

7-28-2023

Medical Specialty Camp Alumni Perceptions of Outcomes and Experiences

Ann Gillard

SeriousFun Children's Network, anngillard@gmail.com

Allison B. Dymnicki

ABT & Associates, adymnicki@air.org

Leah Brown

American Institutes for Research, lbrown@air.org

Follow this and additional works at: <https://tigerprints.clemson.edu/jyd>



Part of the [Child Psychology Commons](#), [Civic and Community Engagement Commons](#), [Community-Based Learning Commons](#), [Developmental Psychology Commons](#), and the [Leadership Studies Commons](#)

Recommended Citation

Gillard, Ann; Dymnicki, Allison B.; and Brown, Leah (2023) "Medical Specialty Camp Alumni Perceptions of Outcomes and Experiences," *Journal of Youth Development*: Vol. 18: Iss. 2, Article 5.

Available at: <https://tigerprints.clemson.edu/jyd/vol18/iss2/5>

This Research and Evaluation Study is brought to you for free and open access by TigerPrints. It has been accepted for inclusion in *Journal of Youth Development* by an authorized editor of TigerPrints. For more information, please contact kokeefe@clemson.edu.



Volume 18, Issue 2, Summer 2023
ISSN 2325-4017 (online)

Medical Specialty Camp Alumni Perceptions of Outcomes and Experiences

Ann Gillard
SeriousFun Children's Network

Alison Dymnicki
Abt & Associates

Leah Brown
American Institutes for Research

Introduction

Summertime can be an important time of year for youth development. During summer, children and youth can experience belonging, develop meaningful relationships, and engage in interest-driven learning (NASEM, 2019). For example, Richmond et al. (2019) found that camp, home, work, school, sports, and church contributed to important and useful skills and traits for youth. Specifically, they found that camp was a primary learning setting for developing affinity for nature, how to live with peers, leisure skills, a willingness to try new things, independence, being present, and empathy and compassion whereas school and home were primary learning settings for other outcomes such as appreciation for differences, perseverance, leadership, and emotion regulation. Warner and Sibthorp (2022) shared similar findings where camp was one of several enriching options for youth during summertime and recommended that camp professionals consider how camp programming fits within the broader landscape of summertime activities including vacation, home, arts, and summer school.

Many factors might contribute to how influential camp is on participants' traits and qualities compared to other activities. One way to conceptualize these factors is through the use of a relational developmental systems (RDS) framework (Lerner et al., 2014; Overton, 2013). RDS emphasizes how contexts such as those found in summer camps are relational and interactive, working as complex systems. How one camper functions depends on the camper's own characteristics and experiences as well as other

system components and their relation to each other (Overton, 2013). We can think about the type of camp (medical specialty, all girls, faith based), the characteristics of the campers, and setting-level factors (camp elements such as the opportunity to connect with staff) as important factors influencing the development of campers' positive traits and qualities.

The first factor we explored in this study is the type of camp that youth attend. While camp research sometimes describes camp as a homogenous experience, more recent research is starting to unpack how different types of camps promote similar or different outcomes (Sorenson, 2018). One study found that medical specialty camps (MSCs) differentially influenced developmental outcomes of participation compared to all-girls camps, faith-based camps, or camps serving youth from low-resourced areas (Warner et al., 2021). We were particularly interested in studying the outcomes of MSCs given research by Sendak et al. (2018) that describes the clear linkages of outcomes from medical camps to positive youth development more broadly. Over the past decades, research indicates personal, social, and health-related benefits associated with participating in MSCs for children and youth living with serious illnesses (Kelada et al., 2020; Odar et al., 2013). Examples of *personal traits and qualities* MSCs promote include personal functioning skills (Kiernan et al., 2005), and independence and interest in exploration (Gillard & Axtmayer, 2021). Examples of *social traits and qualities* connected to MSC participation include social support (Wu et al., 2013), social acceptance (Knapp et al., 2015), and friendship (Gillard & Roark, 2017; Martiniuk et al., 2014). Participation in MSCs connects to *health-related traits and qualities* such as skill development and symptom reduction (Bekesi et al., 2011; Plante et al., 2001). Learning about personal, social, and health-related traits and qualities in a marginalized group of youth (e.g., youth living with serious illness) can be instructive for other groups as youth development professionals seek to advance inclusion and equity.

Another reason for the variation in youth experiences and associated outcomes could be the specific characteristics of the youth themselves (e.g., illness type, education, employment). Demographic characteristics could help explain potential differences in perceptions of camp outcomes and indicate implications for camper recruitment and service provision for camps serving children with a variety of illnesses. Unfortunately, there is limited research on how the outcomes of MSC participants differ based on demographic characteristics. A few MSC studies explored potential differences in perceived outcomes based on camper illness type. For example, Gillard and Allsop (2016) found qualitative differences in campers' perceptions of camp as a place that promoted various personal and social outcomes based on whether campers had cancer, HIV/AIDS, sickle cell disease, or metabolic disease. Campers with cancer perceived camp as a place for sense of belonging, personal growth, and escape whereas campers with HIV/AIDS perceived camp as an opportunity for a sense of belonging, "being myself," enjoyable camp programming, and escape. In their multi-site study of camps for children with cancer and their siblings, Wu et al. (2016) examined differences based on gender, whether campers/siblings were on or off active cancer treatment, age, and number of prior years attending camp. These researchers found that camp was beneficial for pediatric oncology patients and their siblings, regardless of demographic or camp-type factors.

A third reason for variation in youth experiences could be setting-level factors or camp elements. Also called "mechanisms" by some researchers (e.g., Wilson & Sibthorp, 2018), "camp elements" here refer to the organizational policies, procedures, culture, norms, or mores of camp. The field has limited understanding of setting-level factors or camp elements that contribute to campers' positive experiences and reported outcomes. Some studies demonstrate the importance of experience structuring (e.g., "leveling up" challenges) and theming (e.g., sets of props and cues suggesting a story; Ellis et al., 2019, 2021), program phases (e.g., anticipation, participation, and reflection; Gillard et al., 2019), and intentionality and roles of adult camp leaders (Gillard, 2018; Roark et al., 2012). Essential camp elements for MSCs also include integrated, accessible, and engaging programming, activities (e.g., Gillard & Watts, 2013),

and camp efforts to promote acceptance, empathy, and social support (Papp et al., 2021). Further, from seminal works of youth development scholars (e.g., Durlak et al., 2010; Eccles & Gootman, 2002; Lerner et al., 2014), we know that settings are positioned to promote youth development when they contain elements such as safety, relationships, and opportunities for mattering, among other elements. Still, more information is needed about the setting-level elements found in MSCs that promote positive outcomes.

Study Purpose

There is a lack of research conducted in multisite camps with similar missions and organizing principles located around the world; there is also limited research about camper alumni perceptions of MSC outcomes beyond a year after camp attendance. Studies have predominantly included single camps in North America and asked campers at the end of camp about their experiences. To address these research gaps, the current study focused on alumni of a network of camps (SeriousFun Children's Network) in the United States, Europe, and Asia who reflected on their camp experience at least a year later. The purposes of this study were to learn:

1. To what extent did alumni believe camp versus other activities or experiences (e.g., enrichment programs, sports, support groups) contributed to the development of their traits and qualities?
2. To what extent were there differences in alumni reports of their traits and qualities based on their diagnoses, education, and employment?
3. To what extent were specific camp elements (e.g., feeling accepted, feeling a sense of freedom) important to alumni's experiences?

Materials and Methods

Setting and Participants

SeriousFun Children's Network was founded by actor and philanthropist Paul Newman with the idea that camp can give young people living with serious illnesses the chance to escape the fear and isolation of their medical conditions and "just be kids" (SeriousFun Children's Network, 2022). SeriousFun is an international network of 16 full member camps and 14 partner programs that has delivered more than 1.5 million experiences to children and youth with serious illnesses and their families since the first member camp opened in 1988. Each SeriousFun member camp is an independent, not-for-profit organization dependent upon private funding to serve children free of charge. SeriousFun programming and facilities are intentionally adapted to be inclusive and accessible, with strong consideration of the medical conditions and needs of all campers.

Participants of SeriousFun member camps live with serious pediatric illnesses such as cancer, blood disorders, immunological disorders, metabolic disorders, neurological disorders, rheumatologic disorders, orthopedic conditions, pulmonary diseases, skin diseases, and rare diseases. Camp teams of doctors, nurses, and other healthcare providers work closely with campers' parents, caregivers, and home healthcare providers to anticipate and plan for medical and health needs during camp. The camp healthcare team closely monitors and supervises campers and program staff adapt traditional camp activities (e.g., arts and crafts, swimming, horseback riding) for campers' needs. Health care at camp can involve chemotherapy treatments, intravenous fluids, gastrointestinal tubes, infusions, on-site prophylaxis, overnight support, specialized diets, medications, and breathing and skin treatments. However, health care at camp is scheduled whenever possible to avoid interference with camp activities and is administered in a friendly and fun setting compared to home hospitals and clinics. Oftentimes healthcare providers at camp wear silly costumes and participate in camp activities along with campers. No formal or intentionally planned education about health skills, attitudes, or behaviors is provided to campers.

Procedures

SeriousFun contracted the American Institutes for Research (AIR), a nonprofit research organization, to support this study and specifically provide guidance and oversight on the survey questions and approach as well as analyze and report on the survey data. AIR's institutional review board reviewed and approved this study.

The study participants were SeriousFun camp alumni from 16 member camps across eight countries. SeriousFun recruited study participants through the member camps via email messages to the last-known email address for their campers. SeriousFun and the camps also posted the online survey link on their social media sites. Participants checked a box indicating agreement or disagreement with the terms described in the consent form (the consent form was the first survey screen) to proceed with the survey. The online survey was open for three months. We translated the online survey and responses to open-ended questions into 11 languages: Arabic, French, German, Greek, Hebrew, Hungarian, Italian, Japanese, Polish, Russian, and Spanish.

Inclusion and Exclusion Criteria

Study selection criteria included prior attendance at one or more overnight SeriousFun camp sessions lasting three or more nights, being age 17 to 30, and having a pediatric medical diagnosis (i.e., not being a sibling camper or parent/caregiver). We estimated 17,430 study participants as potentially fitting these criteria.

Measures

The online survey collected data about (a) the extent to which alumni attribute 14 traits and qualities to *participation in camp versus other activities/programs* they attended at that time, (b) *demographic* characteristics, and (c) the extent to which alumni attribute these qualities and traits to *specific camp elements*. The full survey is available by contacting the first author.

Camp Compared to Other Activities/Programs

The survey asked camp alumni about camp's influence on 14 outcomes (see Table 1) compared to other youth programs such as enrichment programs, sports, or support groups. An example of a survey question was: "Compared to other activities you did around the same time you attended [this camp] (e.g., enrichment programs, sports, support groups), what was the influence of [this camp] on your ability to advocate for your health needs?"¹

To build the 14 outcomes for this study, we first selected ten traits and qualities from the ACA Youth Outcomes Battery (2011) and Youth Impact Study Survey (2018) and modified them for this population. These outcomes were originally identified through a multiyear survey development, pilot study, and validation process that included multiple stakeholders such as academic partners and 54 camps. We selected a subset of items from the ACA Youth Outcomes Battery and Youth Impact Study survey questions to assess perceived outcomes most relevant to the population of children living with serious illnesses.

SeriousFun and AIR developed an additional four health- and medical-related traits and qualities to assess outcomes unique to the context of MSC. To ensure participant understanding of the survey items, we conducted cognitive interviews with 11 camp alumni in August 2020. We revised the survey in response to findings from these interviews.

1 We did not focus on camp alumni's self-reports of their traits and qualities that were influenced by camp this study due to space limitations. This information is contained in an earlier report (<https://seriousfun.org/wp-content/uploads/2021/11/21-SeriousFun-Final-Report.pdf>).

Table 1*14 Outcomes Measured, Categories, and Definitions*

Outcome (# of items)	Definition
Friendship skills (3 items)	Ability to form friendships with others
Empathy and compassion (3 items)	Ability to empathize with others
Perseverance (2 items)	Ability to persevere in the face of challenges
Self-identity (3 items)	Understanding of who I am and how I want to live my life
Emotion regulation (1 Item)	Ability to control emotions
Self-confidence (3 items)	Confidence in ability to succeed
Appreciation of diversity (3 items)	Appreciation for different people's perspectives
Willingness to try new things (1 item)	Willingness to try new things
Responsibility (1 item)	Ability to accept responsibility for own actions
Career orientation (1 item)	Understanding of what to do for a career or in college
Health-related quality of life (1 item)*	Ability to have good health-related quality of life
Medical-related self-care (3 items)*	Ability to take actions to manage or promote health
Medical independence (3 items)*	Ability to function independently in medical areas without reliance on family or healthcare professionals
Medical self-advocacy (1 item)*	Ability to self-advocate for health needs

* Developed by SeriousFun and AIR

Using Cronbach's alpha as a measure of reliability, all but one trait or quality (self-confidence) for this study met the field's standards where Cronbach's alpha was .70 or above (Schmitt, 1996).

Demographic Characteristics

As shown in Table 2, camp alumni reported on demographic characteristics including but not limited to primary diagnosis (e.g., cancer, blood disorder), educational attainment (e.g., less than high school diploma, high school diploma, college diploma, advanced degree), and employment status (e.g., unemployed, unable to work, employed, student). We did not examine race and gender variables in this study because campers lived in eight countries and cultural definitions for race and gender differed across countries. Further, race data were only requested of U.S. campers.

Camp Elements

As shown in Table 4, SeriousFun staff identified a set of 14 camp elements (i.e., setting-level factors that contributed to campers' perceived outcomes) thought to be critical to campers' experiences. "Camp elements" questions were formatted as, "When you reflect on your experience at camp, how important, if any, were the following camp elements to you?"

Analytic Methods

To respond to RQ 1, AIR conducted a descriptive analysis of survey questions that compared the influence of SeriousFun camps to other activities that respondents participated in during that time in their life.

To respond to RQ 2, AIR examined differences in qualities and traits by alumni education, employment status, and medical diagnosis. Analysis focused on two statistical measures: comparison of

means and effect sizes. The *comparison of means* analysis provides information about whether group means differ based on demographic characteristic and whether the difference is statistically significant, while the *effect sizes* provide a measure of the magnitude of the effect—larger effect sizes indicate a stronger relationship between the two variables.

To respond to RQ 3, AIR conducted a descriptive analysis of the camp elements and experiences that alumni noted as important.

Researcher Identities

The authors are based in different urbanities (two are in rural locations) and states within the United States, and some have a history of living with a serious illness either personally or in a caregiving role. The authors identity as white, are employed, have advanced degrees, and there is some gender and sexual orientation diversity.

Results

Camp alumni aged 17–30 from all 16 SeriousFun Member Camps completed the retrospective online survey (N =2,245). The study team achieved a 13% response rate for this study, similar to other camp studies (Wu et al., 2011) and studies conducted during the COVID-19 pandemic. Table 2 presents demographic information about the study participants.

Table 2
Demographic Characteristics of Respondents

Demographic Characteristics		Percentage
Gender	<i>n</i> = 1,501	
Female	890	59.29
Male	571	38.04
Another gender	40	2.66
Race/Ethnicity (U.S. camps only)	<i>n</i> = 1,463	
American Indian or Alaska Native	12	0.82
Asian	31	2.12
Black or African American	151	10.32
Caucasian/White	1,014	69.31
Hispanic	105	7.18
Multiracial	82	5.6
Another race or ethnicity	68	4.65
Age	<i>n</i> = 1,718	
17–19	473	27.53
20–21	405	23.57
22–24	434	25.26
25 or older	406	23.63
Diagnosis	<i>n</i> = 1,730	
Blood disorder	177	10.23
Cancer	382	22.08
Cardiac or vascular disorder	88	5.09

Demographic Characteristics		Percentage
Endocrine disorder	47	2.72
Gastrointestinal disorder	125	7.23
Genetic disorder	55	3.18
Immunologic disorder	76	4.39
Kidney disease	42	2.43
Metabolic disorder	27	1.56
Neurological disorder	126	7.28
Orthopedic condition	54	3.12
Pulmonary disease	25	1.45
Rheumatologic disorder	116	6.71
Skin disease/dermatology	12	0.69
Ventilator dependent	3	0.17
Another diagnosis not included here	375	21.68
Education	<i>n</i> = 1,232	
Less than high school	118	9.58
High school or equivalent	793	64.37
Associate's degree	82	6.66
Bachelor's degree	170	13.8
Master's, professional, or doctorate degree	69	5.6
Employment	<i>n</i> = 1,231	
Employed	559	45.41
Unemployed	142	11.54
Student	440	35.74
Unable to work	69	5.6
Other	21	1.71
Country	<i>n</i> = 2,237	
United States	1,594	71.26
Hungary	191	8.54
Italy	152	6.79
Ireland	132	5.9
United Kingdom	60	2.68
France	51	2.28
Israel	34	1.52
Japan	23	1.03

Note. Some respondents did not respond to demographic questions.

Research Question 1: To what extent do alumni believe camp versus other activities or experiences contribute to the development of their traits and qualities?

Alumni reported that camp was “one of the biggest influences” on their willingness to try new things, appreciation of diversity, self-identity, self-confidence, perseverance, and empathy and compassion whereas camp was “one of many influences” on career orientation. We found a small relationship ($r =$

.05–.11) between other activities that alumni participated in outside of camp (i.e., enrichment programs, sports, support groups) and their perceptions that camp had an influence on 12 of 14 outcomes (see Table 3). Specifically, the more frequently campers participated in other activities, the more likely they were to think that camp helped them develop all outcomes except emotion regulation and willingness to try new things.

Table 3

Descriptive and Correlational Statistics for Influence of Camp on Outcomes Compared with Other Activities

	Mean	Standard Deviation	Correlation Coefficient	Sig.
Willingness to try new things	3.1	.44	.04	.112
Appreciation of diversity	2.9	.45	.06	.017*
Self-identity	2.9	.44	.07	.004*
Empathy and compassion	2.8	.44	.05	.040*
Perseverance	2.8	.45	.05	.021*
Self-confidence	2.8	.44	.05	.039*
Health-related quality of life	2.7	.48	.09	<.001*
Friendship skills	2.6	.46	.06	.015*
Medical self-advocacy	2.6	.49	.08	<.001*
Responsibility	2.5	.48	.06	.013*
Medical-related self-care	2.5	.48	.06	.005*
Medical independence	2.5	.50	.05	.026*
Emotion regulation	2.4	.46	.04	.056
Career orientation	2.0	.51	.11	<.001*

Note. * $p < .05$. The rating scale was 1 = Not a big influence, 2 = One of many influences, 3 = One of the biggest influences, 4 = The biggest influence.

Research Question 2: To what extent were there differences in alumni reports of their traits and qualities based on their diagnoses, education, and employment?

We found some but usually small differences in alumni’s ratings of their own qualities and traits based on demographic characteristics. We found *medium-sized* differences by demographic characteristics on four qualities and traits:

Education. Alumni with a high school diploma or above compared to alumni with less than a high school diploma rated themselves higher on 4 of 14 outcomes: *responsibility* ($F_{1,114} = 16.18, p < .001, \eta^2 = .06$), *career orientation* ($F_{1,114} = 21.29, p < .001, \eta^2 = .08$), *medical-related self-care* ($F_{1,114} = 18.68, p < .001, \eta^2 = .07$), and *medical independence* ($F_{1,114} = 25.14, p < .001, \eta^2 = .09$).

Employment. Alumni who were employed or students compared to alumni who were unemployed or unable to work rated themselves higher on 3 of 14 outcomes: *career orientation* ($F_{999} = 34.09, p < .001, \eta^2 = .10$), *medical-related self-care* ($F_{999} = 27.12, p < .001, \eta^2 = .08$), and *medical independence* ($F_{999} = 26.90, p < .001, \eta^2 = .08$).

Medical diagnosis. Alumni who had blood disorders, gastrointestinal disorders, cancer, and

rheumatologic disorders compared to alumni who had neurological disorders rated themselves higher on 2 of 14 outcomes: *medical-related self-care* ($F_{561} = 15.82, p < .001, \eta^2 = .09$) and *medical independence* ($F_{561} = 21.94, p < .001, \eta^2 = .12$).

Research Question 3: To what extent do alumni believe specific camp elements contributed to improvements in their traits and qualities?

Alumni reported that the top four essential elements of SeriousFun camp experiences were feeling accepted and not judged, feeling a sense of freedom, feeling a sense of possibility, and trying new things (see Table 4). Alumni reported that health-related elements, such as receiving one-on-one medical education and learning new things to manage health, were less important, which is consistent with expectations because a focus on medical issues takes a subordinate role in SeriousFun camps.

Table 4

Mean Alumni Ratings of the Importance of Different Camp Elements

	Mean	Standard Deviation
Feeling accepted and not judged	3.6	0.33
Feeling a sense of freedom	3.5	0.36
Feeling a sense of possibility	3.4	0.36
Trying new things	3.4	0.35
Having support to participate in camp activities	3.3	0.36
Connecting with staff	3.3	0.33
Having a choice in the activities I did	3.3	0.36
Being around similar kids	3.3	0.40
Having a sense of group identity	3.3	0.36
Doing things I wasn't allowed to do elsewhere	3.3	0.41
Seeing role models	3.2	0.38
Interacting with friendly medical staff	3.1	0.38
Learning new things to manage health	2.7	0.47
Receiving one-on-one medical education	2.5	0.49

Note. The rating scale was 1 = Not at all important, 2 = Somewhat important, 3 = Important, 4 = The most important.

Discussion

To our knowledge, this is the first study to assess longer-term perspectives of camp experiences, in both a United States and international context. Over 2,200 camp alumni aged 17–30 from a network of MSCs in the United States and seven other countries participated in this study, making this the largest study of medical specialty camps to date. This study has three main findings. First, camper alumni reported camp (compared to other settings) as one of the biggest influences in their willingness to try new things, appreciation of diversity, and self-identity. Second, based on alumni's diagnoses, and education and employment statuses, there were few yet minor differences in how study participants reported their traits and qualities. Third, the specific camp elements most important to alumni's experiences included: feeling accepted and not judged, feeling a sense of freedom and possibility, and trying new things. Next, we discuss the importance of the findings, limitations to this study, and implications for research and practice.

Importance of Camp Relative to Other Activities

Findings from this study indicate a relative ranking of the self-reported influence of MSCs on alumni's various traits and qualities. Compared to other settings, many camper alumni reported camp as being one of the biggest influences on their willingness to try new things, appreciation of diversity, and self-identity. Camp (as compared to enrichment activities, sports, support groups) influenced alumni's career orientation the least, and several health-related elements such as medical-related self-care and medical independence were also reported as influential by relatively fewer alumni.

The present study builds upon findings from other studies of the skills and traits of alumni of MSCs. Some of the findings were consistent with prior research. For example, Richmond et al.'s 2019 study showed that independence, perseverance, responsibility, appreciation for differences, and appreciation for being present were camp-related outcomes attributable to camp experiences. Other findings were inconsistent with prior research. For example, Whittington et al.'s 2017 study of adult alumni of a girls' camp identified that camps were perceived to be influential on career skills, whereas in the current study, alumni indicated that camp was less influential on their career orientation. Identifying key traits and qualities influenced by MSCs helps discern the unique contributions these camps can make for this population.

Differences in Demographic Characteristics

For 10 of 14 traits and qualities, we found relatively few differences based on demographic characteristics, and these differences were small in magnitude. In terms of the exceptions, campers with higher educational attainment who were employed or in school, and who had certain types of medical diagnoses (e.g., those without neurological disorders) rated themselves higher on medical-related self-care and medical independence. For alumni campers with lower educational attainment, we also found lower self-reported rates of responsibility and career orientation.

Our study reflects results from a meta-analysis that found emerging and young adults with chronic pediatric illness had lower rates of finishing advanced education, finding employment, and maintaining economic well-being than healthy peers (Pinquart 2014). Further, Pinquart found lower success rates for respondents with neurological illnesses, sensory impairment, highly visible illness or disability, and longer illness duration than in individuals with other chronic diseases. Similar to Pinquart's study, respondents in the present study with lower employment and educational attainment and who had neurological illnesses might have had difficulty developing medical-related traits and qualities of self-care and independence, which further constrained achieving life milestones for education and employment.

Alumni Perspectives about Essential Camp Elements

Alumni in this study reported feeling accepted, having a sense of freedom, feeling a sense of possibility, and having the opportunity to try new things as essential camp elements. In another study, camp alumni from a variety of camp types found camp to be novel, active, and offering opportunities to work with peers in a safe and supportive social context with people from different backgrounds; these perceptions contributed most to campers' social-emotional learning (Sibthorp et al., 2020). Similarly, in a MSC for children with HIV/AIDS, Gillard et al. (2011) found proximity to similar others, meeting and interacting with new people, a "challenge by choice" philosophy, and believable encouragement from trusted others as important to campers.

Our findings also suggest potential connections between camp elements and campers' self-reported traits and qualities. Being in an environment in which campers were encouraged to try new things and have freedom to choose what they engage in without judgment relates to campers' self-identity, self-confidence, and their perceived ability to try new things. Given the recreational and inclusive mission and

intentional programming of SeriousFun camps, the reported outcomes of camp aligned with SeriousFun camps' goals and approaches to youth development.

Limitations

While we believe this study has important findings that contribute to the field, we want to describe several study limitations. First, findings may not represent the attitudes and behaviors of all SeriousFun camp alumni as the response rates were low (approximately 13%) but similar to other studies done with this population (e.g., Wu et al., 2011). Alumni who had more positive attitudes about camp may have been more likely to respond to and complete the survey compared to alumni who did not respond (Panel on a Research Agenda for the Future of Social Science Data Collection, 2013). We were careful to interpret the findings with this consideration and believe as camps upgrade and refine their membership databases so that they have current email addresses for campers, this will become less of an issue in future studies.

Second, the outcomes measured by multiple items were created by calculating the average response for the item set. More sophisticated psychometric techniques such as Rasch modeling could produce scores that better capture the underlying traits. Further, more specific information about educational attainment, employment, and diagnosis could be collected in future studies to better understand potential patterns in traits and qualities, and particular attention could be paid to the study participants aged 17–19 who might not have graduated high school because they are too young. Relatedly, some outcomes were measured using single items; using multiple items to assess an outcome would likely improve measurement accuracy by increasing reliability of these measures and is something we plan to consider in future research.

Third, we relied on self-report data, which can result in response bias (Furnham & Henderson, 1982). Future studies could include additional perspectives and methods, such as triangulating self-reports with the perceptions of parents. Finally, the survey was retrospective and assumed that respondents accurately remembered their experiences from the past. Research shows that retrospective surveys can have issues with reporting accuracy (Beckett et al., 2001) but is a valid approach (Pratt et al., 2016). Relatedly, we did not collect data on how long ago respondents attended camp due to high likelihood of erroneous recall of dates from childhood. Future research could involve limiting the sample of alumni to those who attended camp within two years or use advanced longitudinal research techniques over several years with camper and control group cohorts.

Implications

Study findings have implications for how MSCs and their staff can support campers. Camp professionals in all camps (not just MSCs) should design programming that provides opportunities to try new things, appreciate diversity, and develop self-identity in addition to other traits and qualities important to youth living with serious illnesses. An intentional focus on creating safe, medically accommodating environments can serve as the foundation for campers to experience acceptance, belonging, and development of self-identity. This might look like scheduling physically active programs during times of the day when campers feel less fatigued, giving campers several options for climbing to the top of an adventure tower such as having cabin mates pull a rope to lift a camper to the top or climbing up an easier angle on the rock wall, or simply trying out an activity and declining to complete it without fear of any judgment.

Findings suggest that SeriousFun camps promote the important traits and qualities for most campers, but perhaps campers with neurological illnesses and those who might struggle with educational or employment skills could benefit more with adapted programming to better meet their needs for medical-related self-care, medical independence, and career orientation. For example, for campers with higher acuity diagnoses, camp staff could set up calls with the camper and a family member prior to attending camp and have mid-session check-ins to understand more about appropriate supports and opportunities

that would ensure a positive camp experience, especially around topics related to medical self-care and independence. More research on this topic is needed to discern potential risks of inequities in camp experiences based on illness type.

We now have a richer understanding of essential camp elements and can design and implement programs in ways to ensure intentional inclusion of these elements. For example, if campers do not feel accepted in other settings or context (e.g., sports teams, at school) where they are usually surrounded by abled peers, then maybe these settings could adopt some of the camp practices that promote feelings of belonging such as more opportunities for peers to work together, share, and learn from each other. Further, the thoughtful consideration and management of camp elements has implications for non-medical specialty camps seeking to align campers' needs with the camp setting. More research should be done on the specific camp elements that most closely connect with intended developmental experiences for youth.

Conclusions

This study illuminates how medical specialty camps can be an important developmental setting offering opportunities for diverse children and youth to develop traits and qualities perceived as important even later in life. Perhaps most importantly, camp was identified as one of the most influential settings for developing personal and social traits and qualities when compared to other settings such as sports and enrichment programs, suggesting the essential role of camps. Camp appears to be especially good at fostering a willingness to try new things, appreciation of diversity, self-identity, empathy and compassion, self-confidence, perseverance, and friendship skills in camper alumni. The study also identified several camp elements as important for camper experiences including feeling accepted and not judged, feeling a sense of freedom, feeling a sense of possibility, and trying new things, all of which provide a basis for programmatic design.

The findings from this MSC-based study extend research on other camps (Bialeschki et al., 2007; Odar, 2013; Wu et al., 2016) that identified how camp settings can serve as an important place for young people to develop personal, social, and health-related traits and qualities. This study further explicated key elements of MSC settings that appeared to foster growth. Alumni of diverse backgrounds reported that they benefited from camp, but there is still room for growth in understanding how to meet the needs of certain groups of campers, including campers from different demographic groups and those living with or without serious illnesses.

More research is needed to unpack potential differences along demographic characteristics, specific contributions MSCs made in the lives of all alumni, and connections between camp elements and participation outcomes. We can learn much from the experiences of children living with serious illnesses, as their life paths can be filled with both barriers and facilitators toward growth.

References

- Beckett, M., Da Vanzo, J., Sastry, N., Panis, C., & Peterson, C. (2001). The quality of retrospective data: An examination of long-term recall in a developing country. *The Journal of Human Resources*, 36(3), 593–625.
- Bekesi, A., Toeroek, S., Koekoenyei, G., Bokretas, I., Szentes, A., Telepoczki, G., & European, K. G. (2011). Health-related quality of life changes of children and adolescents with chronic disease after participation in therapeutic recreation camping program. *Health and Quality of Life Outcomes*, 9(9), 1–10. <https://doi.org/10.1186/1477-7525-9-43>
- Bialeschki, M. D., Henderson, K. A., & James, P. A. (2007). Camp experiences and developmental outcomes for youth. *Child and Adolescent Psychiatric Clinics of North America*, 16, 769–788. <https://doi.org/10.1016/j.chc.2007.05.011>
- Browne, L. B., & Warner, R. (2019). ACA's Youth Impact Study. Retrieved from <https://www.acacamps.org/resource-library/camping-magazine/acas-youth-impact-study>

- Durlak, J. A., Weissberg, R. P., & Pachan, M. (2010). A meta-analysis of after-school programs that seek to promote personal and social skills in children and adolescents. *American Journal of Community Psychology, 45*(3), 294–309. <https://doi.org/10.1007/s10464-010-9300-6>
- Eccles, J. S., & Gootman, J. A. (2002). *Community programs to promote youth development*. National Academy Press.
- Ellis, G., Jiang, J., Locke, D., & Snider, C. (2021). Youth program activity impacts: A model of camp activities, psychological needs, and immersion. *Children and Youth Services Review, 121*, 105842. <https://doi.org/10.1016/j.childyouth.2020.105842>
- Ellis, G. D., Jiang, J., Lacanienta, A., & Carroll, J. M. (2019). Theming, co-creation, and quality of structured experiences at camp. *Journal of Youth Development, 14*(1), 230–242. <https://doi.org/10.5195/jyd.2019.651>
- Furnham, A., & Henderson, M. (1982). The good, the bad and the mad: Response bias in self-report measures. *Personality and Individual Differences, 3*(3), 311–320.
- Gillard, A. (2018). Staff engagement and camper outcomes at a low ropes course. *Journal of Youth Development, 13*(1–2), 240–249. <https://doi.org/10.5195/jyd.2018.493>
- Gillard, A., & Allsop, J. (2016). Camp experiences in the lives of adolescents with serious illnesses. *Children and Youth Services Review, 65*(2016), 112–119.
- Gillard, A., & Axtmayer, H. (2021). Measuring youth outcomes over six years at a medical specialty camp. *Journal of Outdoor Recreation, Education & Leadership, 13*(2), 4–15. <https://doi.org/10.18666/JOREL-2020-V13-I2-10528>
- Gillard, A., & Roark, M. F. (2017). Does staff training on camper friendship skills make a difference to campers with serious illness? *Journal of Park & Recreation Administration, 35*(4), 1–12. <https://doi.org/10.18666/JPRA-2017-V35-I4-8004>
- Gillard, A., & Watts, C. E. (2013). Program features and developmental experiences at a camp for youth with cancer. *Children and Youth Services Review, 35*, 890–898. <https://doi.org/10.1016/j.childyouth.2013.02.017>
- Gillard, A., Hartman, C. L., & Craig, P. J. (2019). Fostering adolescent identity exploration across the three phases of a camp program. *Journal of Park & Recreation Administration, 37*(3), 1–12.
- Gillard, A., Witt, P. A., & Watts, C. E. (2011). Outcomes and processes at a camp for youth with HIV/AIDS. *Qual Health Res, 21*(11), 1508–1526. <https://doi.org/10.1177/1049732311413907>
- Kelada, L., Wakefield, C. E., Silva, M. C. C., & Signorelli, C. (2020). Camps for children with cancer and their families: A systematic review of psychosocial and physical impacts. *Journal of Developmental and Behavioral Pediatrics, 41*(2), 145–156. <https://doi.org/10.1097/DBP.0000000000000728>
- Kiernan, G., Gormley, M., & MacLachlan, M. (2004). Outcomes associated with participation in a therapeutic recreation camping programme for children from 15 European countries: Data from the “Barretstown Studies.” *Social Science and Medicine, 59*(5), 903–913. <https://doi.org/10.1016/j.socscimed.2003.12.010>
- Kiernan, G., Guerin, S., & MacLachlan, M. (2005). Children’s voices: Qualitative data from the ‘Barretstown studies’. *International Journal of Nursing Studies, 42*, 733–741. <https://doi.org/10.1016/j.ijnurstu.2003.05.003>
- Knapp, D., Devine, M. A., Dawson, S., & Piatt, J. (2015). Examining perceptions of social acceptance and quality of life of pediatric campers with physical disabilities. *Children’s Health Care, 44*(1), 1–16. <https://doi.org/10.1080/02739615.2013.870041>
- Lerner, R. M., Wang, J., Chase, P. A., Gutierrez, A. S., Harris, E. M., Rubin, R. O., & Yalin, C. (2014). Using relational developmental systems theory to link program goals, activities, and outcomes: the sample case of the 4-H Study of Positive Youth Development. *New Directions for Youth Development, 2014*(144), 17–30. <https://doi.org/10.1002/yd.20110>

- Martiniuk, A. L. C., Amylon, M. D., Briery, B. G., Shea-Perry, M., Kelsey, K. P., Lam, G. W., & Körver, S. (2014). Camper learning and friendship at pediatric oncology camps in North America. *Journal of Psychosocial Oncology*, *32*(2), 234–244. <https://doi.org/10.1080/07347332.2013.874001>
- National Academies of Sciences, Engineering, and Medicine (NASEM). (2019). *Shaping summertime experiences: Opportunities to promote healthy development and wellbeing for children and youth*. National Academies Press. <https://doi.org/10.17226/25546>
- Odar, C., Canter, K. S., & Roberts, M. C. (2013). Relationship between camp attendance and self-perceptions in children with chronic health conditions: A meta-analysis. *Journal of Pediatric Psychology*, *38*(4), 398–411.
- Osher, D., Cantor, P., Berg, J., Steyer, L., & Rose, T. (2020). Drivers of human development: How relationships and context shape learning and development. *Applied Developmental Science*, *24*(1), 6–36. <https://doi.org/10.1080/10888691.2017.1398650>
- Overton, W. F. (2013). A new paradigm for developmental science: Relationism and relational-developmental systems. *Applied Developmental Science*, *17*(2), 94–107. <https://doi.org/10.1080/10888691.2013.778717>
- Panel on a Research Agenda for the Future of Social Science Data Collection. (2013). *Nonresponse in social science surveys: A research agenda*. Washington, DC: National Academies Press.
- Papp, Z. K., Somogyi, B., Wilson, C., & Török, S. (2021). Health acceptance through camp: Mixed-method data from a central-European therapeutic recreational based camp for seriously ill children. *European Journal of Mental Health*, *16*(2), 120–145. <https://doi.org/10.5708/EJMH.16.2021.2.6>
- Pinquart, M. (2014). Achievement of developmental milestones in emerging and young adults with and without pediatric chronic illness—A meta-analysis. *Journal of Pediatric Psychology*, *39*(6), 577–587. <https://doi.org/10.1093/jpepsy/jsu017>
- Plante, W. A., Lobato, D., & Engel, R. (2001). Review of group interventions for pediatric chronic conditions. *Journal of Pediatric Psychology*, *26*(7), 435–453.
- Pratt, C. C., McGuigan, W. M., & Katzev, A. R. (2016). Measuring program outcomes: Using retrospective pretest methodology. *American Journal of Evaluation*, *21*(3), 341–349.
- Richmond, D., Sibthorp, J., & Wilson, C. (2019). Understanding the role of summer camps in the learning landscape: An exploratory sequential study. *Journal of Youth Development*, *14*(3), 9–30. <https://doi.org/10.5195/jyd.2019.780>
- Roark, M. F., Gillard, A., Evans, F., Wells, M. S., & Blauer, M. M. (2012). Effect of intentionally designed experiences on friendship skills of youth: An application of Symbolic Interaction Theory. *Journal of Park & Recreation Administration*, *30*(3), 24–36.
- Rogers, J. M., & Ali, M. (2021). “It’s so much better than contact”: A qualitative study exploring children and young people’s experiences of a sibling camp in the United Kingdom. *Child & Family Social Work*, *26*(1), 61–69. <https://doi.org/10.1111/cfs.12789>
- Samuels, J., Keenan, J., & Jolly, A. (2021). A qualitative investigation of the impact that therapeutic recreational camps have on the psychological wellbeing of siblings of individuals with health conditions. *Child Care Health Dev.* <https://doi.org/10.1111/cch.12926>
- Schmitt, N. (1996). Uses and abuses of coefficient alpha. *Psychological Assessment*, *8*(4), 350–353.
- Sendak, M. D., Schilstra, C., Tye, E., Brotkin, S., & Maslow, G. (2018). Positive youth development at camps for youth with chronic illness: A systematic review of the literature. *Journal of Youth Development*, *13*(1–2), 201–215.
- Sibthorp, J., Wilson, C., Povilaitis, V., & Browne, L. (2020). Active ingredients of learning at summer camp. *Journal of Outdoor and Environmental Education*, *23*(1), 21–37. <https://doi.org/10.1007/s42322-019-00050-6>

- Sorenson, J. (2018). The fundamental characteristics and unique outcomes of Christian summer camp experiences. *Journal of Youth Development, 13*(1–2), 183–200.
- Warner, R. P., & Sibthorp, J. (2022). *Comparing the developmental qualities of camp to other summertime settings*. Paper presented at the American Camp Association Camp Research Forum, Portland, OR. <https://www.acacamps.org/resource-library/research/aca-research-forum>
- Warner, R. P., Sibthorp, J., Wilson, C., Browne, L. P., Barnett, S., Gillard, A., & Soreson, J. (2021). Similarities and differences in summer camps: A mixed methods study of lasting outcomes and program elements. *Children and Youth Services Review, 120*. <https://doi.org/10.1016/j.childyouth.2020.105779>
- Whittington, A., Garst, B. A., Gagnon, R. J., & Baughman, S. (2017). Living without boys: A retrospective analysis of the benefits and skills gained at all-female camps. *The Journal of Experiential Education, 40*(2), 97–113. <https://doi.org/10.1177/1053825916689266>
- Wilson, C., & Sibthorp, J. (2018). Examining the role of summer camps in developing academic and workplace readiness. *Journal of Youth Development, 13*(1–2), 83–104. <https://doi.org/10.5195/JYD.2018.563>
- Wu, Y. P., Geldhof, G. J., Roberts, M. C., Parikshak, S., & Amylon, M. D. (2013). Initial examination of a new questionnaire assessing perceived social support in summer camp and home environments for children with cancer and their siblings. *Children's Health Care, 42*(1), 67–84. <https://doi.org/10.1080/02739615.2013.753817>
- Wu, Y. P., McPhail, J., Mooney, R., Martiniuk, A., & Amylon, M. D. (2016). A multisite evaluation of summer camps for children with cancer and their siblings. *Journal of Psychosocial Oncology, 34*(6), 449–459. <https://doi.org/10.1080/07347332.2016.1217963>
- Wu, Y. P., Prout, K., Roberts, M. C., Parikshak, S., & Amylon, M. D. (2011). Assessing experiences of children who attended a camp for children with cancer and their siblings: A preliminary study. *Child & Youth Care Forum, 40*(2), 121–133.