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Quality of Participation Experiences in Special Olympics Sports Programs

Kelly P. Arbour-Nicitopoulos,¹ Natasha Bruno,² Krystn Orr,¹ Roxy O'Rourke,¹ Virginia Wright,^{3,4} Rebecca Renwick,⁵ Kirsten Bobbie,⁶ James Noronha⁶

¹Faculty of Kinesiology and Physical Education, Mental Health and Physical Activity Research Centre, University of Toronto, Toronto, Ontario, Canada

²School of Kinesiology and Health Studies, Queen's University, Kingston, Ontario, Canada

³Department of Physical Therapy, University of Toronto, Toronto, Ontario, Canada

⁴Bloorview Research Institute, Holland Bloorview Kids Rehabilitation Hospital, Toronto, Ontario, Canada

⁵Department of Occupational Science and Occupational Therapy, University of Toronto, Toronto, Ontario, Canada

⁶Special Olympics Ontario, Toronto, Ontario, Canada

Corresponding Author: Kelly Arbour-Nicitopoulos, Faculty of Kinesiology and Physical Education, 55 Harbord Street, University of Toronto, Toronto, Ontario, M5S 2W6. Phone: 416-978-2725. Email: kelly.arbour@utoronto.ca

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Abstract

This cross-sectional study examined experiential elements facilitating quality sport experiences for youth (ages 12-24) in Special Olympics, and the associated influences of sport program and sociodemographic characteristics. A total of 451 athletes involved in the 2019 Special Olympics Youth Games completed a survey assessing elements of quality participation (autonomy, belongingness, challenge, engagement, mastery, meaning). T-tests investigated whether athletes with intellectual and developmental disabilities (IDD) rated elements differently across Traditional and Unified Sport. Regression analyses explored whether sport program and sociodemographic characteristics were predictors of these elements. Youth reported high mean scores across the elements, with no significant differences between athletes with IDD in Traditional or Unified Sport. Athletes with no reported disability rated higher autonomy than those who reported disability ($p = .01$). Women tended to report greater engagement in sport than men ($p = .07$). Findings provide theoretical and practical insights into youth's quality sport participation in Special Olympics.

Keywords: youth; intellectual disability; developmental disability; Unified Sport; integration

Introduction

Participation in sport can offer important health benefits for youth of all abilities including improved physical fitness (Montesano et al., 2014; Oliveira et al., 2017), psychological well-being (Crawford et al., 2015; Eime et al., 2013), and social functioning (Eime et al., 2013; Reinders et al., 2019; Wilson et al., 2016). Unfortunately, youth with disabilities encounter multiple physical, program, and social barriers that have impeded both the quantity and quality of their sport participation (Evans et al., 2018; McGarty & Melville, 2018). In particular, youth with intellectual and developmental disabilities (IDD) who have impairments in intellectual functioning and adaptive behaviour (American Association on Intellectual and Developmental Disabilities, 2020) experience barriers to sport access and participation, including a lack of accessible facilities, limited availability of inclusive programs, insufficiently trained instructors, and negative attitudes and stereotypes of persons with disabilities (McGarty & Melville, 2018). Accordingly, sport programs should be equipped to support the participation of youth, especially those with IDD who experience greater obstacles and exhibit lower levels of sport participation compared to youth without IDD (Shields & Synnot, 2016).

Special Olympics offers community-based health and wellness opportunities, including sport programs, to over five million persons with IDD internationally and 45,000 in Canada (Robinson et al., 2018; Weiss et al., 2017). Initially, Special Olympics offered sports programming for individual- and team-based ‘Traditional Sports’, which are segregated sports programs for athletes with IDD to train and compete against other athletes with IDD. Recognizing their mission to promote sport that both empowers athletes with IDD and inspires understanding within local communities, Special Olympics established Unified Sport. These are integrated sports programs that offer the opportunity for athletes with and without IDD to

1 participate in sports on the same team, with the aim of fostering social inclusion through shared
2 sport experiences (Hassan et al., 2012). Given the widespread global support for Special
3 Olympics, and the well-known physical, psychological, and social benefits of Special Olympics
4 sport participation (Orr et al., 2019; Shapiro, 2003; Tint et al., 2017), it is expected that exploring
5 experiences of youth in Special Olympics' Traditional and Unified Sport programs can offer
6 insights into the quality of participation among youth with and without IDD in sport.

7 Broadened understandings of quality sport participation for persons with disabilities has
8 evolved into a growing body of research. In 2017, Martin Ginis et al. conducted a configurative
9 review (Gough et al., 2012) to synthesize the literature on 'quality participation' for children,
10 youth, and adults with physical disabilities across all life domains (e.g., leisure, employment,
11 education). Based on their findings, quality participation was defined as a person's subjective
12 evaluation that their participation is satisfying and enjoyable, and leads to personally valued
13 outcomes. Martin Ginis et al. (2017) posited six experiential elements fostering quality
14 participation: *autonomy* (e.g., making choices for oneself), *belongingness* (e.g., feeling accepted
15 by others), *challenge* (e.g., perceiving tasks to be stimulating), *engagement* (e.g., involving
16 oneself in the tasks), *mastery* (e.g., task accomplishments), and *meaning* (e.g., perceiving a sense
17 of purpose and social responsibility). Martin Ginis et al. (2017) recommended that researchers,
18 clinicians, and policymakers incorporate these six experiential elements into the design and
19 implementation of community participation initiatives for persons with physical disabilities.

20 Building upon Martin Ginis et al.'s (2017) conceptualization of quality participation,
21 Evans et al. (2018) developed a sport-specific framework that incorporates the six experiential
22 elements with evidence-informed strategies for supporting the physical, program, and social
23 environments within parasport. Within this framework, Evans et al. (2018) stipulated that

1 repeated exposure to the six experiential elements can promote quality experiences, and,
2 consequently, quality participation in sport environments. Several studies examining quality
3 sport and physical activity participation of parasport athletes (Allan et al., 2018), recreational
4 sport athletes with physical disabilities and IDD (Orr et al., 2019), and military veterans with
5 physical disabilities (Shirazipour et al., 2017) provided evidence for the six experiential elements
6 and their role in fostering quality sport experiences for athletes with disabilities.

7 Despite advancements in operationalizing quality sport participation, previous efforts
8 have largely focused on persons with physical disabilities. Investigations that explore quality
9 sport participation for persons with IDD would help ensure that theoretical, practical, and
10 methodological developments include all persons with disabilities. More specifically, analyzing
11 perceptions of Martin Ginis et al.'s (2017) experiential elements of quality participation in the
12 largest international sports organization dedicated to persons with IDD, Special Olympics, could
13 narrow the current research gap concerning quality sport participation for youth with IDD. Very
14 importantly, exploring quality sport participation among Special Olympics Traditional and
15 Unified Sport athletes offers the unique opportunity to examine whether differences in
16 experience emerge across youth with and without IDD. Such investigations could clarify whether
17 youth with IDD participating in Unified Sport rate the quality of their sport experience similar to
18 youth with IDD participating in Traditional Sports. Further, by consulting with athletes, Special
19 Olympics instructors may better understand how youth athletes with and without IDD rate their
20 experience and consequently, how to improve the quality of their sport programming.

21 To date, there has been limited research examining sport participation experiences of
22 Special Olympics athletes, and whether differences in experiences are related to sport program
23 (i.e., Traditional or Unified) or sociodemographic characteristics (e.g., age, disability status,

gender). However, such investigations are necessary to better understand whether all athletes are meaningfully included and adequately supported in sport environments to mitigate challenges in participation. There is some evidence to suggest that parents of youth with IDD tend to select segregated sports options over integrated programs (Goodwin et al., 2006). Recurring themes in Goodwin et al.'s (2006) data suggested youth with IDD who participated in integrated sport programs outside of Special Olympics perceived differences in skill level compared to youth without IDD, leading to overly competitive sport environments and negative social comparisons. Parents perceived integrated sports environments as lacking appropriately tailored modifications for youth with IDD, threatening self-efficacy and producing discomfort and unsatisfactory participation experiences (Goodwin et al., 2006).

Similarly, Ninot et al. (2005) and Ninot and Maïano (2007) found youth with IDD participating in Special Olympics Traditional swimming programs reported significantly higher self-perceptions of athletic competence compared to youth with IDD participating in non-Special Olympics integrated swimming programs. As such, Ninot et al. (2005) stressed the importance of having professionals monitor the integrated sport environment to ensure youth with IDD are supported through ongoing encouragement and opportunities to maximize success. One limitation with these studies is the lack of exploration of integrated sports within Special Olympics (i.e., Unified Sport), suggesting the need to further investigate whether Special Olympics' Unified Sport programming can elicit equally meaningful outcomes for youth athletes with IDD compared to segregated (i.e., Traditional) sport programming. Additionally, these studies did not recruit youth without IDD, and thus, the authors could not analyze whether these outcomes differed across youth with and without IDD.

In terms of the influence of sociodemographic characteristics on quality sport participation, Gillespie (2009) examined patterns of age and gender among Special Olympics athletes (i.e., children, youth, and adults) to explore whether the organization's aim of inclusivity engaged all athletes. Results demonstrated significant sociodemographic gaps in participation, highlighting that Special Olympics athletes were predominately male and older than 18 years (mean age 32.6 years; standard deviation [SD] 15.3 years). Thus, to better understand how Special Olympics can optimize participation for all athletes, it is important to consider the quality of sport experiences for younger athletes and women/girls with IDD.

Accordingly, the overarching purpose of this study was to investigate the quality of participation experiences of youth athletes in Special Olympics Traditional and Unified Sport programs. By focusing on the experiences of youth with and without IDD, we hope to broaden understandings of quality sport participation for youth of all abilities and further, delineate any differences among these athletes across sport program and sociodemographic characteristics. Our study focused on the self-reported experiences of Special Olympics youth athletes using the experiential elements of quality participation as outlined in Martin Ginis et al.'s (2017) framework. Three research questions guided this study:

1. How do youth athletes rate the quality of their participation in Special Olympics Traditional and Unified Sport programming?
2. Do the sport participation experiences of Special Olympics athletes with IDD differ in Traditional versus Unified Sport programming?
3. How do Special Olympics youth athletes' ratings of quality participation vary across Traditional and Unified Sports programs, as well as within sociodemographic (e.g., age, disability status, gender) characteristics?

Methods

Participants

The study was conducted at the 2019 Special Olympics Invitational Youth Games where approximately 1,260 international youth athletes competed as part of Traditional and/or Unified Sport teams over a 3-day period in Toronto, Ontario, Canada. Institutional Review Board approval was obtained along with Informed consent from participants prior to data collection. Athletes were invited to participate in the Youth Games if they were deemed eligible based on their performance in qualifying events held across Special Olympics Chapters or if they were selected by Special Olympics Chapters to be on a representative team. Among the 1,260 Youth Games athletes, the majority identified as man/boy ($n = 828$; 65.7%), were above the age of 17 ($n = 811$; 64.4%), and reported on their registration form to have a disability ($n = 1,056$; 83.8%). Of the 1,260 youth athletes who attended the Youth Games, 501 (40%) participated in this study.

The inaugural invitational Youth Games presented a rich opportunity to explore whether youth athletes' quality sport participation experiences differed based on the Sports program (i.e., Traditional versus Unified) and sociodemographic characteristics (i.e., age, disability status, and gender) to try to elucidate the complexities of quality sport participation experiences for youth with IDD. Eligible youth athletes with and without IDD were: (a) aged 12-24 years, (b) competing in either Special Olympics' Traditional Sports or Unified Sport during the Youth Games, (c) able to complete an online survey with minimal assistance from a researcher, and (d) able to read or understand English. While the United Nations (2020) define youth as persons aged 15-24 years, the eligibility criteria were expanded in this study to include athletes aged 12-24 as they were deemed to be youth by Special Olympics and thus took part in these Youth

Games. As such, it was important to include the perspectives of athletes aged 12-24 years in our statistical analyses to reflect how Special Olympics programming is carried out in practice.

Measures

Demographics

Athletes were asked to report their age, country of residence, disability status (i.e., “I have a disability”, “I do not have a disability”, or “prefer not to answer”), gender (i.e., man/boy, girl/woman, transgendered, or prefer not to answer), the sports they competed in (i.e., athletics, basketball, bocce, floor hockey, and soccer), and sport program (i.e., Traditional Sport or Unified Sport). A comment box was included for participants to add further details.

Experiential Elements of Quality Participation

Quality of participation experiences was assessed using the Measure of Experiential Aspects of Participation (MeEAP) (Caron et al., 2018). The MeEAP is a 12-item questionnaire designed to assess the six experiential elements of quality participation (i.e., autonomy, belongingness, challenge, engagement, mastery, and meaning) that has been validated among adults with physical disabilities across the domains of sport, exercise, employment, and mobility. Each of the six experiential elements are represented by two items on the MeEAP, and presented with the introductory statement in which the particular program name is inserted: “Think of your [Special Olympics sports program]. When participating in [Special Olympics sports programs], I feel...”. Examples of the items include: “free to make my own choices” (autonomy), “accepted by others” (belongingness), “my skills match the level of difficulty of the activity” (challenge), “entirely focused on what I am doing” (engagement), “I can achieve my goals” (mastery), and “a sense of purpose” (meaning). For this study, minimal modifications were made to the MeEAP, as guided by co-authors Kirsten and James from Special Olympics Ontario, to appropriately tailor

the language for youth athletes with IDD (see Supplemental Material for further details). MeEAP responses are reported on a 7-point Likert scale (1 [strongly disagree] to 7 [strongly agree]). Mean scores are calculated for each of the six experiential elements, with higher scores representing more positive (i.e., higher quality) sport participation experiences.

Study Design and Data Collection Procedures

This descriptive study employed a cross-sectional design. Athletes involved in the 2019 Special Olympics Youth Games in Toronto, Ontario, Canada were invited to participate in a five-minute online survey. The online survey was hosted on a secure institutional data management system (RedCap®; Harris et al., 2009). Using iPads, participants provided consent, completed the demographics questions, and MeEAP measure. A team of 10 research assistants collected data and assisted youth athletes in completing the online survey (i.e., by verbally reading aloud the questions) at each of the sport venues (seven in total) over the three-day period.

Data Analysis

Survey data were analyzed using SPSS version 25.0 software. Chi-square tests were first performed to calculate whether sociodemographic frequencies of our sample ($n = 451$) differed significantly from the 2019 Youth Games athletes ($n = 1,260$). Chi-square tests were then performed to calculate whether the frequencies of youth athletes across Traditional and Unified sport programs and sociodemographic characteristics were significantly different across athletes with ($n = 402$) versus without ($n = 65$) complete MeEAP data or athletes outside of the 12-24 age range ($n = 34$). A missing values analysis was then conducted to determine whether experiential element item (i.e., MeEAP) data were missing at random or if there was a systematic pattern related to sport program and/or sociodemographic characteristics (Pallant, 2016).

Preliminary analyses were conducted using descriptive statistics (means, standard deviations, frequencies, skewness, and kurtosis) for each of the 12 MeEAP items. Data for all MeEAP items were reflected, and then a logarithmic transformation was applied (i.e., new variable = $\text{LG10} [K - \text{old variable}]$, where $K = \text{largest possible value} + 1$), resulting in normally distributed data (Pallant, 2016). Outliers were identified using z-scores and winsorized to the next acceptable extreme case, meeting the assumptions of linearity for correlation and regression analyses (Field, 2017). MeEAP data were negatively skewed (values varying from -1.97 to -3.52) and exhibited high kurtosis values (varying from 3.98 to 15.45), and thus, were transformed to meet assumptions to support use of the parametric statistical procedures.

Prior to conducting the analyses for the three research questions, Cronbach's alpha was computed for the MeEAP items (Pallant, 2016). In addition, the relationships between the six experiential elements of quality participation were examined using bivariate Pearson correlations. The novel use of the MeEAP for measuring quality sport experiences in youth with and without IDD warranted these analytical steps as an indication of the internal consistency and construct validity of the MeEAP for this target group. Correlations were interpreted using Cohen's (1988) guidelines, where the strength of associations was interpreted as small ($r < 0.29$), moderate (r of 0.30 to 0.49) or large ($r > 0.50$).

To compare ratings of quality participation between athletes who identified with having an IDD in Traditional ($n = 121$)¹ versus Unified ($n = 86$) Sport programs, independent t -tests were conducted for each of the six experiential elements of the MeEAP.

To explore the influence of sport program and sociodemographic characteristics on youth athletes' ratings of quality participation, standard multiple regression analyses were performed

¹ While there were 183 reported Traditional athletes, participants were only included in the independent t -tests if they identified with having a disability.

separately for each of the six experiential elements using four predictor variables entered simultaneously ($p < 0.05$ for acceptance in the model): sport program (coded 0 = Traditional Sports; 1 = Unified Sport), age (coded 0 = 12-18 years; 1 = 19+ years), disability status (coded 0 = no disability; 1 = reported disability), and gender (coded 0 = girl/woman; 1 = boy/man).

Results

Participant Sociodemographic Characteristics

A total of 501 youth athletes participated in this study, 402 (80.2%) of whom had complete MeEAP data and were within the 12 to 24 age range (see Table 1). Of the 402 athletes with complete MeEAP data, 272 (67.7%) identified as a boy/man, the mean age was 17.21 years ($SD = 2.28$; range 12-24 years), and 191 (47.5%) athletes identified as having a disability. When comparing our sample's sociodemographic characteristics to the 2019 Youth Games athletes, significant differences emerged for age (chi-square = 224.6; $df = 1$; $p = .001$) and disability status (chi-square = 102.2; $df = 1$; $p = .001$). Our sample had a greater representation of athletes who did not identify as having a disability and athletes between the ages of 12 and 17 years inclusive. No significant differences were found for gender (chi-square = .987; $df = 1$; $p = .320$).

Table 1 also provides sport program and sociodemographic characteristic frequencies for the 99 athletes who did not have complete MeEAP data and/or were outside of the 12 to 24 age range. Chi-square test results indicated no significant differences between athletes with complete MeEAP data and athletes with incomplete MeEAP data and/or outside the 12 to 24 age range.

Examining the Internal Consistency and Construct Validity of the MeEAP

Cronbach's alpha amongst the 12 MeEAP items was 0.90, indicating good internal consistency within the scale. Table 2 provides the bivariate Pearson's correlation coefficients for the two corresponding MeEAP items and the overall mean experiential element scores for each

of the six experiential elements of quality participation. Correlations between the two corresponding MeEAP items for each experiential element were significant at $p = .01$ and varied from moderate to large strength ($r_s = 0.36$ to 0.54). Further, the correlations for the mean MeEAP element scores demonstrated moderate to large positive associations across the elements ($r_s = 0.39$ to 0.59), indicating that higher scores in one experiential element were related to higher scores in other experiential elements. These moderate to large positive correlations between the experiential elements provide preliminary support for construct validity of the MeEAP in our sample of youth with and without IDD.

Experiential Elements of Quality Participation

The majority of missing MeEAP values resulted from participants' preference not to answer MeEAP items ($n = 49$). The remaining missing MeEAP values were due to participants leaving over 50% of the responses blank ($n = 8$) or participants outside of the 12 to 24 age range ($n = 42$)². Results indicated significance for the missing completely at random test (chi-square = 478.7 ; $df = 269$; $p = .001$; Pallant, 2016). Specifically, MeEAP item 11 (meaning item, "a sense of purpose") was the only item with a pattern of 5% or more missing cases, suggesting this item was not missing completely at random ($n = 29$, 5.8%). Chi-square tests of independence for MeEAP item 11 (missing values versus reported values) and the measured sport program and sociodemographic characteristics showed Traditional Sports athletes were significantly more likely to select the response option 'prefer not to answer' (81%) than Unified Sport athletes (19%), $\chi^2(1, n = 465) = 10.94$, $p = .001$. No other significant differences were found for the measured sociodemographic characteristics and MeEAP item 11. After reviewing the literature (Tabachnick & Fidell, 2019) and consulting with one of the MeEAP authors for advice on how

² Participants outside of the 12 to 24 age range were included in the preliminary analysis to provide the reader with a greater understanding of the sample characteristics for those included compared to those excluded in this study.

to proceed in the case of missing MeEAP responses, we decided to include the 49 participants who had completed $> 67\%$ of the MeEAP survey using mean-replacement. Specifically, the mean for the MeEAP item that corresponded to the missing value was inputted. The remaining 50 participants were excluded from the analyses as they were outside of the 12 to 24 age range ($n = 42$) or had $> 50\%$ of MeEAP data incomplete ($n = 8$).

Table 3 displays the descriptive statistics for the sample of 451 youth athletes included in the final analyses (mean age = 17.20 years, $SD = 2.29$), according to sport program and sociodemographic characteristics. MeEAP item scores from the youth across the subgroups of age, disability status, gender, and sport program indicated high quality sport participation for all six experiential elements (means varied from 6.19 to 6.51 out of a possible score of 7).

Experiential Elements for Athletes with IDD Across Sport Program

Results from the independent t -tests comparing each of the six experiential elements across athletes with IDD in Traditional versus Unified sport programs revealed no significant differences (t values of -0.15 to 0.25, all p values > 0.15). These findings indicate that the mean scores for each of the six experiential elements were similar across Traditional and Unified Sport for athletes with IDD. See Table 3 for the experiential mean scores across sport program.

Sport Program and Sociodemographic Characteristics as Predictors of Experiential Elements

Table 4 summarizes the results from the multiple regression analyses for each of the six experiential elements, using sport program, age, gender, and disability status as predictors. Disability status ($F = 2.06$, $R^2 = 0.02$, $b = 0.02$, $p = 0.01$) was significantly predictive of autonomy, such that athletes who did not identify as having a disability reported higher autonomy scores for their Special Olympics sport programs than athletes who identified as

1 having a disability. There were no other significant sociodemographic and sport program
2 predictors for the experiential elements. However, there was an indication of a pattern of
3 association for gender ($F = 1.91$, $R^2 = 0.02$, $b = 0.03$, $p = 0.07$), suggesting women reported
4 higher engagement in their Special Olympics sport programs than men.

5 **Discussion**

6 This is the first study to investigate experiential elements of quality participation in sport
7 among youth athletes with and without IDD. Findings indicate that youth athletes with and
8 without IDD perceived their Special Olympics sport programming, regardless of sport program
9 type, to facilitate quality sport experiences, as shown by high mean scores across all six
10 experiential elements (means ranged from 6.27 to 6.40 out of 7). In addition to high mean scores
11 of quality participation for athletes with IDD, there were no significant differences related to
12 participating in Traditional Sport compared to Unified Sport, suggesting that both programs may
13 strongly support the sport participation of athletes with IDD. Moreover, sport program type was
14 not a significant predictor for any of the six experiential elements. Accordingly, this study
15 supports previous literature which found that sport participation for youth with IDD, and Special
16 Olympics programming in particular, can provide enjoyable and meaningful outcomes such as
17 increased self-worth, positive emotions, friendships, and motor skills (e.g., Tint et al., 2017).

18 While not part of this study's primary focus, our findings also demonstrate that the six
19 experiential elements of quality participation are significantly and positively correlated with each
20 other, such that a high rating of one experiential element relates to a high rating in each of the
21 five other experiential elements. Theoretically, this demonstrates relatedness between the
22 experiential elements of quality participation and extends the applicability of Evans et al.'s
23 (2018) quality parasport participation framework to youth athletes with and without IDD.

Sport Program and Experiential Elements of Quality Participation

Contrary to previous evidence regarding Special Olympics participation experiences, the sport program itself neither predicted the quality of participation nor were there differences in the quality of participation when comparing athletes with IDD in Traditional Sports and athletes with IDD in Unified Sport. Importantly, Unified Sport may promote the same high-quality sport experiences as Traditional (i.e., segregated) Sports programs. Prior studies examining participation experiences within Traditional and integrated sport environments highlighted the need for integrated sport staff to monitor noticeable gaps in skill level across athletes with and without IDD to ensure all youth were optimally supported (Goodwin et al., 2006; Ninot et al., 2005; Ninot & Mañano, 2007). Although experiencing success in sport was a recognized priority among athletes, parents of youth with IDD described feelings of discomfort as a result of poorly equipped instructors and subsequently, inadequately tailored integrated sport environments (Goodwin et al., 2006). It is important to acknowledge that these previous studies examined Special Olympics Traditional Sports but lacked direct comparison to Unified Sport programs. Our concurrent examination of Traditional Sports and Unified Sport programming may explain why quality experience scores were consistently high across both groups, resulting in no significant differences in the experiential elements. Our findings speak to the value of Traditional Sport and offer evidence to support that quality experiences are consistent within the new Unified Sport program. Furthermore, these findings may mitigate parents' reported hesitancy to enroll their youth with IDD in Unified Sport programs (Goodwin et al., 2006).

Sociodemographic Characteristics as Predictors of Experiential Elements of Quality Participation

When analyzing sociodemographic characteristics for all six experiential elements of quality participation, there were two patterns that emerged. The first was that disability status was a significant predictor of autonomy, such that those athletes who did not identify as having a disability reported higher ratings of autonomy compared to those who identified with having a disability. Autonomy-supportive participation environments for youth with IDD is a crucial, yet understudied, area of research (Deci, 2004; Orr et al., 2019). Studies investigating factors positively impacting community participation among persons with IDD noted the importance of integrating opportunities to make choices (Farrell et al., 2004; Verdonschot et al., 2009) and ensuring that persons with IDD experience social support, positive staff attitudes (Verdonschot et al., 2009), friendships, and a sense of achievement (Darcy & Dowse, 2013; Harada & Siperstein, 2009) within sporting environments. Given the high prevalence of social isolation and the low sport participation levels among youth with IDD (Akrami et al., 2006; McConkey et al., 2013), disability sport organizations may prefer to focus their efforts on fostering social acceptance through a sense of community (e.g., belongingness) and skill development through appropriately adapted environments (e.g., mastery and challenge) to promote long-term sport involvement.

The second pattern, though not significant, was that gender may predict engagement, such that women reported higher perceived engagement in their Special Olympics sports programs than men. Within the disability sport literature, women participate less in sport programs compared to men, and the women who do participate demonstrate high dropout rates (Goodwin et al., 2006). As such, ensuring that women have access to participation environments that promote and support quality experiences is imperative to mitigating the concerning discrepancies in sport involvement. Interestingly, our study results suggest that once women do enter the sport environment, Special Olympics programs are able to provide quality sport

1 experiences for them, as demonstrated by the high ratings by girls/women across all six
2 experiential elements of quality participation. Moreover, the pattern that women reported greater
3 engagement compared to men is promising for maintained sport participation and, subsequently,
4 reduced dropout rates. Future research should investigate the environmental strategies that enable
5 women to feel fully engaged in Special Olympics sport programs. Once these strategies are
6 better understood, other sport initiatives designed for youth with and without IDD may be able to
7 more effectively facilitate and support quality participation for all athletes, especially women.

8 Consistent with Evans et al.'s (2018) recommendations to focus on one or more of the
9 experiential elements to satisfy athlete needs, Special Olympics may have prioritized experiential
10 elements that aligned with the organization's values (i.e., belongingness, mastery, and challenge)
11 to promote sport environments that foster inclusion and respect, facilitate fair and safe
12 competition, and enhance sport skills (Robinson et al., 2018; Weiss et al., 2017). The moderate
13 to strong associations among the six experiential elements suggest that if sport program
14 providers do not have the capacity to focus on all six experiential elements, they may be able to
15 focus on one element, while simultaneously and indirectly influencing the others. For example,
16 program providers may prioritize challenge (e.g., appropriately testing an athlete) within
17 sessions, which may foster mastery (e.g., feeling competent) when athletes are appropriately
18 pushed beyond their comfort zone. Thus, program providers might be advised to focus their
19 efforts on effectively integrating one or some experiential elements, rather than attempting to
20 incorporate all six experiential elements poorly.

21 When conducting further investigations into the experiences of youth athletes with IDD
22 in Special Olympics programming, we found no significant differences across experiential
23 elements between athletes with IDD in Traditional Sports compared to Unified Sport. The high

1 ratings of all six experiential elements of quality participation among youth athletes with and
2 without IDD strongly suggest that Special Olympics programming offers quality sport
3 experiences. Nonetheless, Special Olympics may be able to further enhance programming by
4 focusing future efforts on strategies that promote autonomy and engagement for youth athletes.

5 **Strengths and Limitations**

6 Our study explored quality participation experiences within Special Olympics sport
7 programming using self-report measures, thereby mitigating the proxy reporting concerns
8 common in research involving youth with IDD (Glidden et al., 2011; Holburn et al., 2007; Tint et
9 al., 2017). A total of 501 participants with and without IDD participated in this study accounting
10 for approximately 40% of all athletes involved in the 2019 Special Olympics Youth Games.
11 Youth athletes were recruited across all five sports at the Youth Games (i.e., athletics, basketball,
12 bocce, floor hockey, and soccer) at seven sporting event locations. Data collection was
13 accomplished despite the limited time offered between tournament games to interact with the
14 athletes. Notably, our findings extend understandings of quality participation for youth with and
15 without IDD, and offer important theoretical and practical insights that can help to ensure all
16 athletes are optimally supported in their participation in different sport environments.

17 Our sample had a significantly greater representation of athletes without IDD and athletes
18 between the ages of 12-17 compared to the 2019 Youth Games athletes. As such, although our
19 team recruited around 40% of Youth Games attendees, our results may not be as generalizable as
20 anticipated. While engaging with youth with IDD, challenges were experienced during
21 measurement of the experiential elements of quality participation. The preliminary analyses
22 presented a significant pattern in the missing value analysis for MeEAP item 11, which is
23 associated with the experiential element of ‘meaning’ (i.e., a sense of purpose). Accordingly,

1 future investigations should consider why youth preferred not to answer this item and explore
2 other ways to measure an abstract concept like ‘meaning’ for persons with IDD.

3 Additionally, athletes may not have understood all of the MeEAP items, and this was
4 perhaps exacerbated by the study’s self-report survey design in which help was provided only as
5 requested. For example, when our research team assisted participants by verbally reading survey
6 questions, we perceived participant difficulties in understanding the wording of MeEAP item 7
7 “entirely focused on what I am doing” associated with the engagement element. Specifically,
8 assessing focus during sport may not accurately reflect whether they are adequately engaged.
9 Given that intellectual disability is characterized by limitations in intellectual functioning and
10 adaptive behaviour (i.e., conceptual, social, and practical skills; American Association on
11 Intellectual and Developmental Disabilities, 2020), it may be harder to grasp what engagement –
12 in the moment, flow – means to youth with IDD. Thus, although the six experiential elements of
13 quality participation demonstrate applicability to youth athletes with and without IDD, the
14 meaning and engagement items of the MeEAP may need to be modified to increase accessibility
15 of wording to better capture the first-hand experiences of youth with IDD. Given that the
16 MeEAP is validated for adults with physical disabilities, we recognize the limitation of using it
17 for youth athletes with and without IDD. While our investigation offers preliminary support use
18 of this measure of quality participation among youth athletes with and without IDD, future
19 research is needed to provide a deeper understanding of the psychometric properties (i.e., test-
20 retest reliability and construct validity) of the MeEAP when used with youth.

21 **Future Directions**

22 To understand how Special Olympics sport programs elicit high ratings for all
23 experiential elements of quality participation across sport program and sociodemographic

characteristics, future research should track experiential elements ratings over time while exploring the nuances of sport experience using mixed methods. Our study investigated the importance of the six experiential elements of quality participation in sport environments for Special Olympics athletes to explore whether programming can offer quality participation for youth with and without IDD. However, as Evans et al. (2018) proposed, foundational strategies – conditions such as rules, facilities, normative beliefs, and policies that impact element facilitation – should be considered as a part of the bigger picture of quality participation for youth. Thus, we recommend that subsequent studies prioritize *how* Special Olympics athletes experience the six experiential elements to further enhance the design, implementation, and evaluation of these participation environments and similar disability sport initiatives for youth with IDD.

Conclusions

Overall, this study provides promising findings concerning quality sport participation experiences for youth athletes with and without IDD participating in Special Olympics' Traditional and Unified Sport programs. Athletes reported high mean scores for all six experiential elements of participation (i.e., autonomy, belongingness, challenge, engagement, mastery, and meaning), regardless of age, disability status, gender, or sport program (i.e., Traditional Sport and Unified Sport). Athletes who did not identify with having a disability were more likely to report higher feelings of autonomy in sport than those who reported a disability. Women were more likely to report higher feelings of engagement in sport than men, although, this pattern was not significant. Apart from these differences, the six experiential elements were not significantly predicted by age, disability status, gender, or sport program. From a practical application standpoint, our investigation provides sport coaches and instructors with greater knowledge and understanding of how to enhance their programs for all youth.

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Table 1

Frequencies of Sport Program and Sociodemographic Characteristics for Athletes with Complete Data and Athletes with Incomplete Data.

Variable	Athletes with complete MeEAP data <i>n</i> = 402	Athletes with incomplete MeEAP data and/or Outside the 12-24 age range <i>n</i> = 99
Sport Program		
Unified	222 (55.2%)	30 (30.3%)
Traditional	158 (39.3%)	55 (55.6%)
Prefer not to answer	22 (5.5%)	11 (11.1%)
Not Reported	--	3 (3.0%)
Sociodemographic Characteristics		
Age		
0-12 years	--	2 (2.0%)
12-18 years	291 (72.4%)	42 (42.4%)
19-24 years	111 (27.6%)	15 (15.2%)
25+ years	--	32 (32.3%)
Not Reported	--	8 (8.1%)
Disability Status		
Yes	191 (47.5%)	48 (48.5%)
No	157 (39.1%)	23 (23.2%)
Prefer not to answer	54 (13.4%)	25 (25.3%)
Not Reported	--	3 (3.0%)
Gender		
Boy/Man	272 (67.7%)	69 (69.7%)
Girl/Woman	130 (32.3%)	26 (26.3%)
Other Gender	--	1 (1.0%)
Not Reported	--	3 (3.0%)

Note. Chi-square test results indicate no significant differences between athletes with complete MeEAP data and athletes with incomplete MeEAP data and/or outside the 12-24 age range.

Table 2*Bivariate Pearson Correlations for Experiential Elements of Quality Participation.*

Element (Item-Correlation)	1	2	3	4	5	6
1. Autonomy (.36)	-	0.53**	0.46**	0.55**	0.49**	0.39**
2. Belongingness (.54)	0.53**	-	0.49**	0.59**	0.48**	0.51**
3. Challenge (.36)	0.46**	0.49**	-	0.45**	0.52**	0.49**
4. Engagement (.49)	0.55**	0.59**	0.45**	-	0.52**	0.57**
5. Mastery (.36)	0.49**	0.48**	0.52**	0.52**	-	0.47**
6. Meaning (.45)	0.39**	0.51**	0.49**	0.57**	0.47**	-
Mean	6.32	6.34	6.25	6.38	6.29	6.26
Standard Deviation	0.96	1.04	1.04	0.97	1.02	1.03

Note. Item-correlation refers to the bivariate Pearson correlation coefficient for the two corresponding experiential element items from the MeEAP (e.g., autonomy item 1 “that I do what is good for me,” and autonomy item 2 “free to make my own choices”).

** Significant correlations at the $p < .01$ level, two-tailed.

Table 3

Descriptives Statistics of Experiential Elements of Quality Participation According to Sport Program and Sociodemographic Characteristics (n = 451).

Variable	n	Autonomy Mean (SD)	Belongingness Mean (SD)	Challenge Mean (SD)	Engagement Mean (SD)	Mastery Mean (SD)	Meaning Mean (SD)
Sport Program							
Unified (all athletes) ^a	237	6.42 (0.97)	6.37 (1.04)	6.30 (1.07)	6.46 (1.00)	6.29 (1.09)	6.26 (1.07)
Unified (athletes with IDD) ^b	86	6.26 (1.10)	6.18 (1.13)	6.07 (1.26)	6.24 (1.21)	6.12 (1.27)	6.17 (1.22)
Traditional	183	6.23 (0.87)	6.34 (0.99)	6.23 (0.98)	6.34 (0.87)	6.34 (0.87)	6.27 (0.96)
Sociodemographic Characteristics							
Age							
12-18 years	327	6.30 (0.96)	6.31 (1.07)	6.26 (1.07)	6.36 (0.98)	6.25 (1.06)	6.23 (1.05)
19-24 years	124	6.37 (0.94)	6.42 (0.95)	6.22 (0.95)	6.45 (0.94)	6.39 (0.90)	6.33 (0.96)
Disability Status							
Yes	212	6.25 (1.04)	6.27 (1.09)	6.19 (1.11)	6.27 (1.06)	6.25 (1.09)	6.21 (1.09)
No	170	6.44 (0.89)	6.41 (1.01)	6.31 (0.97)	6.51 (0.91)	6.36 (0.96)	6.25 (1.04)
Gender							
Boy/Man	306	6.30 (0.93)	6.30 (1.06)	6.24 (1.01)	6.33 (0.97)	6.26 (1.01)	6.25 (0.97)
Girl/Woman	145	6.34 (1.01)	6.42 (1.00)	6.27 (1.11)	6.49 (0.97)	6.35 (1.02)	6.28 (1.14)

Note. Experiential elements responses were reported on a 7-point Likert scale (1 [strongly disagree] to 7 [strongly agree]). Data displayed represents untransformed quality experiential element scores for ease of interpretation. Of the 451 participants included in the analyses, 402 had complete MeEAP data. The remaining 49 had completed > 67% of the MeEAP survey and were included in our analyses using mean-replacement. Specifically, the mean for the MeEAP item that corresponds to the missing value was inputted.

^aMean values for the six experiential elements are shown for the sample of athletes with ($n = 86$) and without ($n = 151$) IDD who reported participating in Unified Sport.

^bMean values for the six experiential elements are shown for the subsample of athletes with IDD ($n = 86$) who reported participating in Unified Sport.

Table 4

Multiple Regression Analysis of Experiential Elements of Quality Participation According to Sport Program and Sociodemographic Characteristics.

Element of Quality Participation	Sport Program and Sociodemographic Characteristics	B (SE)	95% CI	Standardized Coefficients Beta	p-value
Autonomy	Sport Program	-.006 (.011)	-.028, .016	-.025	.592
	Age	-.025 (.020)	-.028, .016	-.059	.211
	Disability Status*	.023 (.009)	.006, .041	.122	.010
	Gender	.008(.017)	-.026, .042	.022	.633
Belongingness	Sport Program	.010 (.012)	-.014, .033	.037	.432
	Age	-.025 (.021)	-.067, .017	-.056	.242
	Disability Status	.009 (.010)	-.009, .028	.046	.326
	Gender	.024 (.019)	-.013, .060	.061	.199
Challenge	Sport Program	.005 (.012)	-.019, .028	.018	.703
	Age	.018 (.021)	-.023, .060	.042	.384
	Disability Status	.001 (.009)	-.017, .020	.005	.914
	Gender	.012 (.018)	-.024, .048	.032	.496
Engagement	Sport Program	.003 (.011)	-.020, .025	.011	.817
	Age	-.026 (.020)	-.065, .013	-.061	.196
	Disability Status	.015 (.009)	-.002, .033	.082	.084
	Gender	.031 (.017)	-.003, .065	.085	.070
Mastery	Sport Program	.013 (.012)	-.011, .036	.050	.291
	Age	-.028 (.021)	-.069, .013	-.063	.186
	Disability Status	.014 (.009)	-.004, .033	.071	.134
	Gender	.024 (.018)	-.012, .059	.061	.197
Meaning	Sport Program	.001 (.012)	-.023, .024	.003	.943
	Age	-.019 (.021)	-.060, .022	-.044	.359
	Disability Status	-.010 (.009)	-.028, .009	-.049	.300
	Gender	.019 (.018)	-.017, .054	.048	.311

B = Unstandardized coefficient; SE = Standard Error; Statistically significant associations ($p < .05$) are bolded with an asterisk (*).