium effect sizes (.34, .34 respectively). No differences were found on safe environment indicating both programs provided a physically safe environment. However, although the majority of subscales within this domain focused on the physical safety of the program environment (4 of 5 subscales), emotional safety was measured within safe environment and differences between this subscale were significant ($F(1,17) = 23.612$, $p < .0001$).

Table 1.

Observed program quality researcher scores (YPQA), youth perceived program quality (YPQS), and youth perceived needs support (LCQ) outlining differences between programs.

		Girls' Program		Boys' Program				
		M	SD	M	SD	F	sig	*d*
YPQA	Safe Environment	4.41	.96	4.36	1.23	.13	.726	.05
	Supportive Environment	4.53	.99	3.57	1.31	41.96	.000**	.83
	Interaction	3.38	1.41	2.92	1.28	12.05	.003*	.34
	Engagement	3.42	1.23	2.93	1.46	10.21	.006*	.34
YPQS	Appropriate Adult Support and Structure	3.83	.31	3.56	.27	5.41	.030*	.95
	Empowered Skill-building	3.57	.77	3.29	.40	1.29	.268	.46
	Expanding Horizons	3.42	.66	3.15	.64	1.04	.320	.42
	Negative Experiences	1.11	.26	1.22	.36	.76	.393	.36
LCQ	Basic Needs Support	5.65	.42	5.28	.31	5.89	.024*	.99

* $p < .05$.
** $p < .01$.

Examining youth's perceived program quality, the MANOVA revealed a statistically significant difference between both programs (F(4, 19) = 1.41, p = .027; Wilks' Lamba = .771). Follow-up analyses were conducted whereby dependent variables were examined separately using an adjusted alpha level (.013). No significant differences were found across the programs on the four subscales after the adjusted alpha. However, appropriate adult support and structure approached significance (p = .030) with the girls' program scoring higher than the boys' program. It should be noted that the small sample size led to low power to detect a statistical significance and as a result, effect sizes were calculated. Appropriate Adult Support and Structure had a large effect size (d = .95) and Empowered Skill-building, Expanding Horizons, and Negative Experience approached medium effect sizes (.46, .42, .36, respectively).

The one-way ANOVA that examined perceived needs support across the two programs showed statistical significance ($F(1, 22) = 5.89$, $p = .024$) and indicated a large effect size ($d = .99$). The girls' program scored higher on needs support compared to the boys' program. Lastly, two hierarchical regression analyses conducted within each program showed that program quality significantly predicted needs support for the girls' program ($F(4, 7) = 9.02$, $p = .007$, $R^2 = .84$), but not for the boys' program ($F(1, 10) = 0.845$, $p = .539$, $R^2 = .33$). Appropriate adult support and structure was the only subscale that significantly contributed to the model within the regression analysis for the girls' program ($p = .019$).

Qualitative results

Analyses of the field notes resulted in four themes related to program quality strategies: (a) supportive environment, (b) intentional opportunities for skill-building, (c) supported leadership and mentoring opportunities, and d) planned opportunities for youth choice. Within each theme, girls' program findings are presented first, followed by the boys' program.

Supportive environment. Within the girls' program, providing a supportive environment helped foster relatedness and belongingness between youth and between youth and mentors. Mentors were able to achieve this environment by being positive, actively engaged, and encouraging. At the beginning of each session, it was noted: "all youth are greeted individually by first name upon entering the room and are asked personalized questions" (G2-10; e.g., "Hey [name], how was your trip?...It sounds like you had a lot of fun", "[name], how did your dance-a-thon go?") and "mentors make frequent use of youth's name" (e.g., G2-10; "thanks for sharing [name], I appreciate your input"). The girls' mentors were documented: "listening attentively and actively engaged when youth share thoughts, ideas, stories; showing they are engaged and what youth say is important" (G3-31).

Throughout the program, mentors were observed as being engaged which helped foster a supportive environment for youth, providing opportunities for youth to develop a sense of relatedness. Mentors' non-verbal communication was conducive to providing a supportive environment, as "mentors frequently smile, make eye contact with youth, and respond to their introductions and conversations with interest" (G2-24). Mentors were documented as providing youth encouragement (e.g., "Thanks [name] for explaining, you were thorough in your explanation"; "You have a lot of goals for your life, I can tell you've put a lot of thought into this").

Researchers identified that mentors involved youth in decision-making which appeared to increase a sense of belonging: "youth strongly identify with the program. A list of rules is posted in the room in which both youth and mentors developed together and frequently make reference to during session" (G2-10; e.g., "guys, we're breaking rule 11, look at our poster"). Moreover, several girls were overheard highlighting their connectedness to the program (e.g., "why is the program so short? I don't want it to end"; "youth continually used 'we' terminology to address the group" [G2-24)]. During the last session, mentors gave "youth a structured opportunity to talk about what they liked and did not like about the program. Youth eagerly raised their hands and listed various activities they enjoyed" (G3-31; e.g., picking games, mentors, just being with girls). One girl was overheard stating: "This is the favorite program I was ever in, I liked [program] better than other programs I've been in" (G3-31).

Not only did mentors attempt to facilitate a positive emotional climate, they also engaged youth in activities that further encouraged this climate. The first activity the group did as a whole was create a contract (coined the *FUNtract*), where "mentors created a contract with youth so

they were accountable; helped make rules they believed were important…Youth took turns suggesting rules and mentors supported their ideas" (G2-3). Mentors "encouraged a positive emotional climate by highlighting the importance of treating everyone well in the program" (G2-24; e.g., "respect, respect, respect; we are going to respect everyone and treat everyone as equals"). Lastly, mentors provided a psychologically safe environment by encouraging youth to "take risks" and "there are no such things as mistakes, just try your best" (G2-24).

In contrast, the emotional climate of the boys' program was characterized as "largely neutral with both positive and negative behaviors; youth and mentors are all quiet and only a few engage with each other." At the beginning of several sessions youth "show up at different times (some late) and are casually greeted by staff: 'hey'" (B2-12), "Staff are pretty quiet—small hello to youth, but not enthusiastic" (B2-5), "Some youth that come in late are not greeted; mentor is writing something down and appears busy" (B2-12), and "mentors are sitting with their coats still on when youth arrive—not welcoming" (B3-12). Moreover, "only one mentor verbally greets or engages with youth at the beginning of session" (B3-12), while "other mentor sat in silence" (B2-12) or was documented as "sitting by himself at a separate table than the group; was asked by other mentor to join group" (B4-2). While waiting for other youth to arrive, "everyone sits in silence for a few minutes waiting (quiet). Mentors do not facilitate a check-in or discussion for youth or mentors to get to know each other" (B2-5). Within one session, "mentors sometimes use a warm tone of voice (e.g., asking how youth's day was) and sometimes use disinterested tone (e.g., "we need to get through this"). Moreover, "mentor tries to re-focus group and quickly curtails speaking out" (e.g., "we don't need to hear about your video games"). Throughout the program, it was "rare that mentors or boys addressed each other by name". Youth were observed "pointing or referring to mentors as 'him'" (B4-2) and "mentor addresses youth as a group, not individually; very rare to hear youth names" (B3-12).

The level of mentor engagement within the boys' program was also observed as much lower than those involved in the girls' program. As noted, one mentor "sat on his own, away from youth and did not engage in conversations with them." During the sport component, mentors "didn't participate in the games in the gymnasium (dragon tails, dodgeball) and either sat or stood off to the side" (B2-5). During the second session, "mentors were not playing games with youth, and youth asked mentors to play on several occasions" (B2-5; e.g., "no, we're not playing this one"). During the fourth session, "youth ask mentors if they can join in for dodgeball to make the teams bigger and more fun. Mentors agreed and joined in" (B2-17). From this session onwards, mentors engaged in various activities within the gymnasium and it was "evident youth have more fun playing with and against mentors and with a larger group" (B2-17).

The boys' program struggled with participation rates throughout the program, which may have been due to the neutral emotional climate. At the beginning of three sessions "some youth were called down to the room to start the program–mentors had to page the office" and "mentors had to send other boys to ask the absent boys if they were planning on attending today's session". It was evident that competing alternatives played a role in the lack of commitment towards the program; however, youth chose based on preference as to which program they attend. One boy stated: "I'm going to attend every other week because chess club conflicts and I'm on the team". It was repeatedly noted that those who attended the program regularly "do not always identify with activities" (B2-12) and "do not strongly identify with program" (B2-26). Some youth "appear bored during dodgeball" (B2-26; e.g., "I'm going to just walk out the gym

now—bye!"). Lastly, near the end of one session, mentor stated there was time to play one last round of dodgeball in which youth declined" (B3-5; e.g., "no, let's just go back").

Intentional opportunities for skill-building. Based on mean scores and effect sizes of youth-perceived quality, there were small discrepancies between programs related to skill-building opportunities, which was supported by the field notes within supportive environment and interaction domains. Within the girls' program, mentors intentionally integrated activities that aligned with program goals. Specifically, one activity, 'Inside Me, Outside Me', focused on self-confidence and self-reflection, as one mentor highlighted "I think what we're learning today is related to [program]; learning to love yourself and being yourself. The outside is going to represent what people know about you and the inside is about what people might not know about you". Throughout this activity "youth are provided opportunities to draw and use magazine cutouts" and mentors encouraged opportunities for autonomy: (e.g., 'If you can explain yourself better with words that's definitely okay'). One of the activities involved a relay where youth brainstormed healthy-active living topics and drew them. Mentors explain the purpose of the activity: "this activity involves all parts of healthy-active living we focus on—we're going to discuss why it's important and think of different ways we can be physically active within our lives". Lastly, after finishing a game of broken telephone, mentors talked to the group about how this was connected to life: "explained miscommunications occurred and needed to go through several rounds before the message was clear from start to finish. Mentors outline the importance of communication and discuss the realities of mixed messages" (G3-10; e.g., "how you say something can get lost in translation and that's how rumors spread…we have to be careful with what we say and how we hear because it might not always be true"). These examples reinforce the importance of providing opportunities for skill-building and explicitly reinforcing why activities are important to youth beyond the program.

Mentors reinforced program goals to youth by explaining the link between different activities and program goals: "To give everyone a chance to learn together, grow as a group, and to learn about healthy-active living, we are going to do [activity]" (G3-3). Mentors also draw connections to program goals in informal ways. During check-ins, youth shared how their week was going: "When asking check in questions to youth, mentors tie in lessons from the program to daily life" (G2-17; e.g., "when asked about her weekend, one girl noted she was sick. The mentor replied: "balanced eating that we talk about is really important and sometimes prevents us from getting sick or makes us better when we are sick)." Additionally, mentors "draw links between life and (program) and how the lessons learned in both are connected" (G3-10; e.g., "what you're learning at school is related to what the program because here you're learning about loving yourself and being confident").

In contrast, in only three of the boys' sessions, did mentors facilitate a life skill activity in addition to a sport/physical activity within the gymnasium. It was often noted: "the focus is not clearly linked to the activity". During one activity, there was a discussion about Canada's Food Guide: "activity focuses almost exclusively on concrete experience. Youth briefly talk about the Food Guide before moving into gym[nasium]. Connections are not drawn between the importance of these topics (healthy-balanced eating, physical activity) or beyond program context." During another session, "mentor introduces session topic (technology); however, no link is communicated between activity and program goals." Although the activity "seemed useful as the group talks about pros and cons of technology that youth use, no link explained for youth beyond program context." Activities also tended to be "similar to school environment—sedentary, pen and paper, raising hand before talking—youth appear bored" (B3-5; e.g., "why

are we doing this, it's boring", "can we actually *do* something now"). Moreover, how mentors presented these activities to youth may have affected the way youth perceived them: "Mentor starts session by implying (life skill) activity is not as fun as participating in gym[nasium] activities" (B2-5; e.g., "Do you guys want to get through this quickly to have more time in the gym[nasium]?...Okay, let's get this over with").

Supported leadership and mentoring opportunities. There was evidence of leadership opportunities within both programs; however, a main difference between programs was fostering an environment where youth felt supported in these roles. Within the girls' program, youth were working on 'Inside me, Outside me' activity described above (craft-based self-reflection project). Once youth were done "mentors provided youth with the option of presenting their final product" (G3-31; "Who is comfortable with sharing their Inside Me, Outside Me products? If you don't want to share that's okay, whatever you're comfortable with"). In another activity, youth were creating and reading out questions: "mentors provide all youth opportunities to practice group-process skills. All youth contribute ideas during question game and mentors ensure all youth have a chance to read the questions aloud to the group" (G2-10; e.g., "Make sure everyone gets to answer each question and have their question answered"). Moreover, it was documented "mentors shared control of the activities—participating in games with youth, but also letting them take the lead". Further, mentors provided opportunities for youth to take on a leadership role: "mentors encourage youth to explain a game she wants to play to youth (youth leadership). Youth respect her as she explains game…During game, girl reminds other youth of some rules; mentors encourage and support this" (G3-3; "don't forget, you have to freeze every time someone looks at you", "you're doing a great job [name], you should be proud"). In another session, "all girls are given an opportunity to share thoughts and make presentations during charades—mentors make sure each girl is provided with the opportunity to lead" (G2-17).

During the boys' program, leadership opportunities occurred for some youth, particularly when explaining games. During one session, "one youth asks if they can play a certain game. Mentor agrees and asks him to explain rules: 'I don't know that activity, so can you explain it? While you do that, I'll go put the balls away'." Although the opportunity was provided, the individual was not supported in this role: "provided youth with an opportunity to make presentation, yet no one listening and other youth talk over him. Staff are not present (in equipment room); should be there to support and ensure youth are listening". However, there were times when a mentor provided support. During a similar situation, it was documented: "youth exhibit some evidence of exclusion as one youth tries to explain how to play a game, but other youth do not appear interested. Mentor steps in after about 30 seconds and attempts to make youth pay attention by redirecting focus" (B3-12).

Planned opportunities for youth choice. Youth in both programs were afforded with opportunities for content (what) and process (how) choices. However, it was documented these opportunities within the girls' program tended to be initiated by mentors and were afforded in both session components (in-class, in-gym), whereas within the boys' program, a more reactive approach to youth choice was taken where youth tended to initiate such opportunities. These opportunities tended to occur in the gymnasium during the active part of the session as opposed to the entire session. Within the girls' program, opportunities were provided to youth that were initiated by mentors including asking: "what would be a fair way to choose who goes first?" (G2-17), "we're trying to organize different activities so that everyone tries something new and make sure everyone does something they like" (G2-24), "if you have an idea, let us know because

everything you have to say is important" (G2-24), and "we have two options: we can play a healthy-active living game or make name tags together as [name] suggested" (G2-3).

Within the boys' program, youth tended to initiate opportunities for choice, although this initiative was welcomed by mentors (e.g., modifying game rules, activity order). However, these choices tended to be afforded solely in the gymnasium. When one youth approached mentors with a game he wanted to play, mentor suggested the idea to the group: "Someone else had a suggested game for us so we thought we'd give it a chance. Does that sound good to everyone?" As youth often asked to play various games, mentors "provide youth opportunity to make plans for how to spend their time; no one shout anything out, put up your hand and suggest what we should play" (B4-9). Youth also initiated process choices involving how to play games ('can we do teams?', 'can we make the court bigger', 'can we have a doctor this time for dodgeball?'), to which mentors supported their sense of autonomy.

Discussion

The purpose of this study was to use a mixed-methods approach to examine program quality and needs support across two in-school physical activity-based mentoring programs. Results indicated the girls' program was rated significantly higher than the boys' program on observed program quality for providing a supportive environment, and opportunities for interaction and engagement. No differences were found for safe environment which was not surprising given this domain focuses predominantly on physical safety and both programs were delivered within the same school setting. A large effect was found for appropriate adult support and structure, whereby girls perceived their program to be higher than the boys' program. Overall support for basic needs was rated higher by the girls' program than the boys' program. Lastly, youth perceptions of program quality predicted needs support in the girls' program, but not the boys' program. Field note evidence supported the quantitative findings, outlining the girls' mentors facilitated a higher quality program by providing a supportive environment, intentional opportunities for skill-building, leadership and mentoring opportunities, and choice while the boys' mentors may have had a neutral effect or hindered program quality. This study responds to calls to empirically explore the effectiveness of mentoring programs (Rhodes & Spencer, 2005) and examine program quality in youth programming (Roth & Brooks-Gunn, 2015), specifically related to the NRCIM eight program setting features (Côté, Strachan, & Fraser-Thomas, 2008).

Youth are more likely to thrive within a social environment that supports their basic psychological needs, and program leaders can play a role in supporting or hindering these needs (Armour, Sandford, & Duncombe, 2013; Deci & Ryan, 2000). The current findings speak to the notion that it may not be the content of a program that is important, but the mentors, and how these individuals facilitate the program, that are critical (Rhodes & Spencer, 2005). Moreover, Little and colleagues (2008) argue staff quality is a critical feature of high-quality afterschool programs. Current findings support this assertion as the quality of program delivery experienced by youth and from researchers' perspectives found that mentors in the girls' program supported basic psychological needs. The leaders did this by providing a supportive environment which fostered the need of relatedness, intentional opportunities for skill-building and leadership which supported the need for competence, and planned opportunities for youth choice which promoted a sense of autonomy. Research has provided support for these strategies within youth programming contexts (e.g., Eccles & Gootman, 2002; Mitchell et al., 2013), yet this study provides initial evidence in these specific strategies helping to foster needs support in youth, and

specifically within a mentoring context. In contrast, the boys' program experienced lower program quality based on both youth and researcher-perspectives. Such findings mirror previous research that examined youth programs in which youth participants experienced lower quality outcomes, as they had fewer opportunities for choice, inconsistent attendance, and an absence of planned activities (Baldwin et al., 2015); all of which were relevant to the boys' program. Understanding the relationship between program quality and basic needs is critical as mentors can adapt and improve implementation strategies to support, rather than hinder these needs. In this study, quantitative results indicated program quality, specifically providing appropriate adult support and structure, predicted needs support in the girls' program. In contrast, leaders within the boys' program did not use the same strategies or to the same extent which may explain why the program quality and needs support scores were lower and why program quality did not predict needs support within this context. When examining the prediction of program quality related to needs support, appropriate adult support and structure (relatedness) was the only subscale that contributed to fostering needs support. This further speaks to the importance of establishing relationships between mentors and youth, as well as having a foundational program structure within youth programming that may affect fostering needs support (Eccles & Gootman, 2002).

Despite not finding significant differences for three subscales of perceived program quality, small to moderate effect sizes emerged, outlining that differences did exist between programs related to these subscales. However, of note, questions related to empowered skill-building outlined if general skills were learned; inclusive of sport skills, and may be one reason significant differences were not found between programs. Based on researchers' observations, youth in both programs had opportunities to develop a sense of competence through different physical activities.

Although differences in gender were not the main focus of this study, it is critical to consider gender as the two programs examined were of differing genders. Previous research has outlined gender differences between girls and boys (e.g., Barber, Eccles, & Stone, 2001), particularly related to the importance of providing socially safe contexts for girls to develop close relationships with peers and mentors (Armour, Sandford, & Duncombe, 2013; Bean et al., 2015). In one meta-analysis, DuBois et al. (2002) found the magnitude of positive gains on outcome measures for youth (e.g., emotional/psychological, problem/high-risk behavior, social competence, academic/educational, and career/employment) to be modest, with small effect sizes; however, larger effects were found when youth had frequent contact with mentors, more emotional closeness and longer lasting relationships. As both programs in this study lasted the same amount of time and the same frequency of interaction with mentors, findings speak to the importance of the emotional closeness of mentors, which is reinforced by both the quantitative and qualitative findings. Nevertheless, future research is needed to further investigate whether there are differences across male and female mentors or whether female and male programs are structured differently due to gender.

Limitations, Practical Applications, and Future Directions

These findings offer valuable insight, but must be considered in light of their limitations. First, some data were based on youth self-report through the completion of questionnaires; however, observational data gathered by researchers supported youths' perceptions. Second, a small sample size limited statistical analyses; therefore, caution needs to be used when interpreting these findings. The small sample size can also limit generalizability of findings to

other program contexts, highlighting a need for further research to examine program quality and basic needs in youth mentoring contexts. Additionally, as mentors play a large role in facilitating program quality and needs support, it should be noted that personal characteristics and previous experiences were not controlled for in this study. However, all mentors outlined in interviews that were conducted as part of the larger study, that they did not have any previous experience working in youth programming beyond interacting with younger family members (e.g., cousins). Despite one study that recently explored characteristics of being an effective camp counsellor and strategies for youth engagement within the camp context (Halsall, Kendellen, Bean, & Forneris, 2016), future research is needed to explore the influence of personality in the facilitation of program quality and needs support in youth programming. Findings provide practical implications. It is critical to ensure both mentors and program administrators involved in mentoring programs complete appropriate training that includes strategies on how to deliver high quality programs that support youth's basic needs. Such training would provide staff with more strategies to intentionally shape programs and activities to maximize development (Bean & Forneris, 2016a). As the ultimate goal of many youth programs is psychosocial development, future research could incorporate a youth development measure in combination with program quality assessment to examine this relationship. Lastly, because this study took on an inductive approach and did not intentionally explore differing program quality strategies pertaining to gender, research should explore if different strategies and perceptions of program quality or needs support exist across gender.

Conclusion

This study highlights the critical role of mentors in facilitating program quality and needs support within youth mentoring program. Additionally, this study provides initial evidence that high program quality programs that use strategies such as providing a supportive environment, intentional opportunities for skill-building, supported leadership and mentoring opportunities, and planned opportunities for youth choice can positively influence needs support. Conducting this study responded to calls for increased understanding of the circumstances under which such efforts can ensure mentoring programs have the most meaningful influences on youth development (DuBois, Portillo, Rhodes, Silverthorn, & Valentine, 2011). Moreover, this study helped address the gap identified by Grossman and Tierney's (1998) outlining the need to understand the circumstances between effective and ineffective programs. As such, findings can provide valuable information for practitioners on how to structure youth mentoring programs.

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