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Medical Specialty Camps: A Holistic Approach to Assist in the Management Of Diabetes

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**MEDICAL SPECIALTY CAMPS: A HOLISTIC APPROACH TO ASSIST IN THE
MANAGEMENT OF DIABETES**

by

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ABSTRACT

MEDICAL SPECIALTY CAMP: A HOLISTIC APPROACH TO ASSIST IN THE MANAGEMENT OF DIABETES

EVALUATING THE PERSPECTIVES OF THE CAMPER, THE PARENT, AND THE STUDENT COUNSELOR

Takeyra Monique Collins
Old Dominion University, 2019
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From toddlers to adolescents, poor medical regimen and adherence occurs as youth face adversities caused by type 1 diabetes mellitus (T1DM). This inquiry-based research sought to explore the process of promoting resilience to attain personal diabetes management through outcome-focused programming. This dissertation was structured in a three-paper format to highlight three sectors of a medical specialty camp to identify the significance of building resilience among youth with T1DM, incorporating family support, and providing service-learning opportunities for students. The purpose of this study was to examine the impacts associated with campers' resilience from pre- to post-camp based on their participation in an outcome-focused medical specialty camp by using the Resiliency and Attitude Skills Profile-Modified and the American Camp Association's Youth Outcome Battery (ACA-YOB) Measure. Campers were able to self-report on their outcomes based on their involvement in camp (e.g., participating in recreationally engineered experiences). The second paper utilized both quantitative and qualitative data to explore the impact of integrating families into the camp experience to understand the parent perspectives by using the Resiliency and Attitude Skills Profile-Modified: Parent Version, the American Camp Association's Youth Outcome Battery

(ACA-YOB) Parent Perceptions Measure, and open-ended questions. Parents were able to self-report their perception of their child's outcomes based on their involvement in camp (e.g., attending parent sessions and participating in outcome-focused recreational programming). The third and final paper also used a mixed methods approach to explore the impact of service-learning, in a medical specialty camp, on University students' perspectives. The researchers used service-learning evaluations and the ACA-YOB Staff Perceptions Measure tool to explore the student counselors' experience. Student counselors also self-reported their outcomes, based on their involvement, as it related to five constructs (e.g., professional skills) focused around service-learning.

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CHAPTER I

INTRODUCTION

Type 1 diabetes mellitus (T1DM) is a debilitating endocrine and metabolic disorder affecting approximately 1 in every 400 children and adolescents in the United States (Khardori, 2018). It continues to be one of the most common chronic illnesses youth face, with incidences increasing, particularly in children five years old and younger (CDC, 2017; Siminerio et al., 2014; Simmons & Michels, 2015). The onset of T1DM emerges due to high levels of sugar (glucose) in the blood, producing abnormalities in glucose tolerance and deficits of insulin production (Olatunbosun, 2017). Lind and colleagues (2014) suggested that by monitoring blood sugar levels and appropriate insulin administration through numerous injections each day, an individual can manage hyperglycemia, which chronically results in micro and macrovascular complications. Decreasing long-term microvascular and macrovascular complications is essential in limiting the risks of acute complications such as diabetic ketoacidosis (DKA) and hyperglycemia (Chawla, Chawla, & Jaggi, 2016). Mendez, Surani, & Varon (2017) explored the rise in hospitalizations for people with T1DM, and according to the National Surveillance of Diabetes Public Health, the number of patients who were admitted with DKA increased from 80,000 per year in 1988 to 140,000 per year in 2009 (Diabetes Public Health Resource, 2017).

Notably, approximately fifty percent of youth who fall ill with DKA are admitted to the ICU (Esposito, 2019). Type 1 diabetes mellitus is more common, once DKA has been presented, among younger children than in older children (de Vries, Oren, Lazar, Lebenthal, Shalitin, & Phillip, 2013). This chronic illness affects youth under the age of 20 and is estimated to be

diagnosed in approximately 1.25 million Americans (American Diabetes Association, 2017). Complications include damage to the tiny and large blood vessels, causing microvascular and macrovascular complications due to poor blood glucose control and can lead to further damage (Chawla et al., 2016). Children with T1DM need structure and assistance to manage living with a chronic illness. T1DM requires intense, chronic daily care that often results in patient and family fatigue due to the need to continuously monitor blood sugar levels to prevent hypoglycemia, which emphasizes the need to maintain a healthy lifestyle. It is essential to provide additional opportunities for increased education and knowledge as the incidence of T1DM continues to rise. Inclusive services are not a mandatory form of treatment, and often families are not fully aware of the opportunities available, especially when the disease is newly diagnosed. One management strategy that has been successful is camp experiences (American Diabetes Association, 2019). Participation in camp experiences like medical specialty camps, which are “specifically created to promote outdoor and social experiences for youth living with serious illnesses and disabilities” (p. 112), is key for youth and their families as they learn to manage life with a chronic illness (Gillard & Allsop, 2016). Through therapeutic interventions and supportive forms of treatment like medical specialty camps, practitioners can aid youth and their families as they transition and merge their illness into their daily lives, which is too often a difficult task for one’s family to manage (Gillard et al., 2011; Pinguart, 2014; Polfuss et al., 2015).

The American Camp Association (ACA) has had significant impacts on youth and published benefits of camp due to targeted research agendas and efforts that contribute to positive youth development (PYD) (Bialeschki, Henderson, & James, 2007; Garst, Browne,

Bialeschki, 2011; Halsall et al., 2016; Hill et al., 2016). Positive youth development (PYD) is an approach used by recreational professionals to engineer and structure programs that foster positive outcomes (Holt, Neely, Slater, Camiré, Côté, Fraser-Thomas, MacDonald, Strachan, & Tamminen, 2016; Vierimaa, Bruner, & Côté, 2018). In the US, over 14 million people take part in summer camps through countless residential and day camps (ACA, 2019). Camps utilize the natural environment to improve youth development and strengthen campers' mental, physical, social, and spiritual growth (Garst, Gagnon, & Whittington, 2016). Today, researchers continue to highlight the successful outcomes that are obtained through opportunities for youth who encounter and engage well together through programming, especially in comparison to those youth who have never participated in a setting that encourages a supportive environment, as medical specialty camps provide (Bennett, 2018; Tough, 2012; Wagner, 2008).

Medical specialty camps provide opportunities for youth with chronic illnesses to share common goals, increase socialization, decrease isolation, increase independence, improve camper-well-being, and increase knowledge and management of their disease (Cushner-Weinstein et al., 2007; Gillard & Allsop, 2016, Hill et al., 2015). Additionally, medical specialty camps have been designed to address the physical, social, and emotional challenges faced by youth, affecting their ability to adhere to their medical regimen by providing a unique experience with an alternative-type of a treatment team to enhance the benefits of camp. There has been an increase in the use of medical specialty camps to positively influence youth in a non-clinical setting. Sendak, Schilstra, Tye, Brotkin, & Maslow (2018) reviewed 425 studies on camps for youth with chronic illness and found that the following identified conditions were addressed:

36% included diabetes camps, 15% included camps with participants having a variety of illnesses (multiple illnesses), 12% included cancer camps, 11% included asthma camps, and camps under 5% included burns, visual impairment, arthritis, cystic fibrosis, hearing impairment, skin disease, inflammatory bowel, seizure disorder, and celiac disease. (p. 207)

Various studies have used medical specialty camps with unique population groups such as youth with cancer (Meltzer & Rourke, 2005; Mosher, 2006; Wellisch et al., 2006), youth with HIV/AIDS (Gillard, Witt, & Watts, 2011), and youth with diabetes (Hill et al., 2015; Hunter et al., 2006).

Recreation organizations can create Outcome-Focused Programming (OFP) experiences that combat issues surrounding individuals living with debilitating conditions (Middleton, Moxham, & Parrish, 2018; Stumbo, Wolfe, & Pegg, 2017; Williams, 2017). When an individual is diagnosed with T1DM, they often must change their eating habits, exercise habits, and medical regimen. OFP provides structured recreational activities and services aimed toward outcome-oriented goals to manage and challenge the needs and social issues faced by youth. Children with a chronic illness are less likely to engage in activities or programs where they can bond with peers who are dealing with the same condition, participate in physical activity, build friendships, or expand their knowledge through challenging activities to empower their abilities and successfully manage T1DM (Mori et al., 2011; Siminerio et al., 2014). OFP is a framework for measuring evidenced-based goals and actions. It is a four-step model with components of the model explained through an action-oriented process that includes: (1) outcome-oriented goals;

(2) intentionally structured theory-based program components; (3) assessment of progress toward desired goals; and (4) publication of the outcomes by the organization (Goff, 2016; Tucker, & Allen, 2008; Allen, & Cooper, 2003).

Several studies have highlighted the importance of empowering youth with self-management skills to combat the various complications associated with poor health outcomes (Nabors, Kichler, Burbage, Swoboda, & Andreone, 2014; Nguyen, Henderson, Stewart, Hlyva, Punthakee, & Gorter, 2016). Empowerment and successful management are essential as youth face a variety of developmental challenges associated with their age and ability to manage the needs impacted by their illness (Mori et al., 2011; Siminerio et al., 2014). The onset of T1DM emerges due to high levels of sugar (glucose) in the blood, producing abnormalities in glucose tolerance and deficits of insulin production.

The OFP used in this study was designed and developed for youth struggling with T1DM. When faced with adversity, youth who are resilient can make positive adaptations to life's circumstances which can extend into adulthood, despite exposure to a multitude of risks and severe adversity (Jones, 2012; O'Dougherty, Wright, Masten & Narayan, 2013). Resilience theory supports youth's ability to engage in positive youth development (PYD) to alter the response to adverse events and to encourage coping mechanisms to strengthen their overall well-being (Eichas, Ferrer-Wreder, Olsson, 2019; Lee, Cheung & Kwong, 2012). Studies have showcased how the infusion of resilience and PYD, in structured programs, can shape the future of youth and their ability to succeed (Allen, Cox, & Cooper, 2006; Catalano, Berglund, Ryan, Lonczak, & Hawkins, 1998; Cooper, Estes, & Allen, 2004; Lee, Cheung & Kwong, 2012).

Resilience is an attribute that can impact, influence, and enrich the skills developed and exhibited by youth. Hoping to identify factors that influence T1DM care, the researchers focused on specific measures that impact care aspects, such as management, resilience and engagement, which surround the disease. This study analyzed three perspectives (the camper, the parent, and the student counselor) to extend literature on managing a chronic illness.

Study One [Chapter II] investigated the impact of a medical specialty camp (Family Diabetes Camp) for youth with T1DM. This paper focused on perceived gains of resilience and youth outcomes from participation in Family Diabetes Camp (FDC) and on those youth outcomes contributing to participants' perceived success in a medical specialty camp. The Resiliency and Attitudes Skills Profile (RASP-M) questionnaire was integrated into the data collection to explore the campers' self-reported statements concerning resilience. The ACA Youth Outcome Battery (ACA-YOB) was used to evaluate outcomes associated with the camp experience as they relate to skills that develop youth into contributing members of society (American Camp Association, 2018; Henderson et al., 2007; Hill et al., 2018; Sibthorp et al., 2010). Review of the campers' experience in FDC supported the notion for the use of OFP in medical camps geared toward youth with T1DM. Study One's review of literature confirms limited, validated research pertaining to the parents' perception of their involvement and their child's achievements. Until this point, Study Two, the parents' perception of condition-specific camps, regarding their involvement and child's outcome achievements, has been scant in literature.

Study Two [Chapter III] explored the impact of integrating families into the medical specialty camp experience. The researchers integrated the data collected using the RASP-M Parent version to explore the parents' experience and to obtain perceived outcomes based on their child's resilience. Research was also conducted to understand the parents' perception of the camp experience through the ACA-YOB Parent Perception (PP) Scale to "make valid and reliable judgements about their child's achievements" (American Camp Association, 2018, p. 4).

Study Three [Chapter IV] evaluated the outcomes of medical specialty camps by exploring the value of incorporating college students' service-learning through a high-impact practice (HIP) [as student counselors] during the camp experience. High-impact practices (HIPs) include various forms of experiential learning that enhance students' cumulative learning experiences (Association of American Colleges & Universities, 2019; Cobane & Jennings, 2017). Service-learning is a form of experiential learning where individuals have an opportunity to use the knowledge they have obtained in the classroom in an applied setting.

These three studies were used to evaluate the 2017 Family Diabetes Camp held in Southeastern Virginia. Their overarching focus is resilience and the outcomes of a medical specialty camp through three different perspectives: (1) the camper (self-assessment); (2) the parent (assessment of their child); and (3) the camp counselor (assessment of the camper and their personal reflection of their service-learning experience during camp). "Camps and programs for youth focused on diabetes are invaluable" (Hergenroeder & Wiemann, 2018, p. 37). These three studies highlighted the opportunity to enhance the medical team approach in an unconventional setting. Members of the interdisciplinary team worked together to provide a

supportive environment to empower youth as they worked to better manage their T1DM through activities, educational sessions, and the camping experience.

Ineffective disease management provides evidence of a need to increase medical specialty camps that support the management of chronic illnesses (Gillard & Allsop, 2016; Hill et al., 2015; McAuliffe-Fogarty, Ramsing & Hill, 2007). Medical specialty camps can help to decrease the rise in further complications associated with an incurable disease and provide a safe and innovative environment that focuses around youth's ability to effectively manage their disease. Outcome-focused programming and proper diabetes management may increase medical knowledge and resilient behavior when the camp environment involves both youth and their families. Medical specialty camps and other family illness-based camps (e.g., cancer, asthma, HIV/AIDS) can foster resilience, family support, and increase disease management through collaboration with practitioners who are certified and trained in assisting youth on their journey to a well-managed disease (Gillard et al., 2011; Hill et al., 2015; McAuliffe-Fogarty et al., 2007; Wu et al., 2011). As recreation practitioners work to provide opportunities for growth and management of T1DM, models like these can help to address and better equip camps as they increase the number of youth with T1DM participating in their programs. Limitations and future directions for each study are explored.

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CHAPTER II
**THE CAMPER PERSPECTIVE: NURTURING YOUTH OUTCOMES IN A MEDICAL
SPECIALTY CAMP**

Target Journal: Diabetes Updates

Author Guidelines: <https://www.oatext.com/Manuscript.php>

Abstract

Complications associated with a complex chronic illness, specifically, type 1 diabetes mellitus (T1DM), often negatively impact youth as they struggle to maintain a healthy lifestyle. The purpose of this study was to examine the impacts associated with campers' resilience from pre- to post camp based on their participation in an outcome-focused medical specialty camp. Family Diabetes Camp (FDC) was a medical specialty, recreation-based, family-oriented program that focused on developing resilient youth. Although results were not statistically significant, researchers found a slight increase in resilience, in the analysis of the Resiliency and Attitudes Skill Profile, from pre-test to post-test. The experimental group presented with a higher percentage of campers who learned about the seven critical youth development outcomes highlighted in the study than was found in the comparison group.

Keywords: type 1 diabetes, resilience, medical specialty camp, family diabetes camp, outcome-focused programming, and youth outcomes.

Introduction

Type 1 diabetes mellitus (T1DM), formerly known as juvenile diabetes, is diagnosed in children and young adults. It represents 5% of all adults with diabetes (American Diabetes Association, 2016). Borus and Laffel acknowledged that T1DM is one of the most psychologically and behaviorally demanding diseases and is the second most common chronic illness for youth (2010). For youth to successfully maintain a healthy lifestyle while living with T1DM, there is a need to overcome obstacles associated with low glucose levels that produce immediate life-threatening issues (Kalra et al., 2013; World Health Statistics, 2016; Ogurtsova, da Rocha Fernandes, Huang, Linnenkamp, Guariguata, Cho, 2017). Contributing factors to poorly controlled T1DM often predate the onset of childhood diabetes. These may include improper adherence to the medical regimen, lack of physical activity, and the lack of involvement from the child due to the parent's control over maintenance of the disease, compounded by improper education (Cigrovski, Bilic-Curcic, Gradiser, Herman-Mahacic, Cigrovski, & Ivndic, 2017; Hopkins et al., 2012). Negative psychological effects, in conjunction with other complications that arise from stress, relationships, and family conflict, further intensify the frustration and emotional burden for youth with T1DM (Clara, Jeppson, Kleinmaus, Kliems, Schopp, & Cox, 2017).

Previous studies have explored how the infusion of resilience and positive youth development can shape the future of youth and their ability to succeed (Allen, Cooper & Cox, 2006; Benard, 2004; Catalano et al., 1998; Cooper, Allen & Estes, 2004; Lee, Cheung & Kwong, 2012; Masten, 2014; Oshri, Topple, & Carlson, 2017). Resilience is an attribute that can impact,

influence, and enrich the skills developed and exhibited by youth (Masten, 2018). Resilience theory accentuates the ability for youth to engage in positive youth development (PYD), enhances response to adverse events, and encourages coping mechanisms to strengthen their overall well-being (Gillard & Allsop, 2016; Lee, Cheung & Kwong, 2012; Sendak, Schilstra, Tye, Brotkin, & Maslow, 2018). Youth with a chronic disease have better opportunities for improved medical and psychological outcomes in a setting that is medically adapted and designed to assist in increasing their overall quality of life (American Diabetes Association, 2015). Resilience and medical specialty camps have been measured simultaneously to explore camper outcomes.

While medical specialty camps are not a new concept in the medical field, the availability, accessibility, and evaluation of these medically structured and focused programs for most youth with T1DM or other illnesses is lacking (Fegan-Bohm, Weissberg-Benchell, DeSalvo, Gunn, & Hilliard, 2016; Gillard, Witt, & Watts, 2011; Monaghan, Helgeson, & Weibe, 2015; Nazar, Bojerenu, Safdar, & Marwat, 2016). Previous studies have used medical specialty camps with unique population groups such as youth with cancer (Meltzer & Rourke, 2005; Mosher, 2006; Wellisch, Crater, Wiley, Belin, & Weinstein, 2006), youth with HIV/AIDS (Gillard, Witt, & Watts, 2011), and youth with diabetes (Hill, Milliken, Goff, & Turnage, 2015c; Hunter et al., 2006). Medical specialty camps offer a unique opportunity to provide support and enhance youth outcomes. They provide an opportunity for youth with chronic illnesses to share common goals, increase socialization, decrease isolation, increase independence, improve their well-being, and increase knowledge and management of their disease from participation in camp

experiences (Cushner-Weinstein, Berl, Salpekar, Johnson, Pearl, Conry, 2007; Gillard & Allsop, 2016; Hill et al., 2015c).

The researchers' goal in this study was to accurately address the needs surrounding youth's ability to overcome both the internal and external adversity that threatens their ability to live a healthy lifestyle as independent, self-reliant youth. FDC was a medical specialty camp that focused on developing resilient youth and proper diabetes self-management. To further analyze the impacts associated with medical specialty camps, one of the researchers attended a week-long overnight summer diabetes camp in July called Camp Too Sweet (CTS). The comparison group, CTS, provided an opportunity for the researchers to analyze a camp specifically trained to assist youth with T1DM in a setting where participants did not receive the same intervention (i.e., OFP of resilience) as the campers in FDC.

This study aimed to further validate how advocating resilience in medical specialty camps improves youth outcomes. The following research questions guided the present study:

1. To what extent, if any, does a medical-specialty camp enhance camper resilience?
2. To what extent, if any, does a medical-specialty camp impact on identified youth outcomes?

Literature Review

Resilience

Resilience is the ability to make positive adaptations to life's circumstances, despite stressors and exposure to severe adversity (Rudzinski, McDonough, & Gartner, 2017; Luthar, 2013). Wolin and Wolin stated that individuals who are hardy, invulnerable and invincible are

known to be resilient (1993). They acknowledged that resilient people possess seven resiliency traits (e.g., insight, independence, creativity, humor, initiative, relationships and morality) (1993). Children need guidance and support on their path to adulthood. Wolin and Wolin (1993) observed individual behaviors based on their ability to cope, adjust, and respond to issues they faced with the use of resiliency traits (i.e., insight). The impact of a serious chronic disease like T1DM has tremendous influence psychologically, academically and socially. Per the Juvenile Diabetes Research Foundation (JDRF), there are “1.25 million Americans living with T1DM including about 200,000 youth (less than 20 years old)” (2017, p. 1). The emerging concerns surrounding youth and their future is perpetuated by shifting social forces (increases in youth using technology to engage, having dual full-time working parents, and increases in unsupervised time in the home) that overwhelm youth and cause problematic behaviors (Parent, Sanders & Forehand, 2016; Sanders, Parent, Forehand, Sullivan, & Jones, 2016). With Positive Youth Development (PYD) being both a philosophy and an approach, organized camping has embraced the concept and actively implemented programs that are prone to foster positive outcomes. Studies have emphasized the ways in which camps nationwide have been and are continuing to be a driving force for PYD (Feenstra, 2015; Hill et al., 2015c; Povilaitis & Tamminen, 2017; Schwabe, 2015).

Medical specialty camps are conducted in a therapeutic environment which provides educational programs that focus on lifestyle changes and managing blood sugar levels (Hill et al., 2015c). Incorporating resilience into the framework of a medical specialty camp was essential for Hill and colleagues (2015c). The camp setting uniquely offers participants the opportunity to

share common experiences, form meaningful friendships, and make decisions about behaviors that impact their diabetes (Garst et al., 2011; Hill et al., 2015c; Hill, Ramsing, Goff, Turnage, Kennedy, & Collins, 2016b). Better documented outcomes have helped medical specialty camps to grow in numbers and better serve a variety of illness populations (American Camp Association, 2011; Gillard, 2016; Hill, et al., 2015c; McAuliffe-Fogarty, Ramsing, & Hill, 2007). Prior studies indicated successful outcomes for youth with diabetes in developing skills to navigate and manage the adversity of having diabetes from participating in a medical specialty camp (Hill et al., 2015c; McAuliffe-Fogarty et al., 2007). This research may identify those factors contributing to participants' success in managing T1DM in a medical specialty camp setting to decrease long-term complications and lead to positive health outcomes.

Outcome-Focused Programming

The American Camp Association (ACA) has been integral in supporting PYD by identifying and documenting outcomes associated with participation in organized camping. Organized camping is and has remained a beneficial opportunity for youth to engage in activities and programs in a supportive environment among their peers. According to the 2017 ACA Annual Report, annually over 7.3 million camper lives have been impacted with an increase of 3.9% of total camps offered, the “highest in ACA history!” (2017, p. 8). The ACA has played an essential role in PYD to formulate and address various outcomes associated with camping. The problems or issues surrounding the traditional models of camp or programs are that they fail to fully educate and measure those aspects that affect the outcomes of youth with a specific diagnosis who are not successfully managing their disease (Chiang, Kirkman, Laffel, & Peters,

2014; Gilmore, 2016). The first illness-specific camp served children with diabetes (ACA, 2016b; Eells, 1986; Fegan-Bohm et al., 2016; Maslow & Lobato, 2008). This camp began in 1925, after the discovery of insulin in 1922 (John, 1946).

Although most camps integrate different types of programs, events, or sessions, they generally all have at least one thing in common: providing a camping experience that empowers youth to properly manage their lives. Family Diabetes Camp (FDC) influences, educates, and provides value to a diverse population of youth living with a chronic illness through access to learning opportunities. It also promotes and strengthens relationships for youth with T1DM, their parents and the counselors (college students and other professionals) as they are introduced to the outdoors and healthy living. From the growth of Benefits-Based Programming (BBP), the inclusion of a resilience framework into programming by recreation professionals, there has been a transition and an increase in OFP used to impact programming for youth, with specific emphasis on resilience skills used for this study (Hill et al., 2015b; Hurtes et al., 2000). The components of the model are included below:

Outcome-Focused Programming (OFP) Model

Step 1: outcome-oriented program goals should be identified and meaningful to the agency, the participants, and other stakeholders;

Step 2: theory-based program components should be intentionally structured to address the stated goals;

Step 3: progress toward desired goals must be assessed; and

Step 4: an organization must publicize its outcomes (Tucker, & Allen, 2008; Allen, & Cooper, 2003).

Outcome-Focused Programming (OFP) is a theoretical model designed for recreation professionals to develop, organize and facilitate programs to address specific goals and provide an environment where the participants' progress (surrounding their knowledge and understanding of resilience and diabetes management) can be assessed.

Methods

The researchers analyzed the resilience-based framework in FDC, which was compared to an existing, week-long residential, medical specialty diabetes camp (Camp Too Sweet) to identify the effects on participant outcome. This study was built on a collaborative effort between a local university, the diabetes center of a local hospital and the Lions Club. The experimental group, Family Diabetes Camp (FDC) was facilitated by the Children's Hospital of the King's Daughters (CHKD) physicians and Old Dominion University (ODU), and Virginia Wesleyan University (VWU) faculty and students. The goal of FDC was to accurately address the needs surrounding youth's ability to overcome both the internal and external adversity that threatens their ability to live a healthy lifestyle as independent, self-reliant youth. The comparison group, CTS, provided an opportunity for the researchers to analyze a camp specifically trained to assist youth with T1DM in a camp setting where participants did not receive the same intervention (i.e., OFP of resilience) as the campers in FDC.

To measure camper outcomes in this study, the researchers used the ACA's Camper Learner Scale (CLS) (Appendix D). The ACA's CLS is included in the Youth Outcome Battery

(YOB), and through previous studies has shown to be effective in measuring positive youth outcomes (Hill, Holt, & Ramsing, 2014; Hill, Holt, Ramsing & Goff, 2016). The ACA-YOB-CLS measure has also in past studies successfully identified changes in campers and measured socially relevant concepts focused around youth development (Hill et al., 2016; Hill, Milliken, Goff & Turnage, 2015c; Halsall, Kendellen, Bean, & Forneris, 2016; Garst, Browne, & Bialeschki, 2011; Bialeschki, Henderson, & James, 2007). The eleven outcomes presented by the ACA are Friendship Skills, Independence, Teamwork, Family Citizenship, Perceived Competence, Affinity for Exploration, Responsibility, Affinity for Nature, Problem-Solving Confidence, Camp Connectedness, and Spiritual Well-Being. The seven positive youth outcomes used in this study were Family Citizenship, Friendship, Independence, Interest in Exploration, Perceived Competence, Responsibility, and Teamwork. The ACA-YOB-CLS is unidimensional and includes a retrospective design. While the ACA-YOB-CLS was designed with the camp setting in mind (i.e., nature-based context, residential nature, small group living, youth focused) the measures were focused on strong youth development outcomes that are not predicated on particular settings (Hill et al., 2016a). The Resiliency and Attitudes Skills Profile (RASP-M) questionnaire was utilized in the data collection to explore the campers' self-reported statements concerning resilience. The researchers used the modified 24-item RASP-M (Appendix C) by Hill & Milliken (2012), which is grounded in Wolin & Wolin's (1993) framework.

This study explored current methods of programming (e.g., camps, activities, events, etc.) to examine current practices already being conducted throughout a structured week-long summer camp that provided a platform to support, assist, and educate youth with various aspects that

result from participation in FDC, a three-day medical specialty camp held in Southeastern Virginia. This study was conducted to examine the perceived effects of a resilience-based medical specialty program. The data were entered, cleaned, and checked for univariate outliers through SPSS 25. To properly analyze the data, the researchers upheld the operational definitions that had already been developed. The researchers input all the respondents' answers into predetermined codes to organize each response based on the question asked. New codes were added, as required, to record all responses that may or may not have already been given a predetermined code. Furthermore, a direct content analysis was used to categorize various patterns.

Participants

Experimental Group. In this study, the term “campers” is used to define participants in the research. Family Diabetes Camp was held in April 2017 and included youth ages 5-18 with T1DM and their families, with a total of 50 respondents for the pre-test and post-test ($n= 19$ males and $n= 31$ females). The average age of the campers was 11. Each of the campers must have been diagnosed with T1DM to participate. Campers reported that their longest duration of diagnosis with T1DM was for 1 and 2 years at 18%, although this time since diagnosis varied.

Comparison Group. Carilion's CTS was designed for youth ages 8-16, in Roanoke Valley, Virginia, for campers with T1DM. Of the campers who attended camp in July 2017, a total of 27 matched surveys were collected, resulting in campers presenting with an average age of 9.5 from a total of 27 respondents to the pre-test and post-test ($n= 9$ males and $n= 18$ females). Campers at CTS reported that their longest duration of diagnosis with T1DM was 2 years at

22.2%. CTS did not include families in the camping experience. The time since diagnosis for each of the participants involved in this study varied. However, each of the participants must have been diagnosed with T1DM to participate. Demographic information was also collected.

Camp Setting

Experimental Group. Family Diabetes Camp (FDC) was a three-day camp designed with a medical specialty focus. At the beginning of FDC, vendors were present during registration to offer information and guidance on the importance of proper self-testing, self-injection and pump infusion. The endocrinologists, nurses, and diabetes educators wanted to involve vendors from allied diabetic agencies to speak with the campers and their parents as the “fear of self-injecting and fear of self-testing are common among adolescents with T1DM” (Al Hayek et al., 2017, p. 76). The campers were also provided with various opportunities to observe their peers and the ways in which they conduct their self-injection during camp, as each camper performed their own schedule of injection or site rotation based on their personal needs. During each meal the endocrinologists, diabetes educators, nurses, student counselors, and parents assisted each camper as they counted their carbs to help control their blood glucose. Youth with T1DM generally have a smaller cohort of peers living with T1DM at their schools that they can engage with. The campers had not often had an opportunity to discuss and share their personal techniques and experiences with other youth with T1DM, allowing this type of experience to promote and solicit conversations about blood sugar levels, nutrition, and insulin intake. The campers at FDC were able to obtain new information about the impact of exercise by participating in recreation-based activities and traditional camping activities. Practitioners can

emphasize the need to provide opportunities for youth and adolescents to learn various tools associated with their disease. Opportunities to discuss and learn from peers are limited for youth, due to the setting and supportive environment that is needed to teach and challenge their knowledge.

Family Diabetes Camp was implemented in a unique and modified camp setting in which campers who had T1DM were placed with counselors and medical staff. The counselors consisted of two trained volunteers from Old Dominion University and Virginia Wesleyan University, and two or three trained medical staff or volunteers from the Children's Hospital of the Kings Daughters. The campers were divided into groups based on their gender and age. The campers and their families (parents, siblings, etc.) stayed at this three-day weekend camp and were able to participate in a variety of programming, from archery, campfire activities, and rock climbing, to horseback riding and canoeing. During the weekend, the counselors resided with the campers in set cabins with up to eight other campers of the same gender, to provide an opportunity for campers to bond and work together as a unit. FDC offered campers the opportunity to practice new skills, play games, and build relationships while engaging in activities they may never have engaged in before. This medical specialty camp provided campers with the tools they needed to appropriately check their blood sugars 4 to 6 times per day or as needed to ensure they were properly managing their diabetes throughout the experience. During mealtime, the campers, with assistance from parents, counselors and medical staff, calculated and administered insulin based on current glucose and food consumption, while factoring in both previous and anticipated physical activities.

The campers at FDC were current patients in CHKD's Diabetes Program who had been offered the opportunity to attend camp. Each camper was required to complete the consent and assent forms (Appendix B) along with a registration packet which included a complete explanation of the camper's diagnosis, family information, and any other important information that might be pertinent to caring for the camper while at camp (e.g., type of medication given, when the medication was given, how medication was given, etc.). The counselors and other camp staff provided a safe and inclusive environment where the campers could safely participate in activities. Although each group did not include a member of the medical staff, each group had counselors who were able to address many of the needs associated with youth who have T1DM. The parents' involvement in camp was essential as they were able to monitor and assist their children whenever they needed to check their blood sugar levels, get water or food, or get essential items like glucose monitors or insulin pumps.

Family Diabetes Camp was designed to provide Outcome-Focused Programming to promote positive youth development. To measure resilience, as described by Wolin and Wolin (1993), the seven resiliency traits served as the theoretical framework. Throughout the experience, the counselors were able to reinforce resilience during each of the recreational-based activities that were developed and implemented to support the seven resiliency traits (See Table 1). One unique addition to the camp was a morning workout on both Saturday and Sunday mornings of the weekend camp. Each hour-long session included a family-style circuit physical activity workout that included endurance and body conditioning through approximately ten

exercises, with minimal rest between circuits. These sessions allowed family members at all fitness levels to engage and interact.

The staff involved in designing and facilitating FDC included physicians, diabetes staff and faculty and students. For the past 20 years, FDC had been held at Triple R Ranch in Southeastern Virginia. For many of those years, the collaboration between ODU, CHKD, and the Lions Club had evolved in growth and reciprocity as those agencies worked as a team to host the camp. Table 1 showcases the resilience-based outcomes programmed throughout FDC. Additionally, examples of activities supporting the seven resiliency traits (e.g., independence) are documented.

Table 1

Camp Activities and Resilience-Based Outcomes (Family Diabetes Camp)

Campers Activities:	Resilience Outcomes Programmed:	Examples of Activities supporting Resiliency traits
Challenge course and rock wall	Relationships, Initiative	Working together in relationships (e.g., climber and belayer) to overcome a challenge.
Talking with counselors and campers	Relationships, Insight, Values	Talking with camp counselors can help support the development of values by allowing the youth to express their unique challenges and build intrinsic attitudes towards self-care.
Diabetes education sessions	Relationships, Insight, Independence	Taking initiative to ask questions about diabetes in a non-threatening setting.
Camp dance	Relationships, Humor, Creativity	Using humor to have fun and meeting new friends.
Free time activities	Relationships, Humor, Creativity, Independence, Values, Initiative	Free time activities can help support the development of independence by allowing youth to choose their activities, as well as who they participate with.
Snack and mealtime	Relationships, Independence, Values, Initiative, Insight	Snack and mealtimes can help foster insight by having camp staff cover the carb and sugar intakes based on the day's activities.
Movie time	Relationships	Enjoying relationships with others who also have

		diabetes.
Testing and regulating blood sugar	Relationships, Independence, Values, Initiative, Insight, Creativity	Coming up with creative ways/times to regulate blood sugar.
Mentoring one another	Relationships, Values	Having older campers mentor younger campers by forming lasting relationships .
Cabin challenges	Relationships, Humor, Creativity, Independence, Values, Initiative	Taking part in the annual cabin challenge event while working with others in relationships .

Note. Source: 2017 FDC Data. Copyright 2019 by Old Dominion University.

The implementation of this program was key to how well the campers yielded the associated outcomes. The dynamic interdisciplinary team (advocates, endocrinologists, nurses, diabetes educators, recreation therapists, and recreation faculty) all worked strategically to plan, design and implement outcome-focused programming for the three-day camping weekend.

Comparison Group. Carilion's CTS was a unique program in which campers with T1DM were placed with two counselors (trained staff from Camp Bethel) and two or three medical staff (trained staff or volunteers from Carilion Diabetes Program) into groups based on their age and gender. These campers stayed at this resident camp and were able to participate in various programming, from swimming, campfire activities, rock climbing, and ziplining to tubing and hiking. During the week, the counselors resided with the campers in set bunkrooms with up to 11 other campers of the same gender, to provide an opportunity for campers to bond and work together as a unit. Camp Too Sweet offered campers the opportunity to engage in activities they may have never engaged in before, practice new skills, play games, and build relationships. This medical specialty camp provided campers with the tools they needed to

appropriately check their blood sugars 4 to 6 times per day or as needed to ensure they were properly managing their diabetes. Additionally, prior to and immediately after each meal, the medical staff checked the blood sugar levels of each camper to ensure that they had received the correct dosage of insulin based on the food they had consumed.

Youth in Carilion's Diabetes Program were offered the opportunity to attend and sign up for camp. To participate in the study, each camper completed the consent and assent forms (Appendix B) along with a registration packet, which included a complete explanation of the camper's diagnosis, family information, and any other information needed for caring for the camper while at camp (e.g., type of medication given, when and how medication was given, etc.). This information was vital because parents were not included in the camp program, and it was essential that the campers received the same care as parents provided at home.

The medical staff assisted and participated in all of the activities that the groups engaged in to provide a safe and inclusive environment where the campers could safely participate in activities, while having medical staff who were able to monitor and assist the campers whenever they needed to check their blood sugar levels, get water or food, or get essential items like glucose monitors or insulin pumps. Additionally, one to two medical staff always monitored campers overnight to ensure that campers who needed to take medications or check their blood sugar levels at night did so, as their parents generally assisted them at home.

Research Design

The researchers examined the impacts associated with the campers' resilience from pre- to post camp based on their participation in an outcome-focused medical specialty camp. To

further analyze the impacts associated with medical specialty camps, one of the researchers also attended a week-long overnight summer diabetes camp in July called Camp Too Sweet (CTS). The comparison group, CTS, provided an opportunity for the researchers to analyze a camp specifically trained to assist youth with T1DM in a camp setting where participants did not receive the same intervention (i.e., OFP of resilience) as the campers in FDC.

Experimental Group. Data were collected at FDC during the summer of 2017. A total of 50 completed questionnaires of the American Camp Association Youth Outcomes Battery-Camper Learner Scale (ACA-YOB-CLS) (Appendix D) were collected, along with 50 matched pre-tests (Appendix C) and post-tests (Appendix D) of the modified Resiliency and Attitudes Skill Profile (RASP-M). The ACA-YOB-CLS is a paper and pencil retrospective design; therefore, campers were asked to complete the instrument on the last day of camp.

FDC provided a unique and modified camping experience through a focus-driven framework to assist in the ability to build confidence, encourage independence and bond with peers and families who share similarities in relation to living with T1DM. A logic model was developed to address the needs of the campers. It showcased the plan for the use of resources needed to meet the desired goals and objectives outlined; which included short-term, medium-term, and long-term goals to meet the proposed outcomes. Table 2 showcases the logic model for FDC.

Comparison Group. During the summer of 2017, a total of 27 completed instruments of the YOB-CLS and 27 matched pre-tests and post-tests of the modified RASP-M were collected

at Camp Too Sweet. The camper demographics were 66.7%, 88.9% Caucasian, and an average HbA1c Level (self-reported blood glucose) of 8.05.

Table 2

Family Diabetes Camp (FDC) LOGIC MODEL

Program Activities	Output	Anticipated Outcomes	Goals
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<u>Outcome-Oriented</u>	<u>Who we</u>	<u>Changes to be made by</u>	<u>Long-term</u>
<p><u>Learning</u></p> <ul style="list-style-type: none"> ● Leisure Education ● Personal Goal Management ● Physical Fitness Activities ● Problem Solving <p><u>Outcome-Focused Programming</u></p> <ul style="list-style-type: none"> ● Team Building Activities ● Rock Wall ● Archery ● Horseback Riding ● Canoeing <p><u>Resiliency-driven Structured Activities</u></p> <ul style="list-style-type: none"> ● Structured Activities/ Interventions <p><u>Partners</u></p> <ul style="list-style-type: none"> ● CHKD ● ODU ● VWU ● Lion's Club 	<p><u>serve:</u></p> <ul style="list-style-type: none"> ● 50-75 Families of youth ages 6-18 with type 1 diabetes in Southeastern Virginia ● ODU and VWU Parks, Recreation, Recreational Therapy Students 	<p><u>participants:</u></p> <ul style="list-style-type: none"> ● Lower HbA1C (average blood glucose) levels per day ● Improve resilience ● Increase socialization ● Increase use of fitness tracking device ● Increase knowledge of T1DM ● Increase and re-engage youth participation in an active lifestyle ● Increase independence <p><u>Measures:</u></p> <ul style="list-style-type: none"> ● Self-reported HBA1c levels were collected. ● Open-ended questions at the end of the survey. A traditional qualitative approach with directed content analysis was used. ● Participants completed a self-report questionnaire immediately prior to the program beginning and immediately upon its completion. ● Data were collected through three approaches: a pre- and posttest, resilience-based questionnaire, open-ended questions and the Camper Learner Scale. 	<p><u>changes:</u></p> <ul style="list-style-type: none"> ● Sustain resilient behavior ● Sustain better management of type 1 diabetes ● Increase physical activity ● Sustain participation in FDC

Note. Source: 2017 FDC Data. Copyright 2019 by Old Dominion University.

Comparison Group. Carilion's Camp Too Sweet (CTS) was a week-long resident summer diabetes camp that focused on providing a unique camping experience, but did not

incorporate families, university students or faculty in the camp setting, as FDC did. CTS was held from Monday through Friday, while FDC was held during a three-day weekend. CTS was organized and facilitated by the Carilion Diabetes Program at Camp Bethel in Fincastle, Virginia.

Procedure

Experimental Group. To establish rapport with the participants in this study, the researchers participated in the camper registration, as well as the sessions of FDC. During camper registration at FDC, the campers and their family members were given information regarding the schedule, expectations, and cabin assignments. They were also given the opportunity to meet with Lions Club members to receive various items that they could enjoy during and after camp (e.g., fitness trackers, book bags, water bottles, t-shirts). Finally, they were sent to meet with the researchers to receive information regarding the study. The researchers explained to all participants the purpose of conducting the survey and informed them of the design, overall guidelines in participating in the study, the procedural steps, and the stakeholders involved.

If the participants agreed to participate in the study, the researchers required the informed consent and assent forms (Appendix B) to be signed. After consent and assent were obtained, both the camper and one of his or her guardians were given a self-report survey to complete along with the RASP-M during registration at the beginning of camp. Then at the end of camp, they completed both the self-reported surveys alongside the RASP-M, with the addition of the ACA-YOB-CLS Survey (Appendix D). Each camper and parent or guardian completed the

surveys at the same time; which provided an opportunity for the adult to assist the camper in completing the instrument and questionnaire.

Each of the cabins/groups consisted of approximately 5-10 campers. The process of completing the surveys began with a brief introduction and orientation to the camp evaluation. The surveys were administered orally to ensure all questions were understood as the instrument was completed. The RASP-M post-test survey (Appendix D) had the same format as the pre-test survey (Appendix C) that was completed during registration.

Comparison Group. To establish rapport with the participants in this study, the researchers participated in the camper registration, as well as the sessions of CTS. During camper registration at CTS, the campers and their family members were given information regarding the schedule, expectations, and cabin assignments. They were also given the chance to meet with Lions Club members to receive various items that they could enjoy during and after camp (e.g., book bags, water bottles, t-shirts. Unlike at FDC, campers at CTS, did not receive fitness trackers although the collaborative partners--Lions Club, ODU, CHKD, and VWU-- incorporated the use of fitness trackers to educate, stimulate, and encourage physical activity throughout the duration of camp.) During the last step of the registration process, the participants were sent to meet with the researchers to receive information regarding the study. Once the researchers obtained consent and assent, the participants completed the survey.

If the participants agreed to participate in the study, the researchers required the informed consent and assent forms (Appendix B) to be signed. Once the researchers read over the procedures with each participant, each camper was given a survey to complete. The RASP-M

questionnaire (Appendix C) was first administered during registration, when the campers were also asked to complete a self-report questionnaire. Parents could assist campers in completing the instrument and questionnaire, answering any questions as the camper completed the assessment. At the end of camp, the campers again completed both the self-reported surveys along with the RASP-M, with the addition of the ACA-YOB-CLS Survey (Appendix D) The RASP-M post-test questionnaire had the same format as the pre-test questionnaire completed during registration, so they were already oriented to the scales and process of completing the survey. The campers completed their surveys in the same room as their counselors, which allowed counselors to assist campers in completing the assessments if needed.

Instrumentation

Previous studies (e.g., Collins et al., 2013; Goff, 2016; Hill et al., 2015; Hill et al., 2013; Hill et al., 2012; Hurtes & Allen, 2001; Sagone & De Caroli, 2015) have analyzed resilience and incorporated a modified version of the Resiliency and Attitudes Skills Profile (RASP) (Appendix A), focusing on Wolin & Wolin's (1993) framework. This study also integrated a modified version of the RASP to analyze the campers' perception of resilience. The RASP-Modified (RASP-M) consisted of 24 "I –statements" that accentuated each of the seven resiliency traits (insight, values orientation, creativity, independence, initiative, humor, relationships). Outcome-focused programming has been effectively measured using the original 40-item RASP as highlighted in various studies (Brown, Hill, Shellman, & Gómez, 2012; Hill, Brown, & Cosnett, 2011; Hill, Gómez, & Jeppesen, 2007; Hill, Milliken, Goff, & Clark, 2015b). However, other

studies like this one have further challenged the strength of the scale by suggesting the use of a 19-item version (Collins et al., 2013).

The RASP-M post-test surveys (Appendix D) had the same format as the pre-test survey they completed during registration, so they were already oriented to the scales and process of completing the surveys. The ACA-Youth Outcome Battery- Camper Learner Scale (ACA-YOB-CLS) (Appendix D) was used and designed to be completed in a paper and pencil style design so that the campers can complete the instrument on the final day of camp due to its retrospective design. The YOB includes the ACA-CLS and measures common youth outcomes. The scale has produced an alpha reliability coefficient of 0.85, with item-to-total correlations ranged from 0.29 to 0.61 (Hill et al., 2016b). The statistically tested scales are age-appropriate, short and found to be concise, easily administered tools that can be individualized to a camp or other youth programs.

RESULTS

There were 50 matched cases for the experimental group and 27 matched cases for the comparison group. Family Diabetes Camp included 62% female campers and 62% campers who reported as Caucasian, while CTS had 89%, a higher number of campers who reported as Caucasian, with 67% being female. A total of seven campers were removed from the experimental group and 11 campers were removed from the comparison group due to missing information need to match pre- and posttests.

Paired samples *t*-tests were used to compare participants from pre-test to post-test scores. There was no significance from pre-test to post-test on the RASP-CV. There were no statistically

significant differences from pretest ($M=4.97$, $SD= .53$) to post-test scores ($M=5.01$, $SD= .46$), with $t(50) = -.56$, $p= .57$) for FDC. There were no statistically significant differences from pretest ($M=4.88$, $SD= .62$) to post-test scores ($M=5.03$, $SD= .51$), with $t(27) = -.87$, $p= .39$) for CTS. Wilcoxon t tests were used to analyze pre- and post- scores on resilience. The results indicated a change, not statistically significant, in the camper's perception of their resilience ($Z= -1.270$, $p= 0.20$) at FDC.

Experimental Group. The average age of participants who attended FDC in April 2017 was 11.1 years (Tables 3 and 4). Most participants in FDC were female (62%). Likewise, 62% of the campers identified as Caucasian and had an average self-reported HbA1c Level of 9.42. Their average pre-HbA1C reading was 9.78, with a minimum of 5 and a maximum of 13. When asked about their enjoyment of camp, they averaged 8.78, and 62% planned to attend camp again next year (Table 5).

Comparison Group. Participants in CTS had a mean age of 11.4 years. They, too, were predominantly female (66%), and 89% Caucasian, with an average self-reported HbA1c Level of 8.05. Their average pre-HbA1C reading was 8.05, with a minimum of 6.30 and a maximum of 12. When asked about their enjoyment of camp, they averaged 8.38. Almost 26% rated CTS at a 10 (absolutely the best) on a scale of 1-10, and 44% of campers who planned to attend camp again next year (Table 6).

Table 3

FDC Demographic Characteristics of Participants

Variable		<i>Frequency</i>	<i>Percentage %</i>

Gender			
	Male	19	38
	Female	31	62
	Total	50	100
Race/Ethnicity			
	American Indian	3	6.1
	Black/African American	10	20.4
	Hispanic/Latino(a)	5	10.2
	Caucasian (non-Hispanic)	30	61.2
	Other	2	2.1
	Total	50	100
Length of Diagnosis			
	1 year	9	18
	2 years	9	18
	3 years	3	6
	4 years	5	10
	5 years	8	16
	6 years	8	16
	7 or more years	5	10
	Unknown	3	6
	Total	50	100

Note. Source: 2017 FDC Data; SPSS Version 25. Copyright 2019 by Old Dominion University.

Table 4

CTS Demographic Characteristics of Participants

Variable		<i>Frequency</i>	<i>Percentage %</i>
Gender			
	Male	9	33.3
	Female	18	66.7
	Total	27	100
Race/Ethnicity			
	Black/African American	2	7.4
	Hispanic/Latino(a)	1	3.7
	Caucasian (non-Hispanic)	24	88.9
	Total	27	100
Length of Diagnosis			
	1 year	1	3.7

	2 years	6	22.2
	3 years	2	7.4
	4 years	3	11.1
	5 years	5	18.5
	6 years	4	14.8
	7 or more years	6	6.4
	Total	27	100

Note. Source: 2017 CTS Data; SPSS Version 25. Copyright 2019 by Old Dominion University.

Table 5

Experimental Group Frequency Statistics

	<i>N</i>	<i>Frequency</i>	<i>Percentage %</i>
Enjoyment			
	0	0	0
	1	0	0
	2	0	0
	3	0	0
	4	2	4
	5	2	4
	6	1	2
	7	2	4
	8	13	26
	9	18	36
	10	21	42
Years at Camp			
	1 year	18	36
	2 years	10	20
	3 years	6	12
	4 years	8	16
	5 years	2	4
	5+ years	6	12
Plan to Attend Next Year			
	Yes	31	62
	No	2	4
	Not Sure	17	34

Note. Source: 2017 FDC Data; SPSS Version 25. Copyright 2019 by Old Dominion University.

Table 6

Comparison Group Frequency Statistics

	<i>N</i>	<i>Frequency</i>	<i>Percentage %</i>
Enjoyment			
	0	1	3.7
	1	0	0
	2	0	0
	3	0	0
	4	0	0
	5	0	0
	6	1	3.7
	7	2	7.4
	8	4	14.8
	9	4	14.8
	10	7	25.9
	Unsure	8	29.6
Years at Camp			
	1 year	16	61.5
	2 years	3	11.5
	3 years	2	7.7
	4 years	3	11.5
	5 years	1	3.8
	5+ years	1	3.8
Plan to Attend Next Year			
	Yes	12	44.4
	No	1	3.7
	Not Sure	8	28.6
	Unknown	6	22.2

Note. Source: 2017 CTS Data; SPSS Version 25. Copyright 2019 by Old Dominion University.

Experimental Group. Family Diabetes Camp campers' favorite activity was horseback riding at 25% (Table 7). They liked "other activities" (15.9%), human foosball (13.6%), and the climbing wall (11.4%). Their least favorite activities were the climbing wall (15.9%), canoeing (13.6%), and low ropes (6.8%) (Table 7).

Comparison Group. Camp Too Sweet campers' favorite activity was tubing at 37% (Table 8). They also liked horseback riding (22.2%) and high ropes (11.1%). Their least favorite activities were “unknown” (22.2%), and “other activities” (18.5%) (Table 8).

Table 7

Experimental Group Activity Statistics

	<i>Activity</i>	<i>Percentage %</i>
Camper Favorite Activity		
	Climbing Wall	12
	Horseback Riding	42
	Archery	2
	Human Foosball	12
	Low Ropes	2
	Other	8
	Unknown	22
Camper Least Favorite Activity		
	Climbing Wall	4
	Canoeing	12
	Horseback Riding	20
	Archery	4
	Human Foosball	6
	Other	2
	Unknown	52

Note. Source: 2017 FDC Data; SPSS Version 25. Copyright 2019 by Old Dominion University.

Table 8

Comparison Group Activity Statistics

	<i>Activity</i>	<i>Percentage %</i>
Camper Favorite Activity		

	Horseback Riding	22.2
	High Ropes	11.1
	Tubing	37
	Zipline	3.7
	Swimming	3.7
	Unknown	22.2
Camper Least Favorite Activity		
	Horseback Riding	3.7
	High Ropes	3.7
	Low Ropes	7.4
	Hiking	11.1
	Biking	11.1
	Crafts	3.7
	Campfire	3.7
	Walking	3.7
	Other	18.5
	None	11.1
	Unknown	22.2

Note. Source: 2017 CTS Data; SPSS Version 25. Copyright 2019 by Old Dominion University.

The Camper Learner Scale

The YOB Excel spreadsheet, developed by the American Camping Association (ACA), calculates the total and identifies the percentage of campers who “learned a little or a lot” about the seven ACA outcomes. In the experimental group, fifty campers ($n= 50$) completed the retrospective 14-item Camper Learner Scale (CLS) implemented to analyze seven critical youth development outcomes (e.g., friendship). The data indicated that 70% of them “learned a little or a lot.” In the comparison group, twenty-seven campers ($n= 27$) completed the retrospective 14-item Camper Learner Scale implemented to analyze seven critical youth development outcomes

(e.g., friendship). The data indicated that 59.26% of them “learned a little or a lot.” Thus, the results for the experimental group showed a higher percentage of campers who indicated that they learned a little or a lot based on the seven ACA youth development outcomes.

Furthermore, the researchers explored the campers’ learned benefits gained from attending FDC. When campers were asked about their experience, 10% percent reported that they obtained new information about self-injection, 12% reported that they obtained new information about site rotation and 12% reported that they obtained new information about pump infusion, and 22% reported that they obtained new information about carbohydrate counting. Finally, fully 50% of campers at FDC reported that they obtained new information about the impact of exercise. The inclusion of a Saturday and Sunday morning circuit training exercise may have helped to encourage exercise among family members and their new and old camp friends. These results highlight the impact that a medical specialty camp can have in assisting youth in managing their diabetes through exercise, education, and practice. Residential camps have an opportunity to positively impact youth and adolescents in a variety of ways. The diabetes camp experience provided a supervised, safe opportunity for youth to take a more independent role in their medical care (Bultas, Schmuke, Moran, & Taylor, 2016). This is apparent as FDC campers reported they learned various new tasks and information through participation in FDC.

DISCUSSION

Type 1 diabetes mellitus requires continuous disease management to maintain adherence to the daily needs associated with living with a chronic illness. As others have stated, “Adolescents with T1DM have to cope with treatment-related daily challenges” (Raymeakers,

Oris, Prikken, Moons, Goossens, & Weets, 2017, p. 1678). Poor diabetes management, improper treatment adherence and irregular glycemic control may cause additional issues and stress-related problems during challenging, pivotal times in teenage development. Diabetes management demands frequent injections and blood sugar checks, which often results in “high levels of distress” (Al Hayek et al., 2017, p. 76). Insulin injections, site changes, and blood sugar monitoring often produce negative impacts surrounding the treatment of diabetic patients, as too often youth and adolescents begin to resist and abstain from the need to maintain consistent medical adherence (Al Hayek et al., 2017; Palladino & Helgeson, 2012). Hill, Gagnon, Ramsing, Goff, Kennedy, & Hooker (2015a) found that “medical specialty camps provide a unique and active approach to succinctly providing opportunities for shared experiences, self-management, realistic training for common practice of diabetic management (diet, injection control, exercise, carb counting), as well as peer and family support” (p. 312). Understanding the opportunities associated with medical specialty camps, the researchers in this study focused on the correlation between campers’ self-mastery component of resilience and their management of T1DM.

The results from this study highlight outcomes that are meaningful for youth with T1DM. In analyzing the extent to which participating in FDC enhanced camper resilience, and to answer Research Question One, “To what extent, if any, does a medical-specialty camp enhance camper resilience?” the researchers used the Resiliency and Attitudes Scales Profile-Child Version (RASP-CV) as a pre-test and post-test. Results indicated a slight difference between FDC participants’ pre-test scores on the RASP ($M=4.97$, $SD=.53$) and their post-test scores ($M=5.01$, $SD=.46$), with $t(50) = -.56$, $p = .57$). The results from CTS scores indicated a slight difference

(see Table 9) between participants' pre-test scores on the RASP ($M=4.88$, $SD= .62$) and their post-test scores ($M=5.03$, $SD= .51$), with $t(27) = -.87$, $p= .39$). There was no significant difference from pre-test to post-test on the RASP-CV. The data in this study support the use of the American Camp Association Camper Learner Scale (ACA-CLS) (Appendix D) as a unidimensional measure of generalized camp learning.

When the scores for each camp were analyzed, the mean scores were cross-compared using independent t -tests. A paired samples t -test was run to determine if there were any significant differences between these results. To determine the differences in change among campers, results for both the experimental group and control group were analyzed and compared to each other. The experimental group included programming focused around concepts of resilience, while the comparison group did not receive any treatment. The t -tests allowed the researchers to determine if there were any significant differences among each of the groups. The data showed a slight change in mean; however, these data must be further scrutinized for significance, due to the short duration of the intervention. Further research could examine the effects of duration on campers' ability to acquire outcomes from the use of resilience as an intervention.

Although the results were not significant, the researchers did find a slight increase in resilience from pre-test to post-test in the analysis of the RASP. Importantly, the comparison group (CTS) did show more of an increase than the experimental group. The researchers believe the results of the study were affected by the ceiling effects associated with resilience, based on the campers' assumption of their high resilience level prior to their participation in camp. Family

Diabetes Camp was hosted over a three-day weekend, while CTS was held for five full days. The impact associated with adapting activities and an environment to encourage, analyze, and challenge resilient behaviors is essential in encouraging independence, shared experiences, and diabetic management. The supportive environment of the FDC experience resulted in outcomes that support current research as well as highlight opportunities for change in the camping environment. According to Raymaekers et al., (2017), peer relationships influence diabetes outcomes. Providing opportunities where youth and adolescents can combine a supportive environment, peer relationships, glycemic control, and self-care is essential to achieve positive outcomes surrounding T1DM. Previous studies have highlighted the positive impacts associated with peer support associated with adolescent disease outcomes (Doe, 2016; Raymaekers et al., 2017).

To identify the impact of camp on identified outcomes, and to answer Research Question Two, “To what extent, if any, does a medical specialty camp, impact on identified youth outcomes?” the ACA-YOB-CLS was used to evaluate the campers’ seven common developmental outcomes (e. g., Family Citizenship) collectively. The current study also tested the infusion of Outcome-Focused Programming in a family diabetes camp through a medically collaborative team approach. The three-day camp specifically used the American Camp Association- Youth Outcome Battery- Camper Learner Scale (ACA-YOB-CLS) to examine campers’ seven common developmental outcomes (Family Citizenship, Friendship, Independence, Interest in Exploration, Perceived Competence, Responsibility, and Teamwork) as the ACA CLS, part of the YOB, had effectively measured and validated youth outcomes or

subscales (Hill et al., 2016a). The experimental group presented with a higher percentage of campers who learned about the seven critical youth development outcomes focused on in the study, in relation to the comparison group. The data from this study support the use of the CLS as a unidimensional measure of generalized camp learning. These findings argue the need for medical specialty camps to effectively program towards desired youth developmental outcomes (Fegan-Bohm et al., 2016; Palladino et al., 2012; Thurber, Scanlin, Scheuler, & Henderson, 2007).

This research indicated that 70% of the campers in FDC “learned a little or a lot” about the seven ACA outcomes highlighted in the study, as assessed through the CLS. Fifty-nine percent of the campers in CTS learned “a little” or “a lot” about the seven ACA outcomes as a unidimensional scale, from the ACA-YOB-CLS. The experimental group presented with a higher percentage of campers who learned about the seven critical youth development outcomes focused on in the study, in relation to the comparison group. These findings argue the need for medical specialty camps to effectively program towards desired youth developmental outcomes (Fegan-Bohm et al., 2016; Palladino et al., 2012).

Limitations and Future Direction

In preparation for the study, the researchers considered various precautions to provide a safe and ethically driven study, with the correct use of forms, documentation, and education. First, camper bias of already knowing the questions from pre- to post-test of the RASP-M pose a limitation in this study. Second, the 19-item version of the RASP-M should be replicated as other studies like this one have further challenged the strength of the scale (Collins et al., 2013). The

strength of the RASP-M should be examined to determine its effectiveness for the assessment of resilience in comparison to the multidimensional theory associated with the resilience characteristics as hypothesized by Wolin and Wolin (1993). Third, youth who participated in FDC were asked to self-report and may not be representative of youth with T1DM broadly. Fourth, time constraints for both the experimental group (36 hours) and the comparison group (160 hours) pose a limitation due to the duration of participation. Finally, the researchers did not delineate naïve campers from those who may have repeated participation in camp based on a positive experience they may have had previously.

Future studies should explore the value of resilience as an intervention for medical specialty camps. Researchers need to explore various outcomes associated with youth with T1DM who participate in medical specialty camps to increase their overall well-being. An expansion on the recreational, educational, and social aspects in relation to youth with T1DM and the opportunities they receive is essential in determining the best ways to counteract issues faced due to health, income or family background. Additionally, campers' experiences must be analyzed in conjunction with their blood glucose level or other assessments used to evaluate their participation in physical activity as it relates to outcomes achieved from participation. Future researchers should explore current methods of programming (i.e., camps, activities, events), as well as conduct a needs assessment, to determine design criteria for structured programs beyond medical specialty camps that provide a platform to support, assist, and educate youth living with T1DM. This study supplements research on the use of medical specialty camps for youth with diabetes. With a continued rise in youth diagnosed with T1DM, future research should align

measures (i.e., A1C testing, hypo- or hyperglycemia change, blood sugar checks, etc.) to measure gains of campers in a medical specialty camp. A year after the researchers collected the data for this study, a maintenance program was implemented for the youth who attended FDC to encourage continued involvement in a recreation-based, outcome-focused program with the use of resilience as an intervention. With continued implementation of maintenance programs and medical specialty camps, researchers can explore gains in resilience as an intervention through longitudinal studies.

Conclusion

Youth struggle with managing diabetes due to a variety of well-documented factors (Clara, et al., 2017; Lind, Svensson, Kosiborod, Gudbjörnsdottir, Pivodic, Wedel, Dahlqvist, Clements, & Rosengren, 2014). Poor diabetes management can lead to medical complications including blindness, kidney failure, stroke, non-emergent amputation, and even death (Felman, 2018). Healthcare professionals understand the importance of providing opportunities for growth, development, and optimal quality of life. This is a particularly important issue for youth with T1DM, as quality of life is affected by poor diabetes self-management (Clara et al., 2017; Freeborn, Dyches, Roper, & Mandelco, 2013). The healthcare professionals involved throughout this study included physicians, diabetes educators, dietitians, nurses, pump specialists and recreation professionals. Each played a unique role in the development, organization and facilitation of programs implemented throughout Family Diabetes Camp. The doctors and endocrinologists provided their expertise on proper management during the planning stages and as the on-site physicians for the camp. The diabetes educators, dietitians, nurses, and pump

specialists identified opportunities for education, which consisted of developing opportunities throughout the camping experience where the campers could explore, challenge, and reevaluate their plans of action. Additionally, the recreation professionals provided team building activities grounded in resilience to help campers develop adaptive behaviors while increasing knowledge about diabetes in a family-friendly environment.

Medical specialty camps are increasing in incidence, but little is known about the extent to which this unique kind of environment can assist in the management of a chronic illness (Bultas et al., 2016; Gillard et al., 2011; Hill, Reifschneider, Ramsing, Turnage, & Goff, 2018). The analysis of a joint, collective, and diverse medical specialty camp designed to nurture resilience and enhance diabetes management in youth was assessed to better understand the effects of incorporating a resilience-based framework. The results presented indicate a need to study additional outcomes of importance for youth with T1DM who participate in medical specialty camps. Further research could explore the value of medical specialty camps and resilience to understand the tools and techniques that would stimulate growth, highlight the importance of healthy diabetes management, and empower resilient behaviors.

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APPENDIX A

Letter to Participants

Old Dominion University: Darden College of Education Human Services Department

April 15, 2016

Dear Potential Participants:

Your assistance and expertise is needed! I am currently a doctoral student at Old Dominion University in the Human Movement Sciences Program. I would like to invite you to participate in my research entitled “Nurturing Resilience in a Medical Specialty Camp: Outcome-Focused Programming to Aid in the Management of type 1 Diabetes.” You have been chosen because you are a camper within the Family Diabetes Camp who can share your perceptions and experiences of your journey with type 1 diabetes. Your knowledge and expertise can provide insight and ultimately help others. The information that is gathered may be able to further assist medical professionals, parents, teachers, counselors, and administrators as they work to prepare youth and adults who will be diagnosed with type 1 diabetes. Furthermore, the information obtained can additionally provide professionals in the field of Endocrinology, Social Work, Recreation Therapy and educational policymakers to develop curricula, programs, and supportive channels that would be able to assist future youth and adults overcoming type 1 diabetes.

Participating in this study will take approximately 15 minutes of your time. You will be asked to complete a biographical questionnaire and survey. A pseudonym of your choice will be used on both the questionnaire and survey to protect your identity. Your participation in this research is strictly voluntary. You may discontinue your participation in the project at any time, without penalty. All information generated will be treated confidentially, and all information obtained from your participation in the study will be stored in a secured file cabinet in my office.

If you are a child with type 1 diabetes and interested in participating, please review the attached form, sign the form and provide your information, and return it to me in an envelope. Please feel free to contact me via email (tcoll003@odu.edu), or my Advisor, Dr. Eddie Hill (ehill@odu.edu), if you would like any additional information.

I look forward to hearing from you! Thank you again for your time.

Sincerely,

Takeyra Collins

Takeyra Collins, CTRS, M. Ed.

Doctoral Student, Old Dominion University

APPENDIX B
Informed Consent Form



IRB# 664282-V4- March 2017

March 2017

Dear Parents,

We are conducting a study involving the impact of family and day camp on your child's motivation to manage his or her diabetes. To conduct this study we need the participation of youth that are involved with diabetes camp for the summer of 2017. The attached "Consent/Permission for Child's Participation" form describes the study and asks your permission for you and your child to participate.

Please carefully read the attached "Consent/Permission for Child's Participation" form. It provides important information for you and your child. If you have any questions pertaining to the attached form or to the research study, please feel free to contact Dr. Eddie Hill at the number below.

After reviewing the attached information, please return a signed copy (**at camp**) or with your application of the "Consent/ Permission for Child's Participation" form to Dr. Eddie Hill or your child's camp counselor if you (and your child) are willing to participate in the study. Additional copies of the form for your records will be available at camp. Even when you give consent, your child will be able to participate only if he/she is willing to do so.

We thank you in advance for taking the time to consider you and your child's participation in this study.

Sincerely,

Eddie Hill

Dr. Eddie Hill, CPRP
Assistant Professor
Old Dominion University
Human Movement Sciences Dept.

Park, Recreation & Tourism Studies Program
Student Recreation Center, Room 2019
Norfolk, Va 23529-0196
Ph - 757-683-4881 Fx - 757-683-4270 ehill@odu.edu
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www.odu.edu/recreation

IRB# 664282-V4- March 2017

APPENDIX B (Cont'd)
CONSENT/PERMISSION FOR CHILD'S PARTICIPATION DOCUMENT

The purposes of this form are to provide information that may affect decisions regarding you and your child's participation and to record the consent of those who are willing to participate in this study.

TITLE OF RESEARCH: Motivation for Diabetes Management in a Recreation Setting:
Examining the Impact of Family Camp

RESEARCHER: Dr. Eddie Hill (Responsible Project Investigator), Assistant
Professor, Old Dominion University
Takeyra Collins, Doctoral Student, Old Dominion University

DESCRIPTION OF RESEARCH STUDY: Diabetes camps have long been considered beneficial to participants. The camp experience also allowed youth to meet others who are coping with the similar daily struggles. Camp offers adolescents the opportunities to share common experiences, form meaningful friendships, and make decisions about behaviors that impact their diabetes. Through this study, we hope to determine the role that motivation plays in diabetes management at family residential and day camps.

If you decide to participate in this study, you will be asked to complete a 5-10 minute survey twice and your child three times. Parents will be asked to complete this survey once while at camp and once by mail/on-line. Approximately 100 campers will be asked to complete this survey twice while at camp and once by mail/on-line. Your and your child's participation will take approximately 20 minutes of your time.

EXCLUSIONARY CRITERIA: In order for your child to participate in this study, your child must be diagnosed with diabetes and participated in diabetes camp during 2017.

RISKS: There could be a risk of loss of confidentiality and distress in responding to the surveys as items are brought up for consideration. There will be camp counselors available to address any distress or concerns that the participants may express.

BENEFITS: There are no direct benefits to your child for participating in this study. However, the main benefit to you is that you will receive a summary of results about how camp impacts motivation of diabetes management.

COSTS AND PAYMENTS: The researcher are unable to give you or your child any payment for participating in this study.

NEW INFORMATION: You will be contacted if new information is discovered that would reasonably change your decision about your or your child's participation in this study.

APPENDIX B (Cont'd)

CONFIDENTIALITY: Participants will be assigned a code number so that your child's name will not be attached to his or her responses. Only researcher involved in the study or in a professional review of the study will have access to data sheets. All data and participant information will be kept in a locked and secure location.

WITHDRAWAL PRIVILEGE: Your and your child's participation in this study is completely voluntary. It is all right to refuse your and your child's participation. Even if you agree now, you and your child may withdraw from the study at any time, but still, remain at camp. In addition, your child may withdraw at any time if he or she so chooses.

COMPENSATION FOR ILLNESS AND INJURY: Agreeing to your and your child's participation does not waive any of your legal rights. However, in the event of harm arising from this study, neither Old Dominion University nor the researcher are able to give you any money, insurance coverage, free medical care, or any other compensation. In the event that your child suffers harm as a result of participation in this research project, you may contact Dr. Eddie Hill at (757) 683-4881 or Dr. Tancy Vandecar-Burdin, Chair of the Institutional Review Board at (757) 683-3802.

VOLUNTARY CONSENT: By signing this form, you are saying 1) that you have read this form or have had it read to you, and 2) that you are satisfied you understand this form, the research study, and its risks and benefits. The researcher will be happy to answer any questions you have about the research. If you have any questions, please feel free to contact Dr. Eddie Hill at (757) 683-4881 or Dr. Tancy Vandecar-Burdin, at (757) 683-3802.

If at any time you [or your child] feel pressured to participate, or if you have any questions about your rights or this form, please call the Old Dominion University Office of Research (757-683-3460).

Note: By signing below, you are telling the researcher YES, that you [and will allow your child] to participate in this study. Please keep one copy of this form for your records.

Your child's name (please print): _____

Your name (please print): _____

Relationship to child (please check one): Parent: _____ Legal Guardian: _____

Your Signature: _____

Date: _____

INVESTIGATOR'S STATEMENT: I certify that this form includes all information concerning the study relevant to the protection of the rights of the participants, including the nature and purpose of this research, benefits, risks, costs, and any experimental procedures.

APPENDIX B (Cont'd)

I have described the rights and protections afforded to human research participants and have done nothing to pressure, coerce, or falsely entice the parent to allowing this child to participate. I am available to answer the parent's questions and have encouraged him/her to ask additional questions at any time during the course of the study.

Investigator's Signature: _____ **Date:** _____

APPENDIX C
Demographics & Resiliency Attitudes & Skills Profile-Modified:
Camper Pre-test



**Lions Clubs
International**



The following items relate to your opinions of yourself. Please read each statement and indicate the extent to which you agree or disagree with each one. **There are no right or wrong answers, so please be as honest as possible!**

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1. When my work is criticized, I try harder the next time.	1	2	3	4	5	6
2. I can deal with whatever comes in the future.	1	2	3	4	5	6
3. Once I set a goal for myself, I don't let anything stop me from reaching it.	1	2	3	4	5	6
4. I'm prepared to deal with the consequences of my actions.	1	2	3	4	5	6
5. My friends know they can count on me.	1	2	3	4	5	6
6. I can change my surroundings.	1	2	3	4	5	6
7. I am comfortable making my own decisions.	1	2	3	4	5	6
8. I can sense when someone is not telling the truth.	1	2	3	4	5	6
9. When I'm faced with a tough situation, I come up with new ways to handle it.	1	2	3	4	5	6
10. I can come up with different ways to let out my feelings.	1	2	3	4	5	6
11. I look for the "lighter side" of tough situations.	1	2	3	4	5	6
12. I control my own life.	1	2	3	4	5	6
13. I can tell what mood someone is in just by looking at him/her.	1	2	3	4	5	6
14. I try to help others.	1	2	3	4	5	6
15. I stand up for what I believe is right.	1	2	3	4	5	6

16. I try to figure out things that I don't understand.	1	2	3	4	5	6
17. I'm good at keeping friendships going.	1	2	3	4	5	6
18. I have friends who will back me up.	1	2	3	4	5	6
19. Laughter helps me deal with stress.	1	2	3	4	5	6
20. I can be myself around my friends.	1	2	3	4	5	6
21. When I'm in a bad mood, I can cheer myself up.	1	2	3	4	5	6
22. When something bad happens to me, I don't give up.	1	2	3	4	5	6
23. I share my ideas and opinions even if they are different from other people's.	1	2	3	4	5	6
24. I make friends easily.	1	2	3	4	5	6

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Please Complete the Following:

I am ___male ___female ___ transgender

I am _____ years old

My Race/Ethnicity is:

___ African American or Black

___ Caucasian or White (non-Hispanic)

___ American Indian

___ Latino/a or Hispanic

___ Asian

___ Other (please describe)

I live with ___ one parent
___ other

___ two parents ___ guardian

I have ___ type 1 diabetes ___ type 2 diabetes

I also have ___ None of the following ___ Celiac disease ___ Thyroid disease
___ Addison's diseaseMy last known HbA_{1c} _____How many **years** have you had diabetes? ___ < 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ 7
or more

Cabin Name: _____

Are you joined by other family members for Family Diabetes Camp? Yes ____ No ____

If yes, please list who joined you and identify their role in your family.

What was your favorite activity this week?

What was your parent's favorite activity this week?

What was your least favorite activity this week?

What was your parent's least favorite activity this week?

The last **four digits** of my (or my parents) cell number (used for coding) is: _____

How many years have you been coming to the Lions Diabetes Camp at Triple R Ranch?

_____ 1 (this is my first year) _____ 2 _____ 3 _____ 4 _____ 5
 _____ >

How **many** camps have you attended in the past? ___ None ___ (# of) Non-medical ___ (# of) Diabetes Camps

APPENDIX D

**Demographics, Resiliency Attitudes and Skills Profile-Modified, & ACA-Youth Outcome
Battery- Camper Learner Scale: Camper Post-test**



**Lions Clubs
International**



The following items relate to your opinions of yourself. Please read each statement and indicate the extent to which you agree or disagree with each one. **There are no right or wrong answers, so please be as honest as possible!**

	Strongly Disagree	Disagre e	Somewha t Disagree	Somewha t Agree	Agree	Strongly Agree
1. When my work is criticized, I try harder the next time.	1	2	3	4	5	6
2. I can deal with whatever comes in the future.	1	2	3	4	5	6
3. Once I set a goal for myself, I don't let anything stop me from reaching it.	1	2	3	4	5	6
4. I'm prepared to deal with the consequences of my actions.	1	2	3	4	5	6
5. My friends know they can count on me.	1	2	3	4	5	6
6. I can change my surroundings.	1	2	3	4	5	6
7. I am comfortable making my own decisions.	1	2	3	4	5	6
8. I can sense when someone is not telling the truth.	1	2	3	4	5	6
9. When I'm faced with a tough situation, I come up with new ways to handle it.	1	2	3	4	5	6
10. I can come up with different ways to let out my feelings.	1	2	3	4	5	6
11. I look for the "lighter side" of tough situations.	1	2	3	4	5	6
12. I control my own life.	1	2	3	4	5	6
13. I can tell what mood someone is in just by looking at him/her.	1	2	3	4	5	6
14. I try to help others.	1	2	3	4	5	6
15. I stand up for what I believe is right.	1	2	3	4	5	6

16. I try to figure out things that I don't understand.	1	2	3	4	5	6
17. I'm good at keeping friendships going.	1	2	3	4	5	6
18. I have friends who will back me up.	1	2	3	4	5	6
19. Laughter helps me deal with stress.	1	2	3	4	5	6
20. I can be myself around my friends.	1	2	3	4	5	6
21. When I'm in a bad mood, I can cheer myself up.	1	2	3	4	5	6
22. When something bad happens to me, I don't give up.	1	2	3	4	5	6
23. I share my ideas and opinions even if they are different from other people's.	1	2	3	4	5	6
24. I make friends easily.	1	2	3	4	5	6

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Camper Learner Scale

	I didn't learn anything about this	I'm not sure	I learned a little about this	I learned a lot about this
1. At camp, did you learn how to be better at making friends?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. At camp, did you learn to feel good about things that you do well?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. At camp, did you learn that you can be good at some things that you didn't know you were good at?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. At camp, did you learn how to do more without your parents' help?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. At camp, did you learn to fix mistakes when you make them?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. At camp, did you learn to do more to help other members of your family?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. At camp, did you learn to look forward to trying new activities?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. At camp, did you learn to be better at doing things with groups of other kids?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. At camp, did you learn to be better at admitting when you do something wrong?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. At camp, did you learn to want to meet new people?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. At camp, did you learn how to get along with other kids when you are in a group?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. At camp, did you learn things that you can do to help someone in your family?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. At camp, did you learn how to be a better friend to other people?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. At camp, did you learn how to do more for yourself?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Do you plan to come back to the camp next year? Yes _____ No _____ Not Sure _____

Were you and your child joined by other family members for Family Diabetes Camp? Yes _____ No _____

If yes, please list who joined you and identify their role in your family.

What was your favorite activity this week?

What was your parent(s) favorite activity this week?

What was your least favorite activity this week?

What was your parent(s) least favorite activity this week?

On a scale of 1-10 (where 1 = absolutely the worst and 10= absolutely the best), how much did you enjoy camp? 1 2 3 4 5 6 7 8
9 10

I am _____ male _____ female _____ transgender

I am _____ years old

My Race/Ethnicity is:

_____ African American or Black _____ Caucasian or White (non-Hispanic)

_____ American Indian _____ Latino/a or Hispanic

_____ Asian _____ Other (please describe)

I live with _____ one parent _____ two parents _____ guardian
_____ other

I have _____ type 1 diabetes _____ type 2 diabetes

My last known HbA_{1c} _____

How many **years** have you had diabetes? ___ < 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ 7 or more

Cabin Name: _____

The last **four digits** of my (or my parents) cell number (used for coding) is: _____

How many years have you been coming to the Lions Diabetes Camp at Triple R Ranch?

_____ 1 (this is my first year) _____ 2 _____ 3 _____ 4 _____ 5 _____ > 6

How many camps have you attended in the past? ___ None ___ Non-medical ___ Diabetes Camps

Since attending camp, what new information or abilities related to diabetes care did you attain?

(Please check all that apply)

Self injection Site rotation Carb counting Pump infusion site

related

Understanding the impact of exercise on Diabetes Care

Thank you for completing this survey!

CHAPTER III
**INCORPORATING FAMILY INTO PROGRAMMING IN A MEDICAL SPECIALTY
CAMP: THE PARENT PERSPECTIVE**

Target Journal: Children's Health Care

CHC Author Guidelines: <https://www.tandfonline.com/action/authorSubmission?journalCode=taer20&page=instructions#words>

Abstract

A collaborative approach between children with type 1 diabetes mellitus, their families, and medical staff can provide opportunities for these youth to better manage living with an incurable chronic illness. This research investigated the impact of parents' participation in a three-day Family Diabetes Camp (FDC), a medical specialty, recreation-based, family-oriented program that focused on developing resilient youth and proper diabetes self-management. Findings showed an increase in, but no significant difference between, FDC parents' perception of campers' pretest and posttest resilience scores. The parents' perceptions of their children's five outcomes (Friendship Skills, Camp Connectedness, Perceived Competence, Responsibility, and Independence) revealed the highest average of growth in the Independence (IND) Subscale. Three themes emerged as outcomes for the campers: commonality, making new friends and lack of control.

Keywords: resilience, family camp, outcome-focused programming, parent perception, youth outcomes

Introduction

Youth with type 1 diabetes mellitus (T1DM) are challenged in their ability to effectively manage living with a chronic illness as it significantly impacts the child's and family's lifestyle. The Juvenile Diabetes Research Fund described T1DM as a chronic illness that develops when the pancreas discontinues the production of insulin, eliminating the ability to control blood sugar levels (Juvenile Diabetes Research Fund, 2017). Type 1 diabetes mellitus remains as one of the most common chronic illnesses that are faced by youth, and the incidence is increasing: "The largest increase was in very young children (ages 2-5 years)" (Chiang, Maahs, Garvey, Hood, Laffel & Weinzimer, 2018, p. 2031). A variety of family factors, including increased coping skills, substantial parental involvement, and monitoring responsibility-sharing, influence control and enhance diabetes management (Landers, Friedrich, Jawad, & Miller 2016; Markowitz, Garvey, & Laffel, 2015; Nansel, Iannotti, & Liu, 2012). Family involvement is associated with effective diabetes management in providing additional support through the maintenance of a chronic illness, such as T1DM (Pamungkas, Chamroonsawasdi, & Vatanasomboon, 2017; Baig, Benitez, Quinn, & Burnet, 2015; Nansel et al., 2012). A collaborative approach among children, doctors, diabetes team members and the family may help the child to cope and better manage living with T1DM.

Palladino & Helgeson (2012) assert the importance of providing an environment where youth can gain confidence, resilience, and build strong bonds with others who suffer from chronic illness, as well as provide opportunities for successful outcomes. Medical specialty camps allow youth with a chronic illness to participate in a more engaging environment that has

been equipped to promote engagement, peer support, development and self-management (American Diabetes Association, 2012; Hill, Ramsing, Hill, 2008; Hill, Gagnon, Ramsing, Goff, Kennedy & Hooker, 2015a). Furthermore, the inclusion of families in medical specialty camps can further increase those developmental outcomes associated with the daily maintenance of T1DM. “Campers can practice their knowledge and skills among their peers as they engage in realistic practices of self-injection, exercise, proper diet, and glucose monitoring under the close eye of their parents and medical staff” (Hill et al., 2015a, p. 312). Empirical evidence supports the ability for family camps to improve children’s lives (Agate & Covey, 2007; Garst, Baughman, Franz, & Seidel, 2013; Hill et al., 2015a; Hill, Ramsing, Goff, Turnage, Kennedy, & Collins, 2016a). Family Diabetes Camp (FDC) was implemented to reflect the foundational components of Outcome-Focused Programming (OFP), which may support youth in their management of T1DM by providing an applied approach of recreational experiences to enhance internalized behaviors related to resilience, while reducing poor management practices.

The purpose of this study was to understand the impacts of parental involvement in FDC, in relation to support and involvement in their child’s medical regimen and resilient behavior. Resilient behaviors include those actions that can make positive adaptations to life’s circumstances when exposed to various risks and adversity (Prince-Embury, 2014; Rudzinski, 2017; Southwick, Pietrzak, Tsai, & Krystal, 2015). Resilience, youth outcomes, and parental perceptions, in a family diabetes camp, generated the following research questions:

1. Based on the parents’ perspective, to what extent did FDC influence camper resilience?
2. Based on the parents’ perspective, to what extent did FDC impact the campers on five of

the American Camp Association youth outcomes?

3. What were the most important outcomes for parents who participated in the family diabetes camping experience?

Literature Review

Diabetes Management

Type 1 diabetes mellitus (T1DM) is one of the most “psychologically and behaviorally demanding” (p. 43) diseases due to the instant change in daily routines that often becomes difficult for youth to cope with (Steinhardt, Dubois, Brown, Harrison, Dolphin, Park, & Lehrer, 2015). Youth whose lives are constricted by the medical complexity of their chronic disease require the support, care, and direct guidance of providers, services, and family support to achieve proper management of their illness (Kuo & Houtrow, 2016; McPherson, Arango, Lauver, McManus, Newacheck, Perrin, Shonkoff, & Strickland, 1998; Poureslami, Nimmon, Rootman & Fitzgerald, 2016). T1DM causes a dependence on insulin, whether injected or pumped, and carries the constant threat of devastating complications if not managed appropriately (Juvenile Diabetes Research Foundation, 2017). Rapid changes in diet and physical activity are needed to maintain control of diabetes. Despite this knowledge, youth have demonstrated an inability to manage diabetes (Borus & Laffel, 2010; Hill & Sibthorp, 2006; Taylor, Piatt, Hill, & Malcom, 2012).

Youth exhibit difficulties maintaining a healthy lifestyle due to the adjustments they must sustain to live in accordance with their recommended medical regimen. “Despite broad organizational, intellectual, and fiscal investments, no means for preventing or curing T1DM

exists, and, globally, the quality of diabetes management remains uneven” (Atkinson, Eisenbarth, & Michels, 2014, p. 70). Evidence-based practices are an essential piece in developing programs and services to meet the needs of children. Studies emphasize that these types of issues (i.e., poor diabetes management, probable neuropsychological issues, and vulnerability to hypoglycemia) occur immediately from the time of diagnosis (Streisand & Monaghan, 2014; Monaghan, Helgeson, & Wiebe, 2015; Doyle, 2015). Due to this quick change in lifestyle, increased levels of risky behaviors arise as youth are inundated by the difficulties associated with a chronic illness (Pyatak, Sequeira, Whittemore, Vigen, Peters & Weigensberg, 2014). According to Streisand and Monaghan (2014), “Tight control by caretakers is needed during the vulnerable developmental period when behavior is unpredictable” (p. 1). This type of tight control can be lessened with the involvement of diabetes professionals and parents in a setting like a medical specialty camp, where education and treatment are provided.

Outcome-Focused Programming

Professionals can evaluate the joint engagement of individuals or groups of people involved in programming who share common experiences, beliefs, and knowledge to understand the process of learning through their interactions and realities (Sobels, Szili & Bass, 2016; Wilson & Zoellner, 2016). The process-oriented approach was expanded to further understand the impacts of participation, allowing the researchers in this study to use OFP in programming to emphasize resilience skills (e.g., Independence, Relationships) (Hill et al., 2015a; Hurtes, Allen, Stevens, & Lee, 2000). Components of the model include:

Outcome-Focused Programming (OFP) Model

Step 1: outcome oriented, program goals should be identified and meaningful to the agency, the participants, and other stakeholders;

Step 2: theory-based program components should be intentionally structured to address the stated goals;

Step 3: progress toward desired goals must be assessed; and

Step 4: an organization must publicize its outcomes (Hill, Milliken, Goff, & Clark, 2015b; Allen, & Cooper, 2003; Tucker & Allen, 2008).

The OFP framework in this study involved the implementation of activities for participants to engage in as they increased their knowledge and understanding of resilience through social interactions. Through PYD and engagement, participants can acknowledge problem behaviors and identify ways to embrace attributes associated with enhancing resilient behaviors (Artuch-Garde, González-Torres, de la Fuente, Vera, Fernández, & López-García, 2017; Lee, Cheung, & Kwong, 2012).

Opportunities for Outcome-Focused Programming continue to grow and provide opportunities for youth to essentially manage and excel through the overarching complex chronic conditions that arise every day (Beesley, Riddell, & Fraser-Thomas, 2018; DECA, 2019; Hill et al., 2015a; Hill et al., 2016a). Parent influence can help alleviate those issues, concerns, and complications that arise for youth living with T1DM. However, as parents and caregivers become overwhelmed and overworked, they run into various complications as they assume the responsibility for all of the child's needs related to diabetes management. These complications are further impacted by all the other challenges parents face daily, including the care of their

other children, their families, and their careers. Dispositional attributes are the first line of defense against adversity factors. They include those attributes that cause individuals to become negatively impacted and affected in ways that may prevent the ability to recover and be resilient in adverse situations (Harper, Penner, Peterson, Albrecht, & Taub, 2012; Marinova, 2017).

Interestingly, child resilience has been found to be affected by parent empathic response (Harper et al., 2012; Vaplon, 2015). Protective factors can position youth to better assist individuals as they function throughout life, whether academically, socially, or in the family environment.

Protective factors include those attributes that cause individuals to become positively impacted and affected in ways to support and encourage individuals to recover and be resilient in adverse situations (Marinova, 2017; Moore, 2013). Protective factors include a showcase of positive adjustments on child outcome by decreasing negative effects of adversity (Marinova, 2017; Lee et al., 2012). In analyzing the parent perspective in relation to services provided to their children with medical complexity issues, Cady & Belew (2017) found “a need for co-management and communication across settings in the medical treatment of youth with an illness or chronic disease” (p. 45). Unfortunately, too often, parents are still challenged by the gap in communication that arises when caring for their children.

Resilience

Resilience is an attribute that can impact, influence, and enrich the skills developed and exhibited by youth (Masten, 2018). Youth who are resilient, when faced with adversity, can positively navigate through life’s challenges and transfer these skills into adulthood, despite contact with various risks and adverse situations (Rudzinski, 2017; Southwick et al., 2015).

Resilience increases youth's ability to engage in positive development in response to adverse events by providing coping mechanisms to strengthen their overall well-being (Lee et al., 2012).

Positive youth development (PYD) is an intentional, prosocial approach that engages youth in their communities, schools, organizations, peer groups, and families in a manner that is productive and constructive; recognizes, utilizes, and enhances young people's strengths; and promotes positive outcomes for young people by providing opportunities, fostering positive relationships, and furnishing the support needed to build on their leadership strengths (Youth.gov, 2018, p. 1).

Practices of PYD are integrated into programming to increase youth engagement. Studies have demonstrated how the infusion of resilience and PYD in structured programs can shape the future of youth and their ability to succeed (Lee et al., 2012; McCarroll, Lindsey, MacKinnon-Lewis, Chambers, & Frabutt, 2009; Sanders, Munford, Thimasarn-Anwar, Liebenberg, & Ungar, 2015).

Wolin & Wolin ushered in a framework surrounding seven skills that people who are resilient possess (1993). The seven conceptualized constructs of resilience traits that they identified were (i.e., Creativity, Humor, Independence, Initiative, Insight, Relationships, and Morality) (1993). A 40-item Likert-type scale, titled the Resiliency Attitudes and Skills Profile (RASP), was developed by Hurtes to measure individual levels of perceived resilience in adolescence (1999). The RASP has been used and modified for the implementation of

recreational-based activities to measure the impact of resilience (Brown, Hill, Shellman & Gómez, 2012; Collins et al., 2013; Cooper et al., 2004; Hill, Brown, & Cosnett, 2011). As a part of this study and previous studies (Collins et al., 2013; Hill et al., 2016a; Hill et al., 2015a; Hill et al., 2008), these seven resilience traits, with the modification of the term “Morality” to “Values Orientation,” were embedded into the theoretical foundation with the implementation of recreational programming (Hurtes, 1999). “Morality” was changed to “Values Orientation” to sustain kid-friendly terminology. This study utilized the modified 24-item RASP-M: Parent Version (PV), grounded in Wolin & Wolin’s (1993) framework. Each specific item of the RASP-M: PV was measured on a 6-point scale, from 1= Strongly Disagree to 6= Strongly Agree. According to Hill et al., (2015b), the validity and reliability of the RASP-M was confirmed. This study has aimed to further the research of PYD and diabetes management with the inclusion of Outcome-Focused Programming (OFP) and resilience. Previous research has shown the ability for youth to develop resilience and positive behaviors through OFP and recreation (Brown et al., 2012; Collins et al., 2013; Hill et al., 2011).

Parenting

Parents often regulate the behavior of their children by completing the daily tasks associated with T1DM (e.g., checking blood sugar levels, insulin injections) for them, instead of with them, to quickly solve their problem or need (Deeb, Akle, Al Ozairi & Cameron, 2018; Streisand et al., 2014). This behavior often results in dependent behavior and a self-fulfilling mindset, as these children generally express apathy or are motivated only by external factors (Ackerman, 2018). A further compounding factor includes recurrent negative reinforcement by

elevated blood glucose. Various factors challenge and hinder youth with T1DM based on their need for support. Some youth have active and engaged family support while others do not. Engaged family members intentionally structure their family's lifestyle around the physical, social, and psychological needs of their child (Baig et al., 2015; Miller & DiMatteo, 2013). Streisand & Monaghan (2014) assert that "several investigations have found greater levels of parenting stress in parents of younger children with T1DM as compared to parents of older children with diabetes or healthy controls" (p. 6). To support families, organizations focus their care for youth to include parental involvement (Miller & DiMatteo, 2013; Streisand et al., 2014).

Programming with certified and trained professionals, combined with family and parental support, provides an enhanced opportunity for better diabetes management. This enhanced opportunity involves a cultivation of resilience, monitoring of responsibility-sharing, increased family support, lowered family conflict, interacting with others who have the same struggles, and enhanced self-regulation skills as youth work to sustain a well-managed disease (Hill et al., 2016a; Nansel et al., 2012). A collaborative approach focused around increasing medical management of a chronic illness to enhance the overall well-being of youth with T1DM is essential. New educational opportunities, Outcome-Focused Programming through innovative recreational activities, and a network of new supportive relationships between physicians, educators, college students, parents and other campers may provide further opportunities for successful diabetes management. Although it is important for youth to take an active and independent approach in the management of their diabetes, it is still important for the parents to play an integral role in the involvement of their medical regimen. Youth with T1DM are unique

in their need for education and parental involvement to support development towards a healthy lifestyle (Monaghan et al., 2015; Silverstein, Klingensmith, Copeland, Plotnick, Kaufman, Laffel, Deeb, Grey, Anderson, Holzmeister & Clark, 2005).

Family Camps

Medical specialty camps can provide significant opportunities for fostering resilience, relationships, and family support (Allen & Gabriele, 2019; Gagnon, Garst, & Townsend, 2019; Hill, Reifschneider, Turnage, & Goff, 2018). Type 1 diabetes mellitus has a tremendous impact on the child and family's lifestyle. Caregivers generally disclose that the "impacts of 24/7 parental care and care coordination on family life, causes a breakdown in relationships with other children, spouses, and friends, as their role is dominated as a caregiver" (Golden & Nageswaran, 2012, p. 726). Families living with youth diagnosed with T1DM must work collaboratively to effectively manage the chronic illness. Medical specialty camps embrace the opportunity to collaborate with parents and trained professionals to assist youth in developing the skills and knowledge to effectively manage a chronic disease (Hill et al., 2015a; Hill et al., 2008; Taylor et al., 2012).

Family camps have successfully improved children's lives as presented through empirical research (Agate & Covey, 2007; Garst et al., 2013, Hill et al., 2015a; Hill et al., 2016a; Rosenburg, 2006). Previous studies have found that partnerships and a collaborative team approach are essential in the improvement of diabetes management (McGill, Blonde, Chan, Khunti, Lavallo, & Bailey, 2017; Nabors, Kichler, Burbage, Swoboda & Andreone, 2014; Silverstein et al., 2005). There is a need to increase programs and services due to a rise in the

growing number of youths diagnosed with T1DM, which unfortunately is “projected to rise substantially by 2050” (ADA, 2016a). Medical specialty camps allow professionals to address the needs of youth living with a disabling condition by developing and facilitating programs to measure those aspects that affect the outcomes of youth in successfully managing their disease. Medical specialty camps provide a foundation for an organization to design a unique atmosphere tailored to generate knowledge, increase social interactions, and deepen the connection and trust between the medical personnel and the family (Bussel, 2012; Hill et al., 2015a; Hill et al., 2013; Huber, Walsh & Varman, 2005). Nabors, Kichler, Burbage, Swoboda, Andreone, (2014), stated,

Diabetes camps are an important resource for children with diabetes, providing them with opportunities to 1) improve their knowledge of diabetes through education in a relaxed setting; 2) understand the relationship between disease process, diet, and exercise; 3) increase children’s involvement in their own diabetes care; and 4) facilitate the psychosocial well-being of children (p. 257).

To meet patient needs disciplines can implement a support team-based care approach (e.g., endocrinologists, diabetes educators, nurses, recreational professionals, etc.) to offer educational support through activities and interventions that may help to prevent future complications associated with poor adherence to proper medical regimen (American Diabetes Association, 2016b). Traditional models of medical specialty camps involve opportunities for youth with specific diagnoses to succeed in managing their disease while participating in the camping experience (Chiang et al., 2014; Gilmore, 2016). Youth must have accessible medical

care to be successful in a camp setting. Professionals and guardians must more effectively understand the successes, challenges and issues that youth with T1DM face. Therefore, the purpose of this study was to understand and explore the impact of a medical specialty camp through the parent perspective of campers' outcomes from participation.

Methods

The purpose of this study was to understand the impacts resulting from Family Diabetes Camp (FDC) in terms of parent support and involvement in their child's medical regimen. The 2017 three-day FDC was facilitated by a local hospital of physicians, diabetes educators, Lions Club members, and faculty and students from two local universities. Data were collected through three approaches: a pre- and posttest resiliency-based questionnaire; the retrospective American Camp Association's (ACA) Youth Outcome Battery (YOB) Parent Perception (PP) Scale (Appendix C); and open-ended questions (Appendix D) from parents at the three-day family diabetes camp in the summer of 2017. In this study, the researchers accentuated parent experiences through participation in the parent sessions, parent involvement in the recreational-based activities, and family-centered care at the three-day FDC. Further investigation allowed the researchers to evaluate parents' perception of their children's outcomes from participation in FDC.

The implementation of this program was key to how well the campers and their parents yielded associated outcomes. The dynamic interdisciplinary team all worked strategically to plan, design and implement Outcome-Focused Programming for the three-day camping weekend. Each year the researchers share with the parents the findings from the previous studies

through handouts and discussion. This provides the parents with an opportunity to further understand how they can adapt their practices and choices as they relate to their child’s medical regimen.

Participants

The terms “parents” and “campers,” in this study, describe the main participants analyzed in this research. The parents ranged from 25 to 63 years of age, and the campers with T1DM ranged from 5 to 18 years. When data were collected, there were 44 completed questionnaires for the American Camp Association’s (ACA) Youth Outcome Battery (YOB) Parent Perception (PP) Scale (Appendix C), and 43 for the Resiliency and Attitudes Scales Profile-Modified Parent Version Questionnaire (RASP-M: PV) (Appendix D). One family arrived late, resulting in their inability to complete the ACA-YOB-PP at the start of camp.

Resiliency and Attitudes Scales Profile-Modified Parent Version

Data were collected at diabetes camp during the summer of 2017, with a total of 43 respondents for the Resiliency and Attitudes Scales Profile-Modified Parent Version (RASP-M: PV), pretest and posttest questionnaires (N= 11 males and N= 32 females). A follow-up RASP-M: PV was distributed online to the parents, 4 weeks post camp. Demographic information was also collected. The demographic characteristics and level of enjoyment of the parents is included below (Table 1). On enjoyment, parents at FDC reported an average of 9.14 out of 10.

Table 1

FDC Demographic Characteristics of Parents

Variable	Frequency	Percentage %
-----------------	------------------	---------------------

<hr/>			
Gender			
	Male	11	25.5
	Female	32	74.4
	Total	43	100
<hr/>			
Race/Ethnicity			
	Black/African American	11	25
	Hispanic/Latino(a)	3	6.8
	Caucasian (non-Hispanic)	26	61.2
	Other	3	4.3
	Total	43	100
<hr/>			
Parents' Level of Enjoyment of Camp (Scale 1-10)			
	6	2	4.5
	7	2	4.5
	8	4	9.1
	9	16	38.7
	10 (Absolutely the Best)	19	43.2
	Total	43	100
<hr/>			

Note. Source: 2017 CTS Data; SPSS Version 25. Copyright 2019 by Old Dominion

American camp association youth outcome battery parent perception survey.

Data were collected at diabetes camp during the summer of 2017, with a total of 44 respondents for the American Camp Association Youth Outcome Battery Parent Perception (ACA-YOB-PP) survey. Of the 44 participants, 75% were female. The parents' favorite activity, on average, was human foosball at 22.7%; while their assumption of their child's favorite activity was horseback riding. Twenty-one percent of parents reported that they enjoyed every activity they participated in. The parents' least favorite activity, on average, was canoeing; while their assumption of their child's least favorite activity was rock climbing.

Camp Setting

Family Diabetes Camp (FDC) took place in Southeastern Virginia. Each of the campers

in the study had been diagnosed with T1DM. The largest duration of diagnosis was less than two years, at 36%. The parents were involved in the medical specialty camp as part of patient-centered, family diabetes care. Each of the families was grouped with other families based on gender and age. Each group was staffed with counselors, all of whom were either trained staff or volunteers from the Diabetes Center and local universities with access to medical staff. The dynamic interdisciplinary team (Lions Club advocates, endocrinologists, nurses, diabetes educators, recreation therapists, and recreation professionals) developed, organized, and facilitated all the Outcome-Focused Programming aspects of the three-day FDC.

The campers at FDC were predominantly current patients in a local diabetes medical program. Youth in the program and their families were offered the opportunity to participate. Each parent and camper was provided an opportunity to complete the consent and assent forms that were included in their registration packet. The medical staff and counselors assisted and participated in many of the activities that the groups engaged in to provide a safe and inclusive environment where the campers and their families could safely participate in activities. Although each group did not include a member of the medical staff, each group had counselors who were able to address many of the needs associated with youth who have T1DM while having immediate access to medical professionals. The parents' involvement in camp was essential and encouraged to monitor and assist the campers (their children) whenever they needed to check their blood sugar levels, get water or food, or provide any essential items like glucose monitors, acute treatment or insulin. The implementation of this program fosters the interaction and engagement because campers and their parents yield associated outcomes. Each year the

researchers share with the parents the findings from the previous studies through handouts and discussion. This provides the parents with an opportunity to further understand how they can adapt their practices and choices as they relate to their child's medical regimen.

Procedure

The staff involved in designing and directing FDC included local physicians, diabetes staff and university faculty and students. This program had been held over the past 20 years at the same camp in Virginia. For many of those years, the collaboration between two local universities, a local diabetes center, and the Lions Club has grown and evolved into a team to host a three-day camp with various components of a traditional camp, workshops and parent sessions that focused on the development of resilient youth and proper diabetes self-management. The camp involved youth aged 5-18 with T1DM, their parents or guardian, and sometimes their siblings.

Family Diabetes Camp incorporated a medical specialty camp design where the parents of the campers were involved in the entire programming experience. Not every parent included two parents, but every camper was required to have a guardian who participated. If a mother came with her daughter, they were placed in the same cabin together; if a mother came with her son, she was able to participate in all day and evening activities, but she would stay and sleep at night in another cabin with other women and girls. During the three-day camp, the activities and various components that resemble a traditional camp setting included archery, canoeing, rock climbing, campfire activities, etc. One of the unique activities of this camp was the implementation of two parent sessions during the three-day camp. The sessions included a

family-style discussion that included the parents, the medical staff, and the recreation professionals. These sessions allowed families to engage and interact openly, in a non-threatening environment.

The researchers participated in family camp registration and sessions to establish rapport among the participants in this study. The families were given their cabin assignments, schedule and expectations during registration. After the families were checked in, they met with the researchers to receive information regarding the study. The researchers explained the design, procedural steps and overall guidelines of the study and the research to the participants, highlighting that participation in the study was optional. If the participants agreed, consent and assent forms were signed.

To begin the study, the researchers read over the procedures and instructions with each participant and then allowed them to complete the pretest. The parents were provided with a pretest questionnaire to complete with completed consent and assent forms, with their child. The participants, one parent, completed the self-report questionnaires along with the RASP-M during camp registration. Both the campers and their parents completed their questionnaire at the same time, which allowed the parents to assist the campers in completing the instrument and questionnaire. At the close of camp, all of the participants completed both the self-reported questionnaires along with the RASP-M.

The campers and their families participated in the three-day, engineered camp experience where they engaged in various activities (e.g., campfire activities, horseback riding, archery, rock climbing, and canoeing). These opportunities encouraged bonding, friendships, and a supportive

environment as all the campers were one to two years difference in age. Incorporating parents into the camping experience allowed the students to engage in the activities comfortably because they knew that they had the support to correctly monitor their blood sugar levels throughout the experience. Additionally, the activities fostered the relationships between child and parent. The parents would assist their campers who needed help, prior to or immediately following each meal based on instructed diabetes regimen.

The hospital diabetes program facilitated care through the implementation of FDC as the campers were patients from throughout Southeastern Virginia. Information about each parent and camper was obtained to maintain demographic information and a complete explanation of family data, each camper's diagnosis, and other pertinent information needed to provide the best services during the camp experience. Camper check-in was held at the opening of camp. The families were given an overview of the rules, expectations and schedule for the camp.

Parent sessions were implemented twice during the duration of camp. Each parent session was implemented for an hour each time. All parents were encouraged to attend to discuss the development of resilient youth and proper diabetes self-management. During the sessions, medical staff and the recreation professionals facilitated open, frank discussions pertaining to both the parents' and the children's struggles. Each session began with an introduction activity as an icebreaker to build rapport. Then the session covered training techniques that parents could implement with their child to encourage proper management of their illness. Once the physicians covered the session's topic, the parents were able to speak with them and the other professionals and with other parents about their experiences to identify ways to decrease the risks associated

with having diabetes. This opportunity provided a safe environment for discussing the highlights and challenges associated with having a child with T1DM. This type of design was important as this was the only time that the parents had the opportunity to sit with professionals and other parents in one room, without their children. This allowed the parents to confidently ask questions related to their child's care, issues, or needs. These sessions were one of the most supportive and educational gatherings that the parents could participate in as they allowed them to learn, vent, and engage in a non-biased environment with other parents who shared this unique experience.

Table 2 showcases the topics covered during the parent sessions at FDC. Additionally, examples of topics supporting the seven resiliency traits (e.g., independence) are listed.

Table 2

Parent Involvement during Family Diabetes Camp

Outcome-Focused Programming for Parents	Activities
Attending Support Group Meetings (<i>two sessions implemented during the three-day weekend</i>)	<ol style="list-style-type: none"> 1. Talking with physicians, diabetes educators, and recreation professionals can help support the development of values by allowing the youth to express their unique challenges and build intrinsic attitudes towards their child's care. Building and maintaining relationships with others who have children with diabetes. Taking initiative to ask questions about diabetes in a non-threatening setting. 2. Learning about various techniques, applications, and useful tools that the parents can use in caring for their children with T1DM. Sessions generally reflect on the outcomes attained from the previous year's participation in Family Diabetes Camp with the information on realistic approaches free of complicated research jargon and statistics.
Reflection	Implementing the opportunity for parents to provide concrete examples of highlights, problems and/or concerns parents have faced.
Snack and mealtime	Snack and mealtimes can help foster support by having camp staff and parents work together to cover the carb and sugar intakes based on the day's activities.
Testing and regulating	Coming up with creative ways/times to regulate blood sugar while their

blood sugar	children are participating in the camping experience.
Mentoring one another	Having parents use their knowledge and experience to assist other parents by forming lasting relationships that can support their ability to care for their child.

Note. Source: 2017 CTS Data. Copyright 2019 by Old Dominion

Table 3 showcases the Outcome-Focused Programming implemented at FDC.

Additionally, examples of activities supporting the seven resiliency traits (e.g., independence) are documented.

Table 3

Outcome-Focused Programming (Family Diabetes Camp)

Campers Activities:	Resiliency Outcomes Programmed:	Examples of Activities supporting resiliency traits
Challenge course and rock wall	Relationships, Initiative	Working together in relationships (e.g., climber and belayer) to overcome a challenge.
Talking with counselors and campers	Relationships, Insight, Values	Talking with camp counselors can help support the development of values by allowing the youth to express their unique challenges and build intrinsic attitudes towards self-care.
Diabetes education sessions	Relationships, Insight, Independence	Taking initiative to ask questions about diabetes in a non-threatening setting.
Camp dance	Relationships, Humor, Creativity	Using humor to have fun and meeting new friends.
Free time activities	Relationships, Humor, Creativity, Independence, Values, Initiative	Free time activities can help support the development of independence by allowing youth to choose their activities, as well as who they participate with.
Snack and mealtime	Relationships, Independence, Values, Initiative, Insight	Snack and mealtimes can help foster insight by Having camp staff cover the carb and sugar intakes based on the day's activities.
Movie time	Relationships	Enjoying relationships with others who also have diabetes.
Testing and regulating blood sugar	Relationships, Independence, Values, Initiative, Insight, Creativity	Coming up with creative ways/times to regulate blood sugar.
Mentoring one	Relationships, Values	Having older campers mentor younger campers

another		by forming lasting relationships .
Cabin challenges	Relationships, Humor, Creativity, Independence, Values, Initiative	Taking part in the annual cabin challenge event with working with others in relationships .

Note. Source: 2017 CTS Data. Copyright 2019 by Old Dominion

Measurement

The researchers collected data through the following approaches: a pre- and posttest resiliency-based questionnaire: The Resiliency and Attitude Skills Profile-Modified: Parent Version (RASP-M: PV), the American Camp Association's (ACA) Youth Outcomes Battery (YOB)-Parent Perception (PP) Scale, and open-ended questions (Appendix D) for parents. A quantitative and qualitative approach was used to explore the impact of integrating families into the camp experience. Parents self-reported their outcomes based on their support and involvement, as it related to knowledge gained through attending parent sessions, participating in OFP of their involvement throughout camp. The collaborative effort between a local university, the diabetes center of a local hospital and the Lions Club provided a family-centered approach in a medical specialty camp setting to recruit, assist, and acknowledge youth in the management of their diabetes.

The Resiliency and Attitude Skills Profile-Modified (RASP-M: PV) questionnaire encompasses resiliency traits (e.g., creativity) grounded in Wolin and Wolin's framework (1993). The RASP-M: PV had been restructured over the years from its original design to better match the outcomes associated with programming. Our instrument used 24 "My child-statements" (e.g., "My child tries harder the next time after his/her work is criticized," "My child is comfortable making his/her own decisions") to assess the parents' perception of their child's performance in exhibiting resilient behaviors.

The American Camp Association's (ACA) Youth Outcomes Battery (YOB): Parent Perceptions (PP) Scale was administered with a retrospective design. It was used to understand the parent perspectives while measuring five outcomes (Hill et al., 2014; Hill et al., 2016a). The ACA-YOB-PP Battery includes a selection of eleven independent measures, which the researcher can choose from. The ACA-YOB-PP Battery was developed to allow adults to make valid and reliable observations about their child's outcome achievements (ACA, 2014). For this study, the researchers used the ACA-YOB-PP to measure the parents' perception of their child's five outcomes (Friendship Skills, Camp Connectedness, Perceived Competence, Responsibility, and Independence). The researchers chose those five outcomes because they aligned best with FDC goals. Previous studies have effectively used the instrument to measure positive youth outcomes (Hill et al., 2014; Hill et al., 2016a). The researchers used the 18-item scale and a 5-point Likert-type scale from 1= "Decreased" to 5= "Increased a lot." All of the questions were preceded by the general question, "How much, if any, has this session at camp changed your child?" An example of a statement in the Responsibility construct asked, "My child takes responsibility for actions," and the parents are asked to accurately describe their child's experience during the camp session using the 5-point scale. According to Sibthorp, Bialeschki, Morgan, and Browne (2013), the validity and reliability of the ACA-YOB-PP was confirmed.

Research Design

The implementation of this program is key to how well the campers and their parents yielded associated outcomes. The dynamic interdisciplinary team of Lions Club advocates and medical and recreation professionals all worked strategically to plan, design and implement

Outcome-Focused Programming for the three-day camping weekend. Each year the researchers share with the parents, the findings from the previous studies through handouts and discussion. This provides the parents with an opportunity to further understand how they can adapt their practices and choices as it relates to their child's medical regimen. The posttest Resiliency and Attitude Skills Profile-Modified Parent Version (RASP-M: PV) (Appendix F) was administered at the end of the three-day 2017 FDC with the American Camp Association's (ACA) Youth Outcomes Battery (YOB): Parent Perceptions (PP) (ACA-YOB-PP) Scale.

Participation in this research was optional. The RASP-M: PV was administered three times during this research (pretest, posttest, 4-week follow-up). The RASP-M: PV Questionnaire was a modified instrument used to assess resilience. The follow-up RASP-M: PV survey was also distributed to the parents online, four weeks post camp to further understand the impact of long-term effects of FDC on the parent perception of the campers with T1DM, through the parent perception scale. The RASP-M, designed with Likert-type questions, has produced measures of internal consistency with a Cronbach's Alpha of .84.

Data Analysis

Data analysis was executed through descriptive statistics, independent *t-tests* and reliability analysis using Cronbach's α . The American Camp Association's (ACA) Youth Outcomes Battery (YOB): Parent Perceptions (PP) (ACA-YOB-PP) Scale is a pre-formulated algorithm developed by the ACA. All analyses were run in the IBM Statistical Package for Social Sciences (SPSS) 25.0 and Excel. To determine statistical significance, the researchers used a *p*-value of .05 in all conducted analyses.

Results

Descriptive Statistics

In analyzing the data, the researchers used frequency distributions and descriptive statistics to document the participants' characteristics. The data yielded an 86% response rate, including one grandmother and one aunt, while the rest of the participants were either the mother or father of a camper with T1DM.

Parents' Perception on Child's Outcome Achievements (Resilience)

The first research question was developed to measure the impact of camp experience on camper's perception of resiliency (e. g., creativity) using the Resiliency and Attitudes Scales Profile-Modified Parent Version (RASP-M: PV). This research produced a Cronbach's Alpha of 0.93 after the intervention for internal consistency in measuring the construct of resilience. Paired samples *t*-tests were used to compare participants' (parents') mean scores from pretest to posttest on this measure (Table 4). Results indicated an increase, but no significant difference between FDC parents' perceptions of campers' pretest ($M=4.85$, $SD= .49$) and posttest scores ($M=4.92$, $SD= .53$), with $t(43) = -.07$, $p= .220$). The researchers conclude that there was no statistically significant difference between the parents' perception of camper's scores after FDC concluded. Although the scores did not yield statistically significant results, the researchers acknowledge the positive shift in scores from baseline to posttest. Wilcoxon *t* tests were used to analyze pre- and post- scores on resilience. The results indicated a positive increase in parents' perceptions of their child's resilience ($Z= -0.565$, $p= 0.57$).

Table 4

Paired Samples Test

Group	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Pretest Resiliency Posttest Resiliency	-.076	.405	.061	-.199	.047	-1.24	42	.220

Note. Source: 2017 CTS Data; SPSS Version 25. Copyright 2019 by Old Dominion

There were differences in the number of participants who took the pretest and posttest because some of the participants who declined to participate at the beginning of the camp session chose to participate at the end of the camp session.

Parents' Perceptions of Children's Outcomes

The second research question was developed to examine the impact of the camp experience on children's outcomes based on the perception of the parents in five subscales. The five identified outcomes were measured through the American Camp Association's (ACA) Youth Outcomes Battery (YOB): Parent Perceptions (ACA-YOB-PP) Survey. The ACA has established a questionnaire using an algorithmic format that is practitioner friendly and easy to administer to measure outcomes growth based on parent perception (ACA, 2014). The mean value of each subscale yielded mid- to moderately high values in the five domains. The parents' perception of their children's five outcomes, i.e., Friendship Skills (FS), Camp Connectedness (CC), Perceived Competence (COMP), Responsibility (RESP), and Independence (IND) revealed the highest average of growth on the Independence (IND) Subscale, with an average

score of 4.01. The resulting averages for the rest of the subscales were as follows: 3.66 (CC), 3.52 (FS), 3.23 (RESP), and 3.16 (COMP). Parent observations identified 74% of campers who had an average of 3.4 (out of 5) or lower regarding ACA identified outcomes, based on the impact of camp. Parent observations identified 10.61% of campers who had an average of 4.5 (out of 5) or higher regarding ACA identified outcomes, based on the impact of camp. Achieving the highest score (5 out of 5), indicated the participant fully grasped the identified outcomes.

Qualitative Analysis: Parents' Perceptions of Children's Outcomes

Qualitative data were obtained through a 4-week follow-up survey that was completed by 11 parents who had participated in the three-day Family Diabetes Camp (FDC). The parents were asked a total of eleven open-ended questions regarding their experiences at FDC. A content analysis was conducted through structured coding of the follow-up survey, which yielded three themes (See Table 5). Three themes emerged through the examination of open-ended responses (Appendix F) to answer the third research question. This qualitative analysis presented key themes pertaining to the overall interpretations of the participants. A limited amount of prior research in this area currently exists, so a thematic analysis was chosen to analyze the data. The themes included commonality, making new friends, and lack of control as outcomes for the campers who participated in FDC. These themes were salient across the parents' final reflection.

Table 5

Categories	<i>Occurrences</i>
1. Commonality	9
2. Making New Friends	4

3. Lack of Control 8

Note. Source: 2017 CTS Data; SPSS Version 25. Copyright 2019 by Old Dominion

Commonality

The theme of commonality or a sense of belonging prevailed as the parents showcased the importance of participating in FDC. One parent noted, “We think it is important to be around others dealing with the same disease to help each other out.” The normalcy aspect of camping with others who have the same illness and the bonding opportunities provided are the driving forces for participation in medical specialty camps (Cushner-Weinstein, Berl, Salpekar, Johnson, Pearl, Conry, Kolodgie, Scully, Gaillard, & Weinstein, 2007). Children with T1DM rarely have an opportunity to bond, engage, or share experiences with their peers who are also suffering with T1DM. Youth with T1DM are generally surrounded by children who do not have T1DM. Unfortunately, too often students and teachers lack awareness of diabetes which generally results in more isolation or hardships as youth fear being left out or treated differently. Children with T1DM often must leave class to address medical needs that further enhance isolation or “feeling different.” Another parent responded about the importance of commonality that this experience provides, “Another chance for my son to be himself instead of worrying what people think and a good learning experience for us both.”

Making New Friends

Commonality in making new friends and attaining a sense of belonging is a common theme present in camp research (Bialeschki, Henderson & James, 2007; Clary & Ferrari, 2015; Garst, Browne, & Bialeschki, 2011). Significantly, Easterbrooks et al. found that resilience is

encouraged when youth can model and showcase positive coping tactics using shared experiences (2013). This theme further provides evidence of the benefit of providing medical specialty camps to provide a sense of commonality and bonding experiences. A parent wrote, “Friendships made with other campers and mommy ladies over the years. They’ve been a Godsend to us! We would have never met if we hadn’t gone to camp!” The ability to make new friends is essential in the life of a child, especially one living with a chronic illness. When the parents were asked what led their family to FDC, one parent responded, “We think it is important to be around others dealing with the same disease to help each other out.” This theme further provides evidence of the benefit of attending a medical specialty camp while incorporating the family into the experience.

Lack of Control

Lack of control was the final theme that emerged. It seemed to represent the frustration that parents experience. Interestingly, inadequate diabetes management support may be a result of this issue, as is well documented in previous studies (Jacquez, Stout, Alvarez-Salvat, Fernandez, Villa, Sanchez, Eidson, Nemery & Delamater, 2008; Smaldone & Ritholz, 2012; Streisand, Mackey, Elliot, Mednick, Slaughter, Turek & Austin, 2008). Some responses from the parents included “my son seeking food without telling us,” “site management and negotiation with my child,” and “just getting her to see the long-term effect of not managing it well.” Many of the issues surrounding improper management focused on the children’s lack of commitment to adhering to their medical regimen. Future research should focus on understanding children’s perceptions of proper management and maintaining a healthy regimen. Increased knowledge

about proper diabetes management will not cure diabetes, but it can encourage children to make informed choices. In these analyses, the feedback reflects deeper content considerations and representation, as it is difficult to obtain these concepts/perceptions through quantitative analyses. These statements and results above should encourage future research to further examine parents' perceptions and involvement in the medical specialty camp experience.

Discussion

Parents play a vital role in the lives of youth, especially those who are living with a chronic illness. The purpose of this study was to understand the impacts of parental involvement in Family Diabetes Camp (FDC), in relation to support and involvement in their child's medical regimen and resilient behavior. Research Question One was developed to explore camper resilience from participation in FDC based on the parents' perspective. Parent perceptions of camper gains in resilient behaviors before and after the intervention were meaningful as they increased in a short amount of time. The researchers found that the parents did perceive increases in resilience for their campers. This finding can be compared to positive changes attained and perceived in previous studies from participation in various camp settings (Clary & Ferrari, 2015; Chandra, Martin, Hawkins & Richardson, 2010; Henderson, Whitaker, Bialeschki, Scanlin & Thurber, 2007).

Research Question Two was developed to explore the impact of FDC on the campers' five outcomes, based on the parents' perspective. The mean value of Independence (IND) yielded the highest average of growth, with an average score of 4.01 out of 5. This score reveals that of all the subscales, the campers demonstrated their highest growth in independence. This

finding is notable as the camp focuses on teamwork rather than independence; however, many activities do encourage campers to be confident and to engage in a supportive environment with peers who also have T1DM. The mean value of Perceived Competence (COMP) yielded the lowest average of growth, with an average score of 3.16. The campers' perceived competence may have yielded the lowest scores because the campers may not have understood their level of growth in competence within the short duration of camp. Parent observations identified 25.76% of campers who had an average of 3.5 (out of 5) or higher regarding identified outcomes. Parent observations identified 10.61% of campers who had an average of 4.5 (out of 5) or higher regarding ACA identified outcomes. These results for the parents' perceptions of the campers regarding the five outcomes, i.e., Friendship Skills (FS), Camp Connectedness (CC), Perceived Competence (COMP), Responsibility (RESP), and Independence (IND), allowed the researchers to explore the relationship between camper and parent perceptions.

Research Question Three was developed to explore the most important outcomes for parents who participated in FDC. Parents' perceived competence of their child's outcomes was evaluated to identify changes demonstrated by the campers. By allowing the parents and families to attend with the campers, further opportunities for successful management, support, and increased engagement were encouraged. Parents' involvement in camp was meaningful as they encouraged camper participation and assisted the campers in monitoring their blood sugar levels. Additionally, the researchers believe that the parent sessions, which included educational aspects related to T1DM, healthy living, and resilience; provided support and encouragement.

Quantitative data from this study also specified growth in knowledge gained about site rotation,

self-injection, carb counting, and the impact of exercise on diabetes care. Additionally, parent and staff involvement further assisted campers in counting carbs independently during mealtimes, which is an essential part of training and implementation in diabetes camps (Nabors et al., 2014; Ramsing & Sibthorp, 2008; Sullivan-Bolyai, Crawford, Johnson, Huston & Lee, 2012).

The ACA-YOB-PP Scale highlighted parent perspectives to recognize and compare perspectives among campers, parents, and staff. The parent perspectives allowed the researchers to analyze the impact of FDC on the campers based on observations made throughout the camping experience. This type of observation not only highlighted outcomes that the researchers addressed throughout the study, it also allowed for personal reflection, through the parents' perspective, of the experiences they observed throughout FDC. The results of the ACA-YOB-PP scale (Appendix D) did not yield significant changes or growth. This result may have occurred because the parents may not have easily observed gains immediately upon the completion of camp due to the short duration of the intervention and their strong familiarity with their child's usual behavior.

The positive experiences that resulted from participation in FDC helped the researchers to understand the impact of medical specialty camps through the perception of the parent. The parents' insight can help to further explore the impacts associated with families as they engage, interact, and assist in the developmental process that campers are involved in. Their insight encourages further exploration of the impacts associated with the use of a collaborative team that includes a medical team, camp counselors, staff, and parents. One unique intervention of FDC

that emerged and provided opportunities for parents to talk, engage, and obtain support was through the parent sessions, which provided a supportive environment for parents to talk openly with other parents about their child's journey while having diabetes and recreational professionals in the room. The endocrinologists, diabetes educators, nurses, and recreational professionals were able to answer all questions that the parents had. Parents described these sessions as a safe environment to build support, knowledge, and rapport that they did not often get a chance to engage among families experiencing similar issues, challenges, and milestones.

The researchers highlighted the influences resulting from FDC participation in terms of the impact of the camping experience on families and youth with T1DM. Through the implementation of a medical specialty camp, campers, with the support and encouragement of their parents and siblings, further expanded their knowledge and skills through the actual practice of diabetes management (e.g., self-injection, exercise, proper diet, and glucose monitoring). Adolescents with chronic diseases often display poor efforts in independent control of medical regimen and management as these children are working to better understand the debilitating illness. Every decision they make, whether it is related to food, sleep, or physical activity, influences their medical care. Those three perspectives are difficult for any child to control, especially when they are facing adversity that arises with a chronic illness like diabetes (Gonzalez et al., 2016; Náfrádi, 2017). The difference between having a chronic disease and the disease "having the child/teenager" has profound mental and physical impact throughout their entire life (Compas, Jaser, Dunn & Rodriguez, 2012; Golics, Basra, Salek & Finlay, 2013).

Limitations and Future Directions

There are several limitations of this study that must be considered when interpreting the results. First, to provide a medical specialty camp that included entire families, Family Diabetes Camp (FDC) was held only for approximately 36 hours, from Friday afternoon until Sunday morning. Also, the first measures of the study were taken at intake into the camp setting and are baseline scores, relying entirely on self-report. A more accurate baseline, taken prior to camp, would have been ideal. The environment in which the youth, counselors, and parents completed the questionnaire was not controlled. Many children and parents were not naïve to FDC, which may have influenced their outcomes and perceptions of the experience. Additionally, the camp environment was not controlled for during the administration and delivery of the questionnaires. The delivery technique of each facilitator varied, and the amount of time the parents spent completing each questionnaire varied. The campers' ability to understand questionnaire questions and directions was not controlled. Finally, the participants were not randomly selected.

Low response rates from the parents in the one-month follow-up questionnaire did limit the generalizability of these findings. The sample size of the parents who completed the online, follow-up questionnaire was only 11 respondents. This small sample may have occurred as some parents may have felt that no changes had occurred since the posttest and chose not to respond to the follow-up questionnaire. Empirical evidence of parent perception has been limited, resulting in inadequate access and knowledge on parent involvement in family diabetes camps. Parental involvement and participation in the development and education of children is important (Đurišić & Bunijevac, 2017). Past studies have demonstrated the benefits that youth attain in medical

specialty camps as they receive additional support not generally provided in camps with youth living without a chronic condition (Conrad & Altmaier, 2009; Gillard & Watts, 2013; Hill et al., 2015a; Holbein, Murraray, Psihogoios, Wasserman, Essner, O'Hara, & Holmbeck, 2013; McAuliffe-Fogarty et al., 2007; Roberson, 2010).

More research should be conducted on the psychosocial impact surrounding youth's ability to overcome both the internal and external adversities that threaten a child's ability to successfully sustain healthy management of T1DM. Adherence rates for youth are typically poor and as evidenced in a recent meta-analysis, adolescents have significantly more mental, social, and academic problems than their healthy peers (Pinquart & Shen, 2011). Previous studies have focused on youth outcomes grounded in self-determination theory in diabetes camps (Hill & Sibthorp, 2006; Hilliard, Hagger, Hendrieckx, Anderson, Trawley, Jack, Pouwer, Skinner & Speight, 2017; Husted, Thorsteinsson, Esbensen, Gluud, Winkel, Hommel, & Zoffmann, 2014; Ryan & Deci, 2000; Taylor et al., 2012), while few studies have examined the impact of parental involvement and youth resilience in family diabetes camps (Hilliard et al., 2017 & Winsett, Stender, Gower, & Burghen, 2010). Empirical evidence supports the ability for family camps to improve children's lives through the production of positive outcomes (Thurber, Scanlin, Scheuler, & Henderson, 2007). Some youth in this study were already very active and engaged to help combat the physical, social, and psychological issues that arise when dealing with a chronic disease, while others were not. To provide the best systems of support, whether financial, social, or academic; further research should be conducted to identify what best fits the needs of youth with T1DM. Future researchers should also separate repeat parents from naïve parents to remove

bias associated with attending the camp during previous years.

The power of camp is boundless. Perfect & Jaramillo (2012) found a correlation between “the evaluation of positive attributes of adolescents, particularly the self-mastery component of resilience, and consideration to adolescents’ perceptions of how diabetes affects their lives” (p. 30). Diabetes camps are an effective medium for peer support, whereby campers are encouraged to share experiences, develop self-management skills, and participate in realistic practices of exercise, glucose monitoring, diet, and injection control (Ramsing & Sibthorp, 2008). Medical specialty camps (e. g., diabetes camps) and family diabetes camps can implement a variety of services and programming activities to address and examine challenges faced by youth living with T1DM, a chronic illness that is the second most common disease facing youth today (Hill, Reifschneider, Ramsing, Turnage & Goff, 2019).

Conclusion

The findings in this study indicate that parental involvement encompasses a multifaceted connection to a child’s ability to manage life that is adversely affected by a chronic illness. The “gradual transition” and shift to self-care from the parent is essential as the child’s contribution in “decision making regarding the insulin regimen that best suits their daily schedules, meal plans, exercise, and sleep habits is potentially beneficial” (Chowdhury, 2015, p. 53).

Collectively, this study analyzed the impact of parent perceptions and the implications of diabetes management through the attainment of resilience in a medical specialty camp. Family camps continue to foster growth and improve children’s lives and may effectively assist in the management of diabetes (Garst et al., 2013, Hill et al., 2015a; Hill et al., 2016a). The

mismanagement of T1DM stems from various issues that tend to occur from the point of diagnosis. These issues include improper education of the child who has been diagnosed (Hopkins, Lawrence, Mansell, Thompson, Amiel, Campbell & Heller, 2012), improper adherence to the medical regimen, lack of physical activity, and lack of involvement from the child due to the parents' control over maintenance of the disease.

According to Wigert & Wikström (2014), to support collaboration and good management, an organized team approach should be implemented to allow children and parents to work in alliance to improve diabetes management. Future longitudinal research is needed to analyze and compare both the parent and child perceptions to explore the differences in perceptions regarding what campers learn at camp and what they need to learn and understand through the camping experience. For professionals to more effectively understand how youth manage their diabetes, they must identify ways in which youth master the concept and the use of parents in the treatment process. This may provide a more conclusive understanding of how youth successfully manage living with a chronic, progressive disease such as T1DM.

Implications for Practice

Medical specialty camps incorporate a unique environment, resources, and support that provide opportunities to foster potentially positive effects on youth with T1DM. This research, while limited by size and scope, revealed positive associations between parent involvement and reports of growth in skill development as defined by scores on the ACA-YOB-PP Scale. In investigating the impacts of parental involvement in FDC, relating to support and involvement in their child's medical regimen, this research adds to the need for family-centered care. It also

suggests that more research needs to focus on the collaboration and multidimensional effects of various disciplines collaborating in a medical specialty camp. The growing literature on the impact of medical specialty camps focused on resilience and skill development will be advanced through such research. More studies can obtain the perceptions of staff and parents as they engage, interact, and assist during the developmental process while campers address challenges, participate in recreational experiences, and navigate the outdoors during camp.

Youth with a T1DM diagnosis live in a new normal that will invariably impact everything they do. Therefore, this study showcases the impact of a family diabetes camp through its ability to positively impact participants' resilience and positive youth outcomes. Professionals must design environments that assist youth in developing skills necessary to successfully navigate and manage adversity and the challenges that arise from living with a chronic illness. The opportunity to gain knowledge and skills with accessible medical staff can help youth to better understand and relate their diagnosis to the lifestyle they have grown to know (Hill, Goff, Milliken & Turnage, 2015c). To assess changes in children's behaviors and outcomes in connection with their diabetes management, before and after camp, future longitudinal studies are needed. This opportunity for evaluation can provide a deeper explanation for the collaboration of the medical team, the counselors, the staff, and the parents during the camping experience.

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APPENDIX A

Informed Consent Form



IRB# 664282-V4- March 2017

March 2017

Dear Parents,

We are conducting a study involving the impact of family and day camp on your child's motivation to manage his or her diabetes. To conduct this study we need the participation of youth that are involved with diabetes camp for the summer of 2017. The attached "Consent/Permission for Child's Participation" form describes the study and asks your permission for you and your child to participate.

Please carefully read the attached "Consent/Permission for Child's Participation" form. It provides important information for you and your child. If you have any questions pertaining to the attached form or to the research study, please feel free to contact Dr. Eddie Hill at the number below.

After reviewing the attached information, please return a signed copy (**at camp**) or with your application of the "Consent/ Permission for Child's Participation" form to Dr. Eddie Hill or your child's camp counselor if you (and your child) are willing to participate in the study. Additional copies of the form for your records will be available at camp. Even when you give consent, your child will be able to participate only if he/she is willing to do so.

We thank you in advance for taking the time to consider you and your child's participation in this study.

Sincerely,

Eddie Hill

Dr. Eddie Hill, CPRP
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Old Dominion University
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IRB# 664282-V4- March 2017

CONSENT/PERMISSION FOR CHILD'S PARTICIPATION DOCUMENT

The purposes of this form are to provide information that may affect decisions regarding you and your child's participation and to record the consent of those who are willing to participate in this study.

TITLE OF RESEARCH: Motivation for Diabetes Management in a Recreation Setting:
Examining the Impact of Family Camp

RESEARCHER: Dr. Eddie Hill (Responsible Project Investigator), Assistant
Professor, Old Dominion University
Takeyra Collins, Doctoral Student, Old Dominion University

DESCRIPTION OF RESEARCH STUDY: Diabetes camps have long been considered beneficial to participants. The camp experience also allowed youth to meet others who are coping with the similar daily struggles. Camp offers adolescents the opportunities to share common experiences, form meaningful friendships, and make decisions about behaviors that impact their diabetes. Through this study, we hope to determine the role that motivation plays in diabetes management at family residential and day camps.

If you decide to participate in this study, you will be asked to complete a 5-10 minute survey twice and your child three times. Parents will be asked to complete this survey once while at camp and once by mail/on-line. Approximately 100 campers will be asked to complete this survey twice while at camp and once by mail/on-line. Your and your child's participation will take approximately 20 minutes of your time.

EXCLUSIONARY CRITERIA: In order for your child to participate in this study, your child must be diagnosed with diabetes and participated in diabetes camp during 2017.

RISKS: There could be a risk of loss of confidentiality and distress in responding to the surveys as items are brought up for consideration. There will be camp counselors available to address any distress or concerns that the participants may express.

BENEFITS: There are no direct benefits to your child for participating in this study. However, the main benefit to you is that you will receive a summary of results about how camp impacts motivation of diabetes management.

COSTS AND PAYMENTS: The researcher are unable to give you or your child any payment for participating in this study.

NEW INFORMATION: You will be contacted if new information is discovered that would reasonably change your decision about your or your child's participation in this study.

CONFIDENTIALITY: Participants will be assigned a code number so that your child's name will not be attached to his or her responses. Only researcher involved in the study or in a professional review of the study will have access to data sheets. All data and participant information will be kept in a locked and secure location.

WITHDRAWAL PRIVILEGE: Your and your child's participation in this study is completely voluntary. It is all right to refuse your and your child's participation. Even if you agree now, you and your child may withdraw from the study at any time, but still, remain at camp. In addition, your child may withdraw at any time if he or she so chooses.

COMPENSATION FOR ILLNESS AND INJURY: Agreeing to your and your child's participation does not waive any of your legal rights. However, in the event of harm arising from this study, neither Old Dominion University nor the researcher are able to give you any money, insurance coverage, free medical care, or any other compensation. In the event that your child suffers harm as a result of participation in this research project, you may contact Dr. Eddie Hill at (757) 683-4881 or Dr. Tancy Vandecar-Burdin, Chair of the Institutional Review Board at (757) 683-3802.

VOLUNTARY CONSENT: By signing this form, you are saying 1) that you have read this form or have had it read to you, and 2) that you are satisfied you understand this form, the research study, and its risks and benefits. The researcher will be happy to answer any questions you have about the research. If you have any questions, please feel free to contact Dr. Eddie Hill at (757) 683-4881 or Dr. Tancy Vandecar-Burdin, at (757) 683-3802.

If at any time you [or your child] feel pressured to participate, or if you have any questions about your rights or this form, please call the Old Dominion University Office of Research (757-683-3460).

Note: By signing below, you are telling the researcher YES, that you [and will allow your child] to participate in this study. Please keep one copy of this form for your records.

Your child's name (please print): _____

Your name (please print): _____

Relationship to child (please check one): Parent: _____ **Legal Guardian:** _____

Your Signature: _____

Date: _____

INVESTIGATOR'S STATEMENT: I certify that this form includes all information concerning the study relevant to the protection of the rights of the participants, including the nature and purpose of this research, benefits, risks, costs, and any experimental procedures. I have described the rights and protections afforded to human research participants and have done nothing to pressure, coerce, or falsely entice the parent to allowing this child to participate. I am available to answer the parent's questions and have encouraged him/her to ask additional questions at any time during the course of the study.

Investigator's Signature: _____ **Date:** _____

APPENDIX B

RASP-M Parent Version (Pre-test)



Lions Clubs
International



The following items relate to your opinions of your child and his/her personal characteristics. Please read each statement and indicate the extent to which you agree or disagree with each one. **There are no right or wrong answers, so please be as honest as possible!**

MY CHILD...	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1. My child tries harder the next time after his/her work is criticized.	1	2	3	4	5	6
2. My child can deal with whatever comes in the future.	1	2	3	4	5	6
3. My child doesn't let anything stop him/her from reaching a goal once he/she sets it for himself/herself.	1	2	3	4	5	6
4. My child is prepared to deal with the consequences of his/her actions.	1	2	3	4	5	6
5. My child has friends who know they can count on him/her.	1	2	3	4	5	6
6. My child can change his/her surroundings.	1	2	3	4	5	6
7. My child is comfortable making his/her own decisions.	1	2	3	4	5	6
8. My child can sense when someone is not telling the truth.	1	2	3	4	5	6
9. My child comes up with new ways to handle difficult situations.	1	2	3	4	5	6
10. My child can come up with different ways to let out his/her feelings.	1	2	3	4	5	6
11. My child looks for the "lighter side" of tough situations.	1	2	3	4	5	6
12. My child controls his/her own life.	1	2	3	4	5	6
13. My child can tell what mood someone is in just by looking at him/her.	1	2	3	4	5	6
14. My child tries to help others.	1	2	3	4	5	6

15. My child stands up for what he/she believes is right.	1	2	3	4	5	6
16. My child tries to figure out things that he/she doesn't understand.	1	2	3	4	5	6
17. My child is good at keeping friendships going.	1	2	3	4	5	6
18. My child has friends who will back him/her up.	1	2	3	4	5	6
19. My child uses laughter to help him/her deal with stress.	1	2	3	4	5	6
20. My child can be himself/herself around his/her friends.	1	2	3	4	5	6
21. My child can cheer himself/herself up when in a bad mood.	1	2	3	4	5	6
22. My child doesn't give up when something bad happens to him/her.	1	2	3	4	5	6
23. My child shares his/her ideas and opinions even when they are different from other people's.	1	2	3	4	5	6
24. My child makes friends easily.	1	2	3	4	5	6

I am _____ male _____ female _____ transgender

I am _____ years old

Parent/Guardian: _____ Mom _____ Dad Other: _____

My Race/Ethnicity is:

_____ African American or Black

_____ Caucasian or White (non-Hispanic)

_____ American Indian

_____ Latino/a or Hispanic

_____ Asian

_____ Other (please describe) _____

My child has _____ type 1 diabetes _____ type 2 diabetes

My child also has _____ None of the following _____ Celiac disease _____ Thyroid disease

_____ Addison's disease

Your child's last known HbA_{1c} _____

How many **years** has your child had diabetes?

_____ < 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7 or more

Your child's Cabin Name: _____

Your cabin Name: _____

The last **four digits** of my cell number (used for coding) is: _____

How many years has your child been coming to the Lions Diabetes Camp at Triple R Ranch?

_____ 1 (this is their first year) _____ 2 _____ 3 _____ 4 _____ 5 _____ > 5

Have you joined them at camp each year? Yes No If no, who joined them previously?

Are you joined by other family members for Family Diabetes Camp this year? Yes _____ No _____

If yes, please list who joined you and identify their role in your family. _____

How **many** camps has your child attended in the past? None (# of) Non-medical (# of) Diabetes Camps

Thank you for completing this survey!

APPENDIX C

ACA Youth Outcomes Battery: Parent Perceptions

Camper Name: _____ Approx. Age: _____ Male or Female
(circle one)

Please read each statement carefully and decide which description is most accurate for the camper during the most recent camp session. Circle the response that most accurately describes this camper during the most recent camp session.

My Child:	How much, if any, has this session at camp changed your child? Please circle the most correct response.					
FS						
1. Makes friends	False	Somewhat False	A little False	A little True	Somewh at True	True
2. Listens to other kids	False	Somewhat False	A little False	A little True	Somewh at True	True
3. Empathizes with friends	False	Somewhat False	A little False	A little True	Somewh at True	True
4. Helps friends to have fun	False	Somewhat False	A little False	A little True	Somewh at True	True
CC						
5. Gets along with camp staff	False	Somewhat False	A little False	A little True	Somewh at True	True
6. Enjoys camp	False	Somewhat False	A little False	A little True	Somewh at True	True
7. Makes meaningful decisions at camp	False	Somewhat False	A little False	A little True	Somewh at True	True
8. Is respected by the other kids at camp	False	Somewhat False	A little False	A little True	Somewh at True	True
9. Is included by others at camp	False	Somewhat False	A little False	A little True	Somewh at True	True
COMP						
10. Is good at thinking of new things to do in free time	False	Somewhat False	A little False	A little True	Somewh at True	True
11. Is good at understanding new information	False	Somewhat False	A little False	A little True	Somewh at True	True
12. Is good at learning new things	False	Somewhat False	A little False	A little True	Somewh at True	True

RESP						
13. Takes responsibility for actions	False	Somewhat False	A little False	A little True	Somewhat True	True
14. Makes things right after a mistake	False	Somewhat False	A little False	A little True	Somewhat True	True
15. Apologizes when appropriate	False	Somewhat False	A little False	A little True	Somewhat True	True
IND						
16. Can figure things out without adult assistance	False	Somewhat False	A little False	A little True	Somewhat True	True
17. Takes care of self	False	Somewhat False	A little False	A little True	Somewhat True	True
18. Is good at making decisions without adult support	False	Somewhat False	A little False	A little True	Somewhat True	True

PARENT/GUARDIAN

Please Complete the Following: _____ Mom _____ Dad Other: _____

Do you plan to come back to camp next year? Yes _____ No _____ Not Sure _____

What was your child's favorite activity this weekend? _____

What was your child's least favorite activity this week? _____

On a scale of 1-10, (where 1= absolutely the worst and 10= absolutely the best), how much does your child enjoy camp?

1 2 3 4 5 6 7 8 9 10

My child's last known HbA1c _____

The Cabin Name my child was a part of is: _____

The last **four digits** of my phone number (used for coding) is: _____

What led you and your child/family to register for this year's diabetes camp? _____

What did you find to be the most valuable/beneficial (if any) at camp and why? _____

What challenges, if any, do you and your child/family face with regards to diabetes management? _____

Thank you for the completing the survey!
Please complete both sides

MY CHILD

Please Complete the Following:

My child is a _____ Boy/ _____ Girl, and they are _____ years old

My Child's Race/Ethnicity is:

_____ African American or Black _____ American Indian _____ Asian

_____ Latino/a or Hispanic _____ Caucasian or White (non-Hispanic)

_____ Other (please describe) _____

My Child has _____ type 1 diabetes _____ type 2 diabetes

My Child has had diabetes for this amount of time in their life _____

My Child's last known HbA1c _____

The Cabin Name my child is a part of is: _____

How many years have you been coming to the Lions Diabetes Camp at r?

_____ 1 (This is my first year) _____ 2 _____ 3 _____ 4 _____ 5

PARENT

Parent/Guardian: _____ Mom _____ Dad Other: _____

My Race/Ethnicity is:

_____ African American or Black _____ American Indian _____ Asian
_____ Latino/a or Hispanic _____ Caucasian or White (non-Hispanic)
_____ Other (please describe) _____

The last **four digits** of my phone number (used for coding) is: _____

Thank you for the completing the survey!
Please complete both sides

APPENDIX D

RASP-M Parent Version (Post-test)



Lions Clubs
International



The following items relate to your opinions of your child and his/her personal characteristics. Please read each statement and indicate, by circling a number, the extent to which you agree or disagree with each one. **There are no right or wrong answers, so please be as honest as possible!**

MY CHILD...	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1. My child tries harder the next time after his/her work is criticized.	1	2	3	4	5	6
2. My child can deal with whatever comes in the future.	1	2	3	4	5	6
3. My child doesn't let anything stop him/her from reaching a goal once he/she sets it for himself/herself.	1	2	3	4	5	6
4. My child is prepared to deal with the consequences of his/her actions.	1	2	3	4	5	6
5. My child has friends who know they can count on him/her.	1	2	3	4	5	6
6. My child can change his/her surroundings.	1	2	3	4	5	6
7. My child is comfortable making his/her own decisions.	1	2	3	4	5	6
8. My child can sense when someone is not telling the truth.	1	2	3	4	5	6
9. My child comes up with new ways to handle difficult situations.	1	2	3	4	5	6
10. My child can come up with different ways to let out his/her feelings.	1	2	3	4	5	6

11. My child looks for the "lighter side" of tough situations.	1	2	3	4	5	6
12. My child controls his/her own life.	1	2	3	4	5	6
13. My child can tell what mood someone is in just by looking at him/her.	1	2	3	4	5	6
14. My child tries to help others.	1	2	3	4	5	6
15. My child stands up for what he/she believes is right.	1	2	3	4	5	6
16. My child tries to figure out things that he/she doesn't understand.	1	2	3	4	5	6
17. My child is good at keeping friendships going.	1	2	3	4	5	6
18. My child has friends who will back him/her up.	1	2	3	4	5	6
19. My child uses laughter to help him/her deal with stress.	1	2	3	4	5	6
20. My child can be himself/herself around his/her friends.	1	2	3	4	5	6
21. My child can cheer himself/herself up when in a bad mood.	1	2	3	4	5	6
22. My child doesn't give up when something bad happens to him/her.	1	2	3	4	5	6
23. My child shares his/her ideas and opinions even when they are different from other people's.	1	2	3	4	5	6
24. My child makes friends easily.	1	2	3	4	5	6

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PARENT

Parent/Guardian: _____ Mom _____ Dad Other: _____

Do you plan to come back to camp next year? Yes _____ No _____ Not Sure _____

Were you and your child joined by other family members for Family Diabetes Camp? Yes _____ No _____

If yes, please list who joined you and identify their role in your family.

What was your favorite activity this week? _____

What was your child's favorite activity this week? _____

What was your least favorite activity this week? _____

What was your child's least favorite activity this week? _____

On a scale of 1-10 (where 1 = absolutely the worst and 10= absolutely the best), how much did you enjoy camp? 1 2 3 4 5 6 7 8 9 10

My child's last known HbA_{1c} _____

The Cabin Name my child was a part of: _____

The last four digits of my phone number (used for coding) is: _____

What led you and your child/family to register for this year's diabetes camp?

What did you find to be the most valuable/beneficial (if any) at camp and why?

What challenges, if any, do you and your child/family face with regards to diabetes management?

I am _____ male _____ female _____ transgender

I am _____ years old

Parent/Guardian: _____ Mom _____ Dad Other: _____

My Race/Ethnicity is:

_____ African American or Black

_____ American Indian

_____ Asian

_____ Caucasian or White (non-Hispanic)

_____ Latino/a or Hispanic

_____ Other (please describe) _____

My child has _____ type 1 diabetes _____ type 2 diabetes

Your child's last known HbA_{1c} _____

How many **years** has your child had diabetes?

_____ < 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7 or more

Your child's Cabin Name: _____

The last **four digits** of my cell number (used for coding) is: _____

How many years have you been coming to the Lions Diabetes Camp at Triple R Ranch?

_____ 1 (this is my first year) _____ 2 _____ 3 _____ 4 _____ 5
_____ > 5

How many camps have your child attended in the past? _____ Non-medial _____ Diabetes
Camps

Since attending camp, what new information or abilities related to diabetes care was attained by
your family or child? (Please check all that apply)

- _____ Self injection
- _____ Site rotation
- _____ Carb counting
- _____ Understanding the impact of exercise on Diabetes Care
- _____ Pump infusion site related

Thank you for completing this survey!

CHAPTER IV

THE CAMP COUNSELOR PERSPECTIVE: EXPLORING THE IMPACT OF SERVICE-LEARNING

Target Journal: *Journal of Park and Recreation Administration (Programs at Work)*

Abstract

Combining service-learning with intentional recreational programming provides an opportunity for recreational professionals and students to create evidenced-based approaches to support positive youth development. The researchers explored the value of incorporating college students' service-learning through a high-impact practice (HIP) experience [as student counselors], during camp. High-impact practices (HIPs) include various forms of experiential learning that enhance students' cumulative learning experiences (Association of American Colleges & Universities, 2018; Cobane & Jennings, 2017). Service-learning is a form of experiential learning where individuals have an opportunity to use the knowledge they have obtained in the classroom in an applied setting. A mixed-methods approach was used to measure the involvement of university students through service-learning evaluations. Findings supported the use of service-learning in a medical specialty camp. The student counselors' personal reflection identified meaningful themes on professional development, student counselor gains, student counselor challenges, and ways in which the medical specialty camp service-learning experience met their needs.

Keywords: High-Impact Practices (HIPs), service-learning, medical specialty camp, experiential learning, recreation.

Introduction

Over the past two decades, higher education institutions have provided value-added approaches to increase the attainment of outcomes associated with receiving a college education and getting a job (Beitman, Gahimer & Staples, 2015; Blum & Jarrat, 2013; Chen, 2012). Many institutions focus on providing opportunities for students to contribute to their communities through civic engagement or service-learning; and generally, list these opportunities as goals in the institution's mission statement (Campus Compact, 2016; Goff, 2016; Goff, Bower & Hill, 2014; Meacham, 2008). Enhancing student engagement and increasing student success seem to be the foundation for which High-Impact Practices (HIPs) stand. According to Flanagan and Levine (2010), "Colleges have become the central institution for civic incorporation" (p. 173). High-Impact Practices (HIPs) have been utilized in higher education to measure student success, as identified by Kuh (2008). Although the application of HIPs on campuses is incongruent, almost all campuses implement active learning practices to provide real-world application (Elliott & Balasubramanyam, 2016; Kuh, 2008, Wrenn & Wrenn, 2009).

Literature in recreation surrounding the use or efficacy of service-learning in higher education is limited and in the infancy stage of documenting the impact, correlation, and benefits in comparison to practical-learning related literature in other areas (Maynes, Hatt & Wideman, 2013; Coetzee, Bloemhoff & Naude, 2011; Zimmerman, Dupree & Hodges, 2014). In conducting this study, the researchers aimed to assess the impacts associated with undergraduate service-learning experiences in a volunteer medical specialty camp. Service-learning experiences that use an interdisciplinary team approach help to expand students' knowledge and connect

academic learning (Bowland, Hines-Martin, Edward & Haleem, 2015). Furthermore, service-learning experiences in a camp setting have been found to provide opportunities for student counselors to “interact with members of a treatment team in a nonclinical setting, while developing competency in working with youth with type 1 diabetes mellitus (T1DM)” (Hill, Gagnon, Ramsing, Goff, Kennedy, & Hooker, 2015, p. 317). Practitioners often focus on organizing, developing, and addressing programs related to health, behavior, education, and recreation to support and promote good health in youth. According to Fegan-Bohm, Weissberg-Benchell, DeSalvo, Gunn & Hilliard (2016), youth with diabetes can maximize psychosocial and medical benefits through participation in diabetes camp. Having student counselors participate in various aspects of care during the camp experience can increase patient care skills and “facilitate opportunities for the student counselors to build rapport through practice” (Hill et al., 2015, p. 317).

Literature Review

High-Impact Practices

High-Impact Practices (HIPs) have been a priority in research during the 21st century to better understand how structured learning environments target learning outcomes and personal development (Finley & McNair, 2013; Kuh, 2008; Swaner & Brownell, 2008; Wawrzynski & Baldwin, 2014; Winkelmes, Bernacki, Butler, Zochowski, Golanics & Weavil, 2016).

According to the Association of American Colleges and Universities (AAC&U), studies have revealed student persistence and academic performance as common outcomes associated with HIPs (Gipson & Mitchell, 2017; Hansen, & Schmidt, 2017; Kilgo, Sheets & Pascarella, 2015).

Researchers have also found that these common outcomes yield “positive effects in critical thinking, need for cognition, and intercultural effectiveness” (Mfume, 2019, p. 116). High-impact practices (HIPs) include a variety of experiences (e.g., service-learning, learning communities, internships, diversity/global learning) through which students can acquire skills and outcomes associated with experiential learning (Association of American Colleges & Universities, 2018).

Studies have found positive effects as a result of participation in HIPs (Ballew, 2017; Brownell & Swaner, 2009; Kuh, 2008). Transferable skills are those attainable skills that are obtained through practical experiences and shift into an advanced skill set of expertise that allow students to showcase their understanding and experience (Rizzo, Dewoolkar, & Hayden, 2013; Stolley, Collins, Clark, Hotaling & Takacs, 2017). The instructions and knowledge provided to students in an academic setting are applied when they use their knowledge, skills and experiences to add more depth to their level of expertise (Bohlander, 2010; Torney-Purta, Cabrera, Crotts Roohr Liu, & Rios, 2015). Service-learning not only provides learning in an actual real-world setting, it allows class content to be supported and strengthened when students are given direct exposure to real-world problems and issues (Goff, Bower & Hill, 2014; Science Education Resource Center, 2018).

Service-learning. Service-learning is the integrative approach in which students combine their academic study with community engagement to enrich learning through applied knowledge, reflection, and intention to meet the needs of the community (Scott & Graham, 2015). Service-learning is directly associated with experiential learning where students can reflect and apply

what they have learned to achieve desired outcomes (Blithe, 2016; Currie-Mueller & Littlefield, 2017; Gleason & Violette, 2012; Littlefield, Rick & Currie-Mueller, 2016; Warren 2012). The knowledge gained can then be implemented in a practical setting to facilitate experiential learning (Guilfoile & Delander, 2014; National Youth Leadership Council, 2013; Science Education Resource Center, 2018). For educators to evaluate the ways to which service-learning opportunities affect the attainment of various skills, they must effectively provide opportunities that are designed to challenge, enhance, and develop skills. Per Flecky (2011), the emergence of service-learning is built upon the idea that an active learner engages in experiences to support the foundation of learning. Learning outcomes and personal development skills of service-learning comprise various constructs (e.g., professional skills) (Experiential Learning, 2017; Goff, 2016).

The five constructs used in this study were operationalized using the following definitions: 1. Professional skills were those experiences that involved the ability to enhance leadership skills, manage time efficiently, and define personal strengths and weaknesses. 2. Communication skills were those experiences that involved the development of intercultural communication skills, enhancing oral communication skills in a real-world context, and increasing willingness to engage in dialogue with others. 3. Academic learning skills were those experiences that involved understanding how material covered in college courses could be useful in everyday life or in other situations. 4. Values clarification skills were those experiences that involved the ability to understand people of different ages, abilities, cultures, or economic backgrounds. 5. Citizenship skills were those experiences that involved better understanding of the community and becoming more knowledgeable about the issues that the community faces.

The specified learning outcomes and personal development skills have been studied previously to evaluate student service-learning. Matthews, Pearl & Wilder (2014) conducted research to examine the five constructs in the *Service-Learning Course Evaluation Survey* to ensure face validity (Matthews, Pearl & Wilder, 2014). The aforementioned research produced a Cronbach's alpha ranging from $\alpha=.78-.96$.

Methods

The researchers measured the aspects surrounding university students' involvement as camp counselors through their service-learning experience. Additionally, the researchers measured the student counselors' perception of camper gains during camp.

Setting

Family Diabetes Camp (FDC) was a volunteer-led, medical specialty camp for children with diabetes between the ages of 5 and 18 years. The camp was held during a three-day weekend in April 2017 and had been implemented on a 370-acre ranch in a rural area of Southeastern Virginia since 1990. The camp had various components that mirrored the design of a traditional camp (e.g., archery, rock climbing, canoeing, etc.) while focusing on proper diabetes self-management. Student counselors were recruited from two universities, one public and one private, in urban areas of Southeastern Virginia.

Participants

The counselors were student volunteers and support staff from the two local universities. Other staff members, who were not surveyed, included university faculty, physicians, diabetes educators, and Lions Club members. The student counselors' ages ranged from 18-21, with a

mean age of 19.7 years. Of the respondents, 21.4% were Black/African American and 69.2% were Caucasian. (See Table 1).

Table 1

FDC Demographic Characteristics of Student Counselors

Variable	Frequency	Percentage %
Gender		
Male	5	38.5
Female	8	61.5
Total	13	100
Race/Ethnicity		
Black/African American	3	21.4
Hispanic/Latino(a)	1	7.6
Caucasian (non-Hispanic)	9	69.2
Total	13	100

Note. Source: 2017 CTS Data; SPSS Version 25. Copyright 2019 by Old Dominion University.

The university students are referred to as student counselors throughout this research. Each student counselor engaged in service-learning as they implemented activities for their campers. For each group there were at least two trained student counselors. All of the student counselors had been involved in service-learning prior to their participation in FDC. Prior to the start of camp, each counselor was assigned to a camper group, with one other counselor, to supervise 4-8 youth, ages 5-18.

Procedures

Prior to camp, the student counselors were required to attend training about type 1 diabetes mellitus (T1DM). The training included a two-hour educational review of diabetes education to explain working among youth with T1DM in a camp setting, the three-day

weekend, and the recreational-based activities. Each student counselor also learned techniques, behavior management skills, and medical terminology associated with youth living with T1DM. The counselors facilitated many of the activities and slept in the same bunks with campers and their family members. Each of the groups was organized separately with only boys and only girls in a cabin group with an assigned corresponding male or female counselor. Once the student counselors arrived, they were immediately paired with their group of campers as they allowed them to unpack and choose their bunks. Once the campers were settled, the student counselors began to engage in programming as scheduled. Throughout the entire camp experience, the student counselors and staff accompanied the campers. The student counselors implemented recreational activities to provide opportunities for the campers to engage in experiential learning.

During camp, each of the campers was expected to monitor their blood sugar levels, engage in healthy eating, and participate in various recreational activities. The camp encouraged independence and self-management by facilitating opportunities for campers to practice giving their own insulin injections. Furthermore, recreational experiences were intended to provide opportunities for the campers to build confidence and be more independent in their own self-care. In conjunction with Kolb's Experiential Learning Theory, the researchers structured the service-learning experience for the student counselors to facilitate recreational experiences, monitor blood sugar levels, and initiate social experiences to enhance their application of knowledge and skills through experiential learning. This enhanced their opportunity to think, engage in the experience, reflect and connect theory to practice.

Measures

This study took a mixed methods approach and used directed content analysis to examine the responses and written reflections of the participants.

Service-Learning Course Survey. Research Question One was developed to measure the impact of service-learning on five constructs: professional skills, communication skills, academic learning, values clarification, and citizenship skills. The *Service-Learning Course Survey* was the basis for the assessment used in this study. To generate measurable outcomes related to service-learning, the researchers used a modified version of the *Service-Learning Course Survey-Modified (SLCS-M)* (Appendix A) developed by the University of Georgia Office of Service-Learning. The questionnaire was adapted to best fit the unique experience of a medical specialty camp not linked to a specific college course. The University of Georgia Office of Service-learning first developed, used and implemented this tool to assess service-learning outcomes in 2007 (Matthews, Pearl & Wilder, 2014). Service-learning professionals and higher education faculty members have examined and used the *Service-Learning Course Survey* in a variety of studies to ensure validity (Goff, 2016; Matthews, Pearl & Wilder, 2014). The *SLCS-M* was designed to meet the measurable outcomes associated with the implementation of Family Diabetes Camp (FDC). Service-learning professionals and university faculty in various fields have examined the survey to ensure face validity. Previous research conducted in the study by Goff (2016), presented “a Cronbach’s alpha ranging between $\alpha=.97-.98$ ” (p. 23), for each construct.

The *Service-Learning Course Survey-Modified (SLCS-M)* was completed online, through Qualtrics, one week following the conclusion of camp. The student counselors were instructed to

reflect upon their service-learning experience during FDC. The researchers explored the perceived impacts of service-learning on student counselors through a quantitative, non-experimental, comparative design. The *SLCS-M* (Appendix A) focused on service-learning outcomes through 60 items that were broken into two areas. The first area included 23 questions, with an additional 37-items (within three questions) that were tied to the five constructs (i.e., professional skills, communication skills, academic learning, values clarification, and citizenship skills). The 37 items tied to the five constructs, focused around service-learning, included a 5-point Likert-type scale with “1= Strongly Disagree, 2=Disagree, 3= Neither Agree or Disagree, 4= Agree, and 5=Strongly Agree.” Examples of those questions included: (1) “Helped me to develop a greater sense of my personal responsibility for my own learning”; (2) “Helped me to define my personal strengths and weaknesses”; (3) “Helped me to enhance my leadership skills”; (4) “Enhanced my oral communication skills in a real world context”; and (5) “Has made me more marketable in my chosen profession.” The second area included eleven questions focused around demographics. Quantitative data were cleaned, screened and entered in SPSS Version 25.

American Camp Association Youth Outcome Battery Staff Perception Scale

Research Question Two was developed to explore the outcomes commonly experienced during camp to explore student counselors’ perception of youth with T1DM in a medical specialty camp. The five identified outcomes were measured through the *American Camp Association’s (ACA) Youth Outcomes Battery (YOB): Staff Perceptions (ACA-YOB-SP) Scale*. Through student counselor perceptions, identified outcomes were measured. The student counselors’ perception of the campers’ five outcomes--Affinity for Exploration (AE), Camp Connectedness (CC),

Perceived Competence (COMP), Responsibility (RESP), and Independence (IND)--were explored. The ACA-YOB-SP Scale (Appendix B) had been used in previous studies to measure positive youth outcomes (Hill et al., 2014; Hill et al., 2016). The 18-item scale used a 5-point Likert-type scale from 1= "Decreased" to "5= Increased a lot" to answer the following question: "How much, if any, has this session at camp changed each of your campers? Please circle the most correct response" Examples of the questions used for each of the five outcomes were: (1) "Makes friends" (AE); (2) "Makes meaningful decisions at camp" (CC); (3) "Is good at learning new things" (COMP); (4) "Takes responsibility for actions" (RESP); and (5) "Is good at making decisions without adult support" (IND) (See Appendix B). As recommended by the ACA, data were entered and analyzed into the pre-formulated Excel. This scale was designed by the ACA to be practitioner friendly, producing a value to help camps determine outcomes of their programs. Excel was used to analyze the data through the YOB Excel sheet, as the ACA-YOB-SP was originally developed and measured to be analyzed using Microsoft Excel templates (ACA, 2011). Previous studies have used the instrument effectively to measure positive youth outcomes (Hill et al., 2014; Hill et al., 2016) and generate validity and reliability (Sibthorp & Bennett, 2014). The ACA-YOB-SP Scale in this study produced a Cronbach's alpha of $\alpha=.97$.

Qualitative. Research Question Three was developed to analyze the student counselors' reflections on their experience. The researchers used qualitative methods in this study to generate meaningful explanations of this service-learning experience. Student counselors completed self-reported questionnaires online (see Appendix A), one week following the conclusion of camp, which yielded five respondents. The researchers used twelve open-ended questions to measure

outcomes associated with a service-learning experience that had not been linked to a specific college course. An example of such an open-ended question was: “What did you acquire as a counselor during your service-learning experience at FDC?” Questionnaires were transcribed for data analysis. A thematic interpretation was generated from the content analysis that was conducted on the questionnaire.

A content analysis yielded four themes (See Table 5) that emerged through the examination of open-ended responses from the student counselors, as it pertained to their overall experience, which helped to answer the third research question. The themes included professional development, service-learning met student needs, student counselor gains, and student counselor challenges. These themes were salient across the student counselors’ final reflection. In qualitative research, “A directed content analysis is used to validate or extend, conceptually, a theoretical framework” (Hsieh & Shannon, 2005). In this study, the directed content analysis technique was implemented to substantiate, contest or supplement the conceptual framework of service-learning. First, the researchers identified key themes using coding categories. Once themes were discovered, the researchers used theory as a guide to develop operational definitions for each. Every occurrence of the operationally defined themes was recorded to illustrate the guiding theory of service-learning. In the questionnaire, a total of 12 open-ended questions were developed to analyze their service-learning experiences as student counselors in the medical specialty camp.

Results

Research findings provided an assessment of an interdisciplinary approach involving the

unique experience of service-learning. There were a total of five respondents for the *Service-Learning Course Survey-Modified* (RQ 1) and open-ended questions (RQ 3) (Appendix A). All of the respondents who completed the survey were females; although four males did participate as student counselors during FDC. The service-learning items yielded results that allowed the researchers to understand the impact of service-learning among the five constructs during the medical specialty camp. Descriptive statistics for the outcome variable are outlined in Table 2.

Table 2

*FDC Demographic Characteristics of Student Counselors
(Service-Learning Course Survey-Modified)*

Variable		Frequency	Percentage %
Gender	Male	0	0
	Female	5	100
	Total	5	100
Race/Ethnicity	Black/African American	2	40
	Caucasian (non-Hispanic)	3	60
	Total	5	100
Class Standing during '16/'17 Academic Year	Freshman	0	0
	Sophomore	2	40

Junior	2	40
Senior	1	20
Total	5	100

Note. Source: 2017 CTS Data; SPSS Version 25. Copyright 2019 by Old Dominion University.

Research Question One was: “What impact did service-learning have on five constructs (i.e., professional skills) as the student counselors work among youth with T1DM in a medical specialty camp?” It addressed the impact of service-learning on five constructs (i.e., professional skills, communication skills, academic learning, values clarification, and citizenship skills). Each mean totaled above the “agree or strongly agree” score for each construct of the *SLCS-M* to indicate that the student counselors perceived that they had increased personal enhancement outcomes from participation in service-learning. The academic learning outcome variable produced the highest mean of the five constructs that supported the student counselors’ desire to remain involved in service-learning opportunities following this experience. As a specifically defined construct, academic learning held the highest mean, highlighting the connection between theory and practice as the student counselors could link theory (what was learned in the classroom) to practice (their engagement with the campers). All five of the counselors had taken courses with a service-learning component previously. Four of the five counselors had previously volunteered at camp. The scores for the constructs (1) professional skills; (2) communication skills; (3) academic learning; (4) values clarification; and (5) citizenship skills ranged from $\alpha = .94$ to $.97$ (See Table 3). Student counselors were asked to rate their level of agreement (from 1= strongly disagree to 5= strongly agree). The results of the student

counselors' scores revealed means greater than 4 on the 5-point scale (See Table 3). These results for the five constructs revealed that the student counselors perceived the impact of service-learning as positive to their educational experience.

Table 3

Descriptive Statistics of Outcome Variables

	<i>Mean</i>	<i>SD</i>
Outcome Variables		
Professional Skills (8 items)	4.32	.81
Communication Skills (5 items)	4.16	.76
Academic Learning Outcomes (5 items)	4.42	.79
Values Clarification (3 items)	4.41	.77
Citizenship Skills (5 items)	4.40	.71

Note. Source: 2017 CTS Data; SPSS Version 25. Copyright 2019 by Old Dominion University. (Based on five-point Likert scale: 1= Strongly Disagree, 2=Disagree, 3= Neither Agree nor Disagree, 4= Agree, and 5=Strongly Agree)

Research Question Two was: “Based on the student counselors’ perspective, to what extent did FDC influence camper outcomes?” Thirteen student counselors completed the *American Camp Association Youth Outcome Battery Staff Perception (ACA-YOB-SP)* survey (Appendix B) at camp. The change in the number of respondents, between the *SLCS-M* and the *ACA-YOB-SP* surveys, occurred due to the retrospective design of the second survey, which was conducted immediately following the end of FDC. Of the 13 participants, 71% were female. The student counselors’ age mean was 20.5 years old. Table 4 illustrates the demographic characteristics of student counselors who completed the *ACA-YOB-SP* Survey. Two of the five

student counselors were currently in their junior year of school. All analyses were entered and analyzed into the ACA pre-formulated Excel, as recommended by the ACA. This analysis revealed that all campers scored within the top three values (increased a little bit, increased some, and increased a lot) within the five domains, based on ACA benchmarks. The results revealed that the highest average score was in the Camp Connectedness (CC) construct, with an average score of 4.19. The resulting averages within the rest of the constructs were as follows: 4.03 (AE), 3.88 (COMP), 3.84 (IND), and 3.76 (RESP). Student counselor observations identified 68.18% of campers who had an average of 3.5 (out of 5) or higher regarding all five outcomes. Furthermore, student counselor observations identified 42.42% of campers who had an average of 4.5 (out of 5) or higher regarding all five outcomes, based on the impact of camp. Receiving the highest score (5 out of 5) indicated that the camper was perceived, by the counselor, to have fully achieved the identified outcomes.

Table 4

FDC Demographic Characteristics of Student Counselors

Variable	Frequency	Percentage %
Class Standing during '16/'17 Academic Year		
Freshman	0	0
Sophomore	3	23.1
Junior	6	46.2

	Senior	4	30.1
	Total	13	100
Years of Participation in FDC			
	1 st Year	8	61.5
	2 nd Year	5	38.4
	Total	13	100

Note. Source: 2017 CTS Data; SPSS Version 25. Copyright 2019 by Old Dominion University.

Research Question Three was: “What overall impact did the experience have on the student counselors?” Questionnaires were sent to the thirteen student counselors who participated in FDC via email, but only five respondents answered all the questions on the survey. Each student was sent a separate email with a link to the survey on Qualtrics. In total, five females completed to the 12 open-ended qualitative questions. The respondents were asked to reflect through open-ended questions on their experience as a student counselor during FDC. The respondents reflected on their favorite memories, and what, if anything, they had learned in relation to academic and transferable skills that related to them academically and personally. The items answered by the respondents were categorized by the overall explanation of each response. Respondents could also offer any concluding thoughts as it related to their service-learning experience at FDC. (See Appendix A). Qualitative (open-ended questions) results reinforced professional development skills, highlighting the need to provide experiential learning opportunities that enhance student learning outcomes (See Table 5).

Table 5

Primary themes, sub-themes & occurrences in student counselor service-learning reflection

Primary Themes	Sub-themes	Occurrences
1. Professional Development		25
	Transferable Skills	15
	New Perspective/ Opportunity	5
	Informative Experience	5
2. Service-learning met student needs		13
	Personal Connection	5
	Professional/Community Connection	6
	Connection to Major	2
3. Student Counselor Gains		10
	Altruism	2
	Passion	2
	Making New Friends	2
	Continue Involvement in Service-Learning	4
4. Student Counselor Challenges		6
	Lack of knowledge	2
	Lack of enthusiasm	1
	Difficulty connecting with campers	1
	Issues with bugs	2

Note. Source: 2017 CTS Data; SPSS Version 25. Copyright 2019 by Old Dominion University.

Professional development. Student counselors expressed various thoughts focused on professional development that influenced the way they saw their service-learning experience. Three sub-themes found through the analysis of the data were personal connection, professional and community connection, and connection to their major. One perspective that supported the

professional development theme was the sub-theme of transferable skills. One student stated, "Participating in FDC taught me how to think on my feet. To try to look at things from the perspective that a child from age 9 to 14 would have. It helped me with my communication skills and unlocked my inner child." Each sub-theme highlighted the student counselors' experiences as they attained skills, experiences, and new perspectives to help them develop professionally.

Service-Learning Met Student Needs. Student counselors expressed various thoughts focused on how the service-learning experience met the students' needs during the experience. Three sub-themes were found through the analysis of the data: transferrable skills, new perspectives and new opportunities, and informative experience. One perspective that supported the theme of service-learning meeting student needs was the sub-theme of professional and community connection. One student stated, "It gave us counselors a different environment to put our skills to the test. It gave us the opportunity to connect with these kids and apply what we learn in the classroom to real life situations. It gave us a chance to create that inclusive and welcoming environment for every child." Each sub-theme highlighted the student counselors' experiences as they connected their skills from the major to the community and used their skills from the service-learning experience to further their expertise.

Student Counselor Gains. Student counselors expressed various thoughts focused on student counselor gains that influenced their service-learning experience. Four sub-themes were found through the analysis of the data: altruism, passion, making new friends, and continued involvement in service-learning experiences. One perspective that supported the student counselor gains theme was the sub-theme of continued involvement in service-learning

opportunities. One student stated, “I look forward to more opportunities like the one FDC has provided and just teaching others about the amazing experience I embarked on with the rest of the camp.” Each sub-theme highlighted the student counselors’ experiences as they were able to engage in an altruistic opportunity, connect with the campers, and further their knowledge through the service-learning experience.

Student Counselor Challenges. Student counselors expressed various thoughts focused on student counselor challenges that influenced their service-learning experience. Four sub-themes were found through the analysis of the data: lack of knowledge, lack of enthusiasm, difficulty connecting with campers, and issues with bugs. One perspective that supported the student counselor challenges theme was the sub-theme of difficulty connecting with campers. One student stated, “Connecting with my campers on deeper level and being as enthusiastic as other counselors was a challenge I faced” from participating in the service-learning experience at FDC. Each sub-theme highlighted the student counselors’ experiences as they were challenged by their service-learning involvement, the campers, and the environment.

Discussion

This study provided unique opportunities to encourage service-learning through recreation participation to further impact the community. The student counselors volunteered at a medical specialty camp and implemented various activities during a three-day weekend. The experience at camp helped to foster a culture of support among youth with type 1 diabetes mellitus. The collaboration fostered throughout this research helped to foster reflection and impact the lives of university students through service-learning (Leff, 2015; Nicholl, Valenzuela,

Nierenberg, 2017). The type of service-learning completed in this study mirrored the four-stage cycle of Kolb's Experiential Learning Theory in a medical specialty camp. The Experiential Learning Theory developed by Kolb drove the research in this study to understand the impact of a service-learning experience (Kolb & Kolb, 2017). The four steps in this cycle (concrete experience, cognitive reflection, abstract theorization, and experimentation) were reflected through the student counselor experience. Each student counselor was an undergraduate student who had the opportunity to use their knowledge in an applied setting. This experience implemented the sequential progression of reflection, service, and experience.

This study bridged the gap by using service-learning in a medical specialty camp to provide a high-impact practice (HIP) experience to further impact the community and help supplement the literature. Higher education institutions have worked to increase service-learning as part of the undergraduate educational experience (Beitman et al., 2015; Kuh, 2008). The field of recreation has continued to incorporate engagement into the learning experience as an experiential learning practice (Goff, 2016; Hill et al., 2015). In this study student counselors perceived service-learning to enhance them personally and academically as shown in the descriptive statistics collected from the questionnaires (Table 3). Additionally, the student counselors' service yielded perceived impacts on student outcomes as noted through their verbal responses and reflections (Table 4).

The first research question measured the impact of service-learning on five constructs (i.e., professional skills, communication skills, academic learning, values clarification, citizenship skills). The student counselors perceived that they had increased awareness of

personal enhancing skills that related to skills they can use in future classes and in their careers. Findings from this study support the use of service-learning in a medical specialty camp, as the student counselors perceived they enhanced their skills by volunteering at camp. The student counselors believed their experience was transformative. Previous studies have also shown that volunteering in a medical specialty camp has “helped the students move beyond the textbook and deepen their commitment to serving future patients with compassion” (Beck, Chretien, & Kind, 2015, p. 1279). Engaging in service-learning opportunities provides the best chance for students to be impacted by the social experiences that occur when volunteers engage with people they generally would not engage with. These types of social experiences help to further enhance the specialized skills that are learned. Unfortunately, there are barriers associated with implementing, maintaining, and supporting student engagement among institutions of higher education. Institutions large and small are tasked with weighing the various priorities and requirements implemented to develop educated members of society (Tükkahraman, 2012). These responsibilities can hinder or enhance the application of student engagement as the decision-making systems in institutions of higher education are constantly impacted during their decision-making processes (Hendrickson, Lane, Harris, & Dorman, 2013).

Feeble institutional support and poor organizational structures towards the application of student engagement are the biggest barriers associated with faculty involvement (Woodley, 2017). Maintaining the involvement and support of faculty is key to the enhancement and implementation of student engagement through service-learning opportunities (Lambright & Alden, 2012). In concordance with the findings in this study, previous studies highlight the need

to provide medical specialty camps with opportunities for reciprocity through community outreach (Hill et al., 2015; Ramsing & Sibthorp, 2008). Increased knowledge about the value of service-learning is essential to sustain its use in higher education practices (Lambright et al., 2012). The findings in this study suggested that service-learning was beneficial for the student counselors, as the data yielded mean scores ranging from 4.16-4.42, out of 5, in all five constructs (i.e., professional skills, communication skills, academic learning, values clarification, and citizenship skills). All five student counselors perceived that their experience was positively impacted from participation in Family Diabetes Camp. The student counselors not only had the opportunity to engage with campers, they also had the opportunity to support, guide, and encourage a youth with a chronic illness.

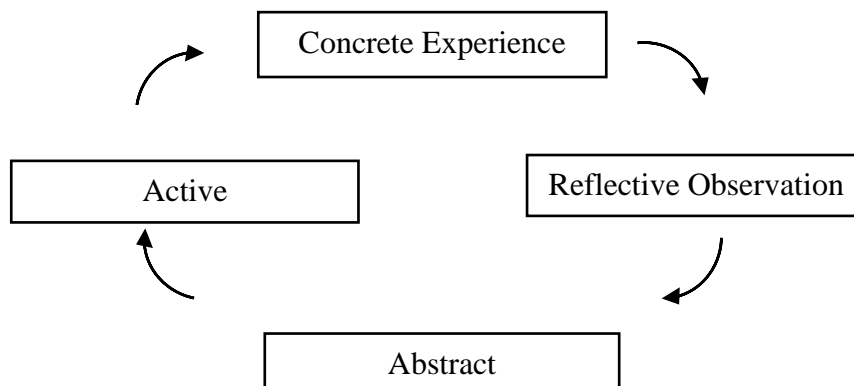
The second research question measured the campers' ability to enhance outcomes, as perceived by the student counselors. The counselors' perceptions of their campers' ability were strengthened by their constant involvement throughout the three-day weekend, as "counselors are focused on helping campers develop skills" (Li, 2015, p. 21). The student counselor perspectives allowed the researchers to analyze the impact of a medical specialty camp on the campers, based on observations made throughout the camp experience. The results of the *American Camp Association's Youth Outcomes Battery: Staff Perceptions* (ACA-YOB-SP) Scale (ACA-YOB-SP) revealed a mid- to moderately high value in all five domains (Affinity for Exploration, Camp Connectedness, Perceived Competence, Responsibility, and Independence), based on ACA benchmarks (ACA, 2013). These results showed that all campers scored within the top three values (increased a little bit, increased some, and increased a lot) within the five domains. The

mid- to moderately high value within all five domains may have occurred as the student counselors observed gains through their interactions and constant observation of the campers in their groups. The activities and events during FDC provided various opportunities for the student counselors to measure and compare each of their campers' perspectives of growth while at camp. Student counselors' perceptions of camper outcomes were evaluated to identify changes from participation in FDC. The counselors' perceptions of their camper's ability to possess skills related to outcomes were strengthened by their constant involvement throughout the three-day weekend.

The third research question measured the overall impact of service-learning on student counselors through open-ended questions. The attainment of skills through experiential learning is a common outcome (Lucas & Hanson, 2015). The positive experiences that resulted from participation in FDC helped the researchers to understand the impact of medical specialty camps through the perceptions of the counselors. Of the experiences that the counselors observed during camp, personal reflection was closely connected to the experiential learning outcomes that are acquired through service-learning involvement. Reflection and individual development are common features in the experiential learning experience (Kolb, 1984; Perrin, 2014). Experiential learning opportunities are aimed to connect theory and practice (Perrin, 2014; Roland, 2017). The framework of experiential learning supported this research as it highlighted the connection between structured learning outcomes and service-learning. The student counselors reflected on their attainment of skills as they applied their knowledge to the service-learning experience. Each student counselor was expected to engage in Kolb's four-stage cycle of the Experiential Learning

Theory—(1) concrete experience; (2) cognitive reflection; (3) abstract theorization; and (4) experimentation--by planning and preparing for the camp, engaging in the camp, applying their knowledge during the experience, and reflecting on the experience (Kolb & Kolb, 2012) (See Figure 1).

Figure 1. An illustration of Kolb’s Experiential Learning Theory (Kolb & Kolb, 2017, p. 11)



Integrating student counselors into “the highly interactive experience of a diabetes camp” assisted students in their development of skills and enhancement of knowledge (Johnson, 2007, p. 7). This study highlighted the benefits of experiential learning using applied knowledge in a service-learning experience. Developing students’ critical thinking and reflection skills is a vital and essential outcome of engagement in service-learning experiences (Bringle, Reeb, Brown & Ruiz, 2016). The perceived enhancement of skill development from participation in this study was relevant as the student counselors were able to personally reflect on their experience. Their personal reflection on their service-learning experience provided useful data that directly identified meaningful themes on professional development, student counselor gains, student counselor challenges, and ways in which the medical specialty camp service-learning experience

met their needs.

Implications for Practice and Research

First, Family Diabetes Camp's (FDC) duration was short, lasting approximately 36 hours during a three-day weekend. The camp lasted from Friday afternoon until Sunday morning. Future studies should assess the outcomes directly correlated to the duration of camp. Second, the student counselors were volunteers from local universities who were interested in supporting youth with type 1 diabetes mellitus during a medical specialty camp. Future studies should analyze the impact of those students who have volunteered for multiple years in comparison to those students who are volunteering for the first time in order to discover whether skill development is further heightened from continued participation in a medical specialty camp. Third, although the student counselors were provided with an in-depth educational session about T1DM, some had never before engaged with someone who had been diagnosed with T1DM. Future studies should look at implementing a more intensive training to educate the student counselors about T1DM. This experience allowed the campers to build relationships among each other as they learned to cope, engage, and complete tasks as a group. Fourth, the data relied on self-report. The measures of the study were taken at the completion of camp in order to obtain student counselor input, but the environment where the student counselors completed the questionnaire was not controlled. Future studies should identify how environmental conditions may affect data collection in a camp setting. The student counselors' ability to understand questionnaire questions and directions was not controlled. Future studies should assess how

observers interpret the questions to limit inconsistencies. Fifth, the participants were not randomly selected.

Finally, the small sample size limited the generalizability of findings. The sample size of the student counselors who completed the online questionnaire, yielded only eight respondents, with only five completed questionnaires (three student counselors failed to complete the survey). The questionnaire may have been too long. Future studies might reduce the number of questions asked as the student counselors may have been exhausted when they were given the ACA-YOB-SP survey immediately following the end of the three-day camp experience. This small sample may have occurred as some student counselors may have forgotten to complete the online questionnaire. Empirical evidence of student counselor perception is limited, resulting in incomplete access and knowledge on student counselor involvement in medical specialty camps. Future research should be conducted on the psychosocial impact surrounding student counselors' ability to implement, engage, and successfully attain skills associated with service-learning.

Additionally, throughout the intervention, the campers used fitness tracking devices to monitor their heart rate, steps, and calories burned. However, none of these data were analyzed in this study. Future studies should implement the use of fitness tracking devices during camp to monitor campers' level of engagement. In order to obtain data pertaining to camper adherence, future research must identify the ways to which campers seek medical adherence achievement through involvement in the camp they attend, the support system they have, and the qualities they possess.

Conclusion

Engaged and active learners can develop the skills to understand complex subject matter through service-learning as they transfer their learned skills to new problems and settings (Gleason, Peeters, Resman-Targoff, Karr, McBane, Kelley, 2011; Furman, Sibthorp, 2013). This study focused on a small group of students who participated in a unique camp experience where they were able to be active learners as they applied what they learned in the classroom to a program for youth suffering from a chronic illness. Family Diabetes Camp (FDC) encompassed opportunities to support families through activities and education, while allowing college students to volunteer and engage in service-learning. The outcomes attained in this study included transferable skills (i.e., communication skills, professional skills, problem solving skills) that were investigated in the first and second research questions. Previous literature on service-learning has included the assessment of unique experiences and their impact on the attainment of skills acquired through practical experience that shift in an advanced skill set, also labeled as transferable skills (Stolley et al., 2017; Lucas & Frazier, 2014).

Medical specialty camps have enhanced camper outcomes while serving a variety of illness groups (Allsop, Negley, & Sibthorp, 2013; Bultas, Steurer, Balakas, Brooks, & Fields, 2015; Gillard & Allsop, 2016; Hill et al., 2015; Woods et al., 2013). Prior studies have indicated successful outcomes in a medical specialty camp for youth with diabetes in developing skills to navigate and manage the adversity of having diabetes (Hill et al., 2015; McAuliffe-Fogarty, 2007). The findings in this study indicate that the use of service-learning in a medical specialty camp can enhance meaningful outcomes associated with student counselors and campers. The

ACA is currently conducting a five-year impact study to understand what outcomes occur from participation in camp experiences (ACA, 2019). Collectively, this study investigated the impact and implications of service-learning through intentional programming and experiential learning. The study focused on the involvement of student counselors in a medical specialty camp. The positive outcomes associated with participation in medical specialty camps should lead to further research to identify those factors that enhance medical treatment practices in camp settings. Additionally, researchers can work to better understand the potential for the medical specialty camp model to enhance collaborative opportunities among professionals in a variety of disciplines.

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Appendix A

Service-Learning Course Survey- Modified, Demographics & Open-Ended Questions

Family Diabetes Camp

Family Diabetes Camp Counselor Service-Learning Experience Evaluation

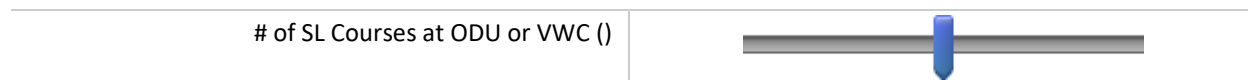
Thank you for agreeing to participate in this survey regarding your service-learning experience at **Family Diabetes Camp 2017**. This survey will take approximately 10 to 15 minutes to complete. This survey is anonymous and completely voluntary and you may withdraw at any time by closing the browser window. We are very grateful for your willingness to participate.

1 Service-learning is the application of academic skills and knowledge to address a community need, issue, or problem, and to enhance student learning. Before this experience, had you previously been involved in service-learning, or taken courses with a service-learning component?

- Yes (1)
 No (2)

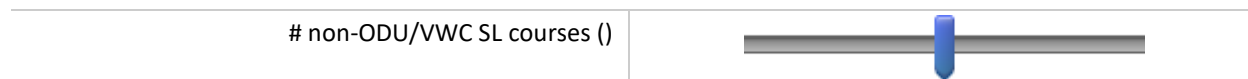
2 I have taken ___ courses with a service-learning component at ODU/VWC.

0 1 2 3 4 5 6 7 8 9 10



3 Outside of ODU/VWC, I have previously taken ___ courses with a service-learning component (i.e., high school, other college or university. (Drag slider to create response)

0 1 2 3 4 5 6 7 8 9 10



4 I was already volunteering in my community before participating in the service-learning experience at Family Diabetes Camp this semester. Yes (1) No (2)

Please tell us about the service components of this experience.

Q25 In my service activity, I worked with community members who were different from me in terms of (select all that apply)

- Age (1)
 Ability/Disability (2)
 Culture (3)
 Race (4)
 Gender (5)
 Economic background (6)
 Not applicable (7)

Q30 We would like to learn about student's experience's while doing service-learning. If you have a story that stands out in your experience (interesting, sad, funny, shocking, reflective, etc.), we invite you to share this story here:

Q6 Your Perspective On The Service-Learning Experience

Q31 My service-learning experience at Family Diabetes Camp:

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
Helped me see how the material covered in my courses can be useful in everyday life or in other situations. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helped me to develop a greater sense of my personal responsibility for my own learning (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assisted me in defining my major or which profession I want to enter. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helped me to enhance my leadership skills. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enhanced my written communication skills in a real world context. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helped me better understand the subject matter of my major (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enhanced my oral communication skills in a real world context (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helped me see how my beliefs and values influence my decisions (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has made me more marketable in my chosen profession. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q32 My service-learning experience at Family Diabetes Camp:	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
Helped me to define my personal strengths and weaknesses. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has made me more willing to engage in dialogue with others. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helped me reconsider my attitudes about social problems (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enhanced my ability to work as a member of a team (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helped me clarify my personal values (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enhanced my ability to manage my time efficiently. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helped me better understand people of different ages, abilities, cultures, or economic backgrounds. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Encouraged me to consider perspectives other than my own. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helped me to develop my problem-solving and critical thinking skills. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Required me to make judgments about how to behave in new social situations (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helped me to develop my citizenship skills. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Made me more aware of my responsibilities as a member of the community (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helped me to gain more knowledge about the community with which I worked and the issues that the community faced (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provided real benefit to the community (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enhanced my project management skills (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helped me to develop my intercultural communication skills (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Positively influences my intention to complete my degree (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q34 Service-Learning Activities

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
The service activity was relevant to the academic content of the classes I take within my major. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My relationship with the project facilitator (Professor) or teaching assistant was able to strengthen as a result of the service-learning experience. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ideas or concepts from other courses were useful to this service-learning experience. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It will be important for me to apply academic knowledge to community problems in the future. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The community partner's perspective and voice were critical elements of this service-learning experience. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that I had the necessary access and resources to appropriately serve the community in this service-learning experience. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q36 Service Learning Activities

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
After the completion of this service-learning experience, I will probably volunteer or participate in some way with the community or individuals served by this experience. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would be interested in participating in other service-learning experiences (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ODU/VWC should offer service-learning experiences (in conjunction with classes) for all students who are interested. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ODU/VWC should offer service-learning experiences (outside of classes) for all students who are interested. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ODU/VWC should offer service-learning experiences (as the main component in classes) for all students who are interested. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q43 What led you to decide to apply to be a Counselor for Family Diabetes Camp (FDC)?

Q42 How many years have you participated in Family Diabetes Camp (FDC)?

0 1 2 3 4 5 6 7 8 9 10

Years Participated in Family Diabetes Camp ()	
---	--

Q45 Of the seven resiliency traits that Family Diabetes Camp is designed and driven by; please describe the way in which one of your campers demonstrated comprehension of at least one resiliency trait. The seven resiliency traits are explained below:

1. Insight is the ability to read into a person’s verbal or body gestures as well as the situation. **2. Independence** is the ability to read into a person’s verbal or body gestures as well as the situation. **3. Relationships** refer to establishing and maintaining healthy relations with peers, family, and role models. **4. Initiative** is the ability to take charge of one’s own life, while being very proactive in making changes in his or her life. **5. Creativity** involves generating options and alternatives to cope with hardships. **6. Humor** involves generating options and alternatives to cope with hardships. **7. Values Orientation** is making decisions that include the desire to live a good life and making one’s own decisions rather than following others.

Q46 Please describe the typical day (at camp) for the campers you served at Family Diabetes Camp (FDC).

Q53 Describe the impact of your role through your participation in FDC?

Q51 What has resulted from your service through FDC?

Q56 What did you acquire as a Counselor within your service-learning experience at FDC?

Q52 Describe what transferrable skills you have attained through your participation in FDC?

Q55 What challenges did you face during your service-learning experience at FDC?

Q54 How do you feel the FDC, being in a camping environment, has affected the ODU Counselors experience during camp?

Q57 What do you intend to do with the knowledge you have gained by participating in FDC?

Q50 Questions About You

Q39 What is your age, in years (e.g., 21)?

Q40 What is your gender?

- Male (1)
- Female (2)
- Other (3)
- Prefer not to answer (4)

Q41 What is your race/ethnicity?

- American Indian/Native American (1)
- Asian/Pacific Islander (2)
- Black/African-American (3)
- Hispanic/Latino(a) (4)
- Multiracial (5)
- White (non-Hispanic) (6)
- Prefer not to answer (7)

Q42 What is your current class standing for the 2016/2017 academic year?

- Freshman (1)
- Sophomore (2)
- Junior (3)
- Senior (4)
- Graduate-Master's level (5)
- Professional program (i.e., law, pharmacy, veterinary medicine, medicine) (6)
- Graduate- Doctoral Level (7)
- Other (please specify) (8) _____

Q45 Are you willing to be contacted in the future for follow-up research related to your service-learning experience?

- Yes (if so, please enter your preferred email address) (1)

- No (2)

Q13 Final thoughts or suggestions about your service-learning experience at FDC. Remember, since this survey is anonymous, we will not be able to directly respond to questions.

Q46 Thank you very much for your feedback! This concludes the survey. Please hit the next button to submit your survey.

APPENDIX B
ACA Youth Outcomes Battery: Staff Perceptions (Change)
Counselor Retrospective



Please read each statement carefully and decide which description is most accurate for the camper during the most recent camp session. Circle the response that most accurately describes this camper during the most recent camp session.

My camper's name:	How much, if any, has this session at camp changed each of your campers? Please circle the most correct response.				
FS					
1. Makes friends	Decreased	Did not increase or decrease	Increased a little bit	Increased some	Increased a lot
2. Listens to other kids	Decreased	Did not increase or decrease	Increased a little bit	Increased some	Increased a lot
3. Empathizes with friends	Decreased	Did not increase or decrease	Increased a little bit	Increased some	Increased a lot
4. Helps friends to have fun	Decreased	Did not increase or decrease	Increased a little bit	Increased some	Increased a lot
CC					
5. Gets along with camp staff	Decreased	Did not increase or decrease	Increased a little bit	Increased some	Increased a lot
6. Enjoys camp	Decreased	Did not increase or decrease	Increased a little bit	Increased some	Increased a lot
7. Makes meaningful decisions at camp	Decreased	Did not increase or decrease	Increased a little bit	Increased some	Increased a lot
8. Is respected by the other kids at camp	Decreased	Did not increase or decrease	Increased a little bit	Increased some	Increased a lot

9. Is included by others at camp	Decreased	Did not increase or decrease	Increased a little bit	Increased some	Increased a lot
COMP					
10. Is good at thinking of new things to do in free time	Decreased	Did not increase or decrease	Increased a little bit	Increased some	Increased a lot
11. Is good at understanding new information	Decreased	Did not increase or decrease	Increased a little bit	Increased some	Increased a lot
12. Is good at learning new things	Decreased	Did not increase or decrease	Increased a little bit	Increased some	Increased a lot
RESP					
13. Takes responsibility for actions	Decreased	Did not increase or decrease	Increased a little bit	Increased some	Increased a lot
14. Makes things right after a mistake	Decreased	Did not increase or decrease	Increased a little bit	Increased some	Increased a lot
15. Apologizes when appropriate	Decreased	Did not increase or decrease	Increased a little bit	Increased some	Increased a lot
IND					
16. Can figure things out without adult assistance	Decreased	Did not increase or decrease	Increased a little bit	Increased some	Increased a lot
17. Takes care of self	Decreased	Did not increase or decrease	Increased a little bit	Increased some	Increased a lot
18. Is good at making decisions without adult support	Decreased	Did not increase or decrease	Increased a little bit	Increased some	Increased a lot

Counselor

What was your cabin's favorite activity this week?

What was your cabin's least favorite activity this week?

On a scale of 1-10 (where 1 = absolutely the worst and 10= absolutely the best), how much did you enjoy camp? 1 2 3 4 5 6 7 8 9
10

Cabin Group: _____

I am _____ male _____ female _____ transgender

I am _____ years old

Freshman _____ Sophomore _____ Junior _____ Senior _____ Graduate Student _____

My Race/Ethnicity is:

_____ African American or Black

_____ American Indian

_____ Asian

_____ Caucasian or White (non-Hispanic)

_____ Latino/a or Hispanic

_____ Other (please describe) _____

How many **years** have you participated in family diabetes camp?

_____ 1 (first year) _____ 2 _____ 3 _____ 4

The last **four digits** of my cell number (used for coding) is: _____

How many years have you been coming to the Lions Diabetes Camp at Triple R Ranch?

_____ 1 (this is my first year) _____ 2 _____ 3 _____ 4 _____ 5 _____

> 5

Thank you for completing this survey!

APPENDIX C

2017 Triple R Diabetes Camp Counselor Responsibilities**Friday – April 28**

1. Introductions within cabin
2. Everyone change into their RRR camp t-shirts
3. **Review rules with your campers**
 - a. Always use the buddy system – **NO ONE** is allowed to go anywhere on their own.
 - b. **MUST** stay with your group. **This includes parents... they must stay with the group.**
 - c. **PARENTS** are responsible for child's diabetes care. Be sure to test blood sugar before meals, bedtime and anytime you suspect blood sugar is low; check ketones if blood sugar is >300 mg/dl (>240 mg/dl for patients using insulin pumps). Inform counselor if you feel sick (first aid kit in the lodge) or if you have ketones. **Parents must be with their children at all meal and activity times.**
 - d. Clean up after yourself!!!! **Remember it is the cabins responsibility to clean and bus your table at mealtimes.**
 - e. NO PROFANITY!!!
 - f. Be respectful of others and treat others as you would want to be treated.
 - g. NO ELECTRONICS. **You (campers) are responsible for any lost personal belongings.**
4. Parents are strongly encouraged to attend support group Saturday afternoon and Sunday morning. **Time and place will be announced.** This is an opportunity to give/provide support to one another under the guidance of medical team. Opportunity to meet other families/parents and share your experiences, successes and challenges of living with diabetes. Great experience not to be missed.
5. Review schedule with your campers. **Please be on time to all planned activities.**
6. Please be on time for dinner in the Main Lodge.
7. Escort campers and parents to evening activities. **(Smores in two locations- age dependent, Dance Party following)**
8. Take your campers back to the cabin after evening activity. Make sure they have tested blood sugar, be sure they are all in the cabin and not being loud after lights out (10:30pm)

Saturday – April 29

1. Make sure campers are dressed in their RRR camp T-shirt and at breakfast on time. Blood sugar must be checked before each meal... but parents or camper are responsible for.
2. Participate in camp activities with your campers. **HAVE FUN!!!!**
3. Follow schedule and be at events on time---be sure to remember to stop for snacks and water.
4. Stay with your group and be sure kids are staying on task and acting appropriately.

5. **During break out time work on your skits.** You can work on skits as an age group or by cabin group. Talk to counselors in your groups and decide what you want to do.
6. **FILL OUT WACKY AWARDS FOR YOUR CAMPERS BEFORE SKITS START.**
Wacky awards are fun awards. One should be given to each camper. For example; the kid who catches the most fish could get the Bassmaster award or the Spiderman award goes to the camper who makes it to the top of the rock wall. **BE FUNNY and CREATIVE!**
7. After skit/snack take campers back to cabin. Make sure they check blood sugar, be sure they are all in the cabin and not being loud after lights out.
8. Counselors for the teens- Feel free to join the teens for movie night in the main lodge.
(Teens only)

Sunday – April 30

1. Make sure campers are up and dressed.
2. Make sure the cabin area is cleaned and trash is removed **before coming to breakfast.**
3. Bring all belongings with you to the lodge when coming on time for breakfast.
PLEASE MAKE SURE YOU DOUBLE CHECK YOUR BACKPACKS DAILY TO MAKE SURE YOU HAVE ENOUGH BACK UP MEDICAL SUPPLIES AND SNACKS. EXTRA MEDICAL SUPPLIES ARE IN THE MAIN LODGE. ASK ONE OF THE CHKD STAFF FOR MORE SUPPLIES. PLEASE CLEAN OUT ANY TRASH OR FOOD PRODUCTS IN THE BACKPACK BEFORE TURNING THE PACK IN ON SUNDAY.

CHAPTER V CONCLUSION

The purpose of these three studies was to investigate the impacts of a medical specialty camp on three groups: youth with type 1 diabetes mellitus (T1DM), their parents, and their counselors. Family Diabetes Camp (FDC) was a medical specialty, family-oriented program that focused on developing resilient youth and proper diabetes self-management. The researchers used a multi-paper format to determine the impact and perception of the three groups after engaging simultaneously in a three-day medical specialty camp. Paper One examined the impacts on youth who participated in a medical specialty camp. Paper Two investigated the impact on parents participating in a medical specialty camp. Paper Three examined the impact on student counselors participating in the service-learning experience (i.e., medical specialty camp). An overview of the papers and their findings appears below.

Paper One [Chapter II] examined the impacts associated with the campers' resilience from pre- to post camp and identified youth development outcomes, based on their participation in an outcome-focused, medical specialty camp. The researchers used the following two research questions to guide the study: (1) To what extent, if any, does a medical-specialty camp enhance camper resilience? and (2) To what extent, if any, does a medical-specialty camp have an impact on identified youth outcomes? The goal of Family Diabetes Camp (FDC) was to accurately address the needs surrounding youth's ability to overcome both the internal and external adversity that threatens their ability to live a healthy lifestyle as independent, self-reliant youth. To further analyze the impacts associated with medical specialty camps, one of the researchers also attended a week-long overnight summer diabetes camp in July called Camp Too Sweet

(CTS). The comparison group, CTS, provided an opportunity for the researchers to analyze a camp specifically trained to assist youth with T1DM in a camp setting where participants did not receive the same intervention (i.e., OFP of resilience) as the campers in FDC.

Data were collected at FDC during the summer of 2017 with a total of 50 matched pre-tests and post-tests of the modified Resiliency and Attitudes Skill Profile (RASP-M) and 50 questionnaires of the American Camp Association Youth Outcomes Battery-Camper Learning Scale (ACA-YOB-CLS). FDC included youth ages 5-18 with T1DM and their families, with a total of 50 respondents for the pre-test and post-test ($n= 19$ males and $n= 31$ females). The average age of the campers was 11. The camper demographics included an average of 62% being female, 62% being Caucasian, and an average HbA1c Level (self-reported blood glucose) of 9.4. At the comparison camp, (CTS), a total of 27 completed instruments of the YOB-CLS and 27 matched pre-test and post-test of the modified RASP-M were collected. Average age of campers? The camper demographics included an average of 67% being female, 89% being Caucasian, and an average HbA1c Level (self-reported blood glucose) of 8.05.

To answer the first research question, about the extent to which a medical specialty camp may enhance camper resilience, the researchers used the Resiliency and Attitudes Scales Profile-Child Version (RASP-CV) as a pre-test and post-test. There was no significance from pre-test to post-test on the RASP-CV. There were no statistically significant differences from pretest ($M=4.97$, $SD= .53$) to post-test scores ($M=5.01$, $SD= .46$), with $t(50) = -.56$, $p= .57$ for FDC. The pretest and post-test scores were significantly positively correlated ($r= .61$, $p < 0.001$) for FDC. There were no statistically significant differences from pretest ($M=4.88$, $SD= .62$) to post-

test scores ($M=5.03$, $SD= .51$), with $t(27) = -.87$, $p= .39$) for CTS. The data in this study supports the use of the CLS as a unidimensional measure of generalized camp learning. Paired samples t -tests were used to analyze pre- and post- scores on resilience. The researchers found a slight increase in resilience, in the analysis of the RASP, from pre-test to post-test. The impacts associated with adapting activities and an environment to encourage, analyze, and challenge resilient behaviors is essential in encouraging independence, shared experiences, and diabetic management. The supportive environment that was used in the FDC experience, resulted in outcomes that support current research as well as highlight opportunities for change in the camping environment.

To answer the second research question, about the extent to which a medical specialty camp may have an impact on identified youth outcomes, the American Camp ACA-YOB-CLS was used to evaluate the campers' seven common developmental outcomes (e.g., Family Citizenship) unidimensionally. The ACA-CLS, part of the YOB, had effectively measured the common youth outcomes or subscales (Hill et al., 2016). These data indicated that 70% of the campers in FDC *learned "a little" or "a lot"* about the seven ACA outcomes highlighted in the study, as assessed through the CLS. Fifty-nine percent of the campers in the comparison group (CTS) *learned "a little" or "a lot"* about the seven outcomes, as a unidimensional scale, from the ACA-YOB-CLS. The experimental group presented with a higher percentage of campers who learned about the seven critical youth development outcomes focused on in the study, in relation to the comparison group.

These findings argue the need for medical specialty camps to effectively program towards desired youth developmental outcomes (Fegan-Bohm et al., 2016; Palladino et al., 2012; Thurber et. al., 2007). Furthermore, the researchers explored the campers' learned benefits gained from attending FDC. When campers were asked about their experience, 10% reported that they had obtained new information about self-injection, 12% reported that they had obtained new information about site rotation, and 12% reported that they had obtained new information about pump infusion. Fully 22% of campers reported that they had obtained new information about carbohydrate counting. Finally, 50% of campers at FDC reported that they had obtained new information about the impact of exercise. The inclusion of a Saturday and Sunday morning circuit training exercise helped to encourage exercise among family members and their new and old camp friends. This study highlights the impact that a medical specialty camp could have in assisting youth in managing their diabetes through exercise, education, and practice. Residential camps have an opportunity to positively impact youth and adolescents in a variety of ways. The diabetes camp experience provided a supervised opportunity for youth to take a more independent role in their medical care (Bultas, Schmuke, Moran, & Taylor, 2016). This is apparent as campers reported that they had learned various new tasks and information through participation in FDC.

Paper Two [Chapter III] investigated the impact of parents' participation in a three-day Family Diabetes Camp (FDC). The researchers used the following three research questions to guide the study: (1) Based on the parents' perspective, to what extent did FDC influence camper resilience? (2) Based on the parents' perspective, to what extent did FDC impact the campers on

five of the American Camp Association youth outcomes? and (3) What were the most important outcomes for parents who participated in the family diabetes camping experience? The data yielded an 86% response rate. Of the 44 participants, 75% were female. One was a grandmother, one was an aunt, while the rest of the participants were either the mother or father of a camper with T1DM. The adults ranged from 25 to 63 years of age, and the campers with T1DM ranged from 5 to 18 years of age. In collecting the data, there were 44 completed questionnaires for the American Camp Association's (ACA) Youth Outcome Battery (YOB) Parent Perception (PP) Scale and 43 for the Resiliency and Attitudes Scales Profile-Modified Parent Version Questionnaire (RASP-M: PV). One family arrived late, resulting in their inability to complete the ACA-YOB-PP at the start of camp.

The first research question for Paper Two was, "Based on the parents' perspective, to what extent did FDC influence camper resilience?" It was developed to analyze parent perception of their child's resilience, based on their child's participation in camp. The researchers used the Resiliency and Attitudes Scales Profile-Modified Parent Version (RASP-M: PV) to cross-compare mean scores using a paired samples *t*-test. The RASP-M: PV has been restructured over the years from its original design to better match the outcomes associated with programming. Our instrument used 24 "My child-statements," (e.g., "My child tries harder the next time after his/her work is criticized," "My child is comfortable making his/her own decisions"), to assess the parents' perception of their child's performance in exhibiting resilient behaviors. This study explored parents' perception of youth with T1DM in a medical specialty program encompassing experiences commonly used in a unique camping experience. Results

indicated an increase, but no significant difference, between FDC parents' perception of campers' pretest ($M=4.85$, $SD=.49$) and posttest RASP-M: PV scores ($M=4.92$, $SD=.53$), with $t(43) = -.07$, $p = .220$). Although the scores did not yield statistically significant results, the researchers acknowledged the positive shift in scores from baseline to posttest. Although not statistically significant, this perceived increase in resilience for the campers is meaningful as the scores increased over a short amount of time. Medical specialty camps are able to encourage a gradual shift to self-care that youth must take as they become young adults living with a chronic illness. With over 1.25 million youth living with T1DM, parents should encourage involvement in camp as a management strategy for navigating and managing diabetes independently (Gillard & Allsop, 2016; Sendak, Schilstra, Tye, Brotkin, & Maslow, 2018).

Research question two for Paper Two was, "Based on the parents' perspective, to what extent did FDC impact the campers on five of the American Camp Association youth outcomes?" It was developed to examine the impact of camp experience on children's outcomes, based on parents' perception in five subscales: Friendship Skills (FS), Camp Connectedness (CC), Perceived Competence (COMP), Responsibility (RESP), and Independence (IND). These subscales were measured through the American Camp Association's (ACA) Youth Outcomes Battery (YOB): Parent Perceptions (ACA-YOB-PP) Survey. The mean value of each subscale yielded mid-range to moderately high values in the five domains, based on ACA benchmarks, revealing that all campers scored within the top three values (increased a little bit, increased some and increased a lot) within the five domains, based on ACA benchmarks. The parents' perception of their child's five outcomes revealed that the highest average of growth was on the

Independence (IND) subscale, with an average score of 4.01. This score indicated that the parents perceived that the campers improved in all subscales. The independence subscale showed the highest perceived attainment in outcomes. This was notable as the camp focuses on teamwork rather than independence. The averages of the remaining subscales were as follows: 3.66 (CC), 3.52 (FS), 3.23 (RESP), and 3.16 (COMP). Twenty-six percent of the parents perceived that their child, on average, achieved a 3.5 (out of 5) or better regarding identified outcomes, based on the impact of camp. Thus, participating in FDC provided the campers with opportunities to learn and exhibit understanding of the five subscales based on participation, as evidenced by their parents. Achieving the highest score (5 out of 5), would have indicated the participant fully grasped the identified outcomes.

Research question three for Paper Two was, “What were the most important outcomes for parents who participated in the family diabetes camping experience?” This question was developed to identify the most important outcomes for parents who participated in the family diabetes camping experience. Parents’ involvement in camp was documented as they assisted the campers through encouragement, participation, and assistance in monitoring their blood sugar levels. Qualitative data from this study yielded three themes from the content analysis conducted by the researchers. The themes included commonality, making new friends, and lack of control as outcomes for the campers who participated in FDC. These themes were salient across the parents’ final reflection. The theme of commonality or a sense of belonging prevailed as the parents showcased the importance of participating in FDC. The normalcy aspect of camping with others who have the same illness, and the bonding opportunities provided, are the driving forces

for participation in medical specialty camps (Cushner-Weinstein, Berl, Salpekar, Johnson, Pearl, Conry, Kolodgie, Scully, Gaillard, & Weinstein, 2007). Commonality in making new friends, attaining a sense of belonging, and making new friends is a common theme present in camp research (Bialeschki, Henderson & James, 2007; Clary & Ferrari, 2015; Garst, Browne, & Bialeschki, 2011). This theme of making new friends further provided evidence of the benefit of offering medical specialty camps to provide a sense of commonality and bonding experiences. The final theme of lack of control suggested the frustration that parents experience when they acknowledge their child's lack of control. Interestingly, inadequate diabetes management support may be a result of this issue as it has been well documented in previous studies (Jacquez, Stout, Alvarez-Salvat, Fernandez, Villa, Sanchez, Eidson, Nemery & Delamater, 2008; Smaldone & Ritholz, 2012; Streisand, Mackey, Elliot, Mednick, Slaughter, Turek & Austin, 2008).

Furthermore, additional questions were analyzed from the parents' reflection. The parents indicated that their children had attained knowledge in the following categories: learned about site rotation, self-injection, carbohydrate counting, and the impact of exercise on diabetic care. Parent and staff involvement further assisted campers in independently counting carbohydrates during mealtimes, which is an essential part of diabetes camps (Nabors et al., 2014; Ramsing & Sibthorp, 2008; Sullivan-Bolyai, Crawford, Johnson, Huston & Lee, 2012). The parent perspectives allowed the researchers to analyze the impact of FDC on the campers based on observations made throughout the camping experience. This type of observation not only highlighted outcomes that the researchers addressed throughout the study, it also allowed for personal reflection, through the parents' perspective, of the experiences they observed

throughout FDC. The positive experiences that resulted from participation in FDC helped the researchers to understand the impact of medical specialty camps through the perception of the parent. The parents' insight can help to further explore the impacts associated with families as they engage, interact, and assist in the developmental process that campers are involved in. Their insight encourages further exploration of the impacts associated with the use of a collaborative team; including a medical team, camp counselors, staff, and parents.

One unique intervention of FDC that emerged and provided opportunities for parents to talk, engage, and obtain support was attending parent sessions. The implementation of the parent sessions provided a supportive environment for parents to talk openly with other parents about their child's journey while having diabetes and recreational professionals in the room. They offered a safe place for parents to build support, knowledge, and rapport with other families who were experiencing similar issues, challenges, and milestones. In these sessions, the endocrinologists, diabetes educators, nurses, and recreational professionals were able to field many of the questions the parents had. Many of the parents asked that the parent session continue to be a part of the camp experience.

Paper III [Chapter IV] examined the impact of student counselors volunteering at a medical specialty camp through service-learning. Service-learning is uniquely tied to the experiential learning theory as students engage in the sequential progression of reflection, service, and experience. In previous studies, students' current knowledge was transformed through the reflection (Moon, 1999; Moore, Boyd, & Dooley, 2010). Reflection served as a vehicle for transforming outcomes associated with the attainment of transferable skills. It can

include professional skills, communication skills, academic learning, values clarification, citizenship skills, and quality interpersonal skill development (Lucas & Hanson, 2015).

The counselors at FDC were student volunteers from two local universities. The other volunteer staff members included university faculty, physicians, and diabetes educators. The student counselors ranged in age from 18 to 21 with a mean age of 19.7 years. Of the respondents, 21.4% were Black/African American and 69.2% were Caucasian. At least 50% were classified as sophomores. The researchers used the following research question to guide the study: What overall impact did the experience have on the student counselors?

To answer this research question in Paper Three, the researchers measured the impact of service-learning on the student counselors based on their reflection. They were asked to complete twelve open-ended questions online one week after the conclusion of camp. The outcomes attained in this study included transferable skills (e.g., communication skills, professional skills, problem solving skills), which were also addressed in research question one. A content analysis yielded four themes (See Table 5). These themes included professional development, how well service-learning met student needs, student counselor gains, and student counselor challenges. These themes were salient across the student counselors' final reflection. The student counselors reflected on their attainment of skills as they applied their knowledge towards this service-learning experience. Each student counselor was provided an opportunity to experience the experiential learning cycle by planning and preparing for the camp, engaging in the camp, applying their knowledge during the experience, and reflecting on the experience. This study highlighted the benefits of experiential learning using applied knowledge in a service-learning

experience. The perceived enhancement of skill development from participation in this study is meaningful. Of the experiences that the counselors observed during camp, personal reflection was associated with the experiential learning outcomes that were acquired through service-learning involvement. The positive experiences that resulted from participation in FDC helped the researchers to understand the impact of medical specialty camps through the perception of the counselor.

Findings from this study support the use of service-learning in a medical specialty camp, as the student counselors perceived that they had enhanced their skills by participating. Previous studies have also shown that volunteering in a medical specialty camp has “helped the students move beyond the textbook and deepen their commitment to serving future patients with compassion” (Beck, Chretien, & Kind, 2015, p. 1279). Additionally, the findings that indicate that the use of service-learning in a medical specialty camp can enhance outcomes associated with the student counselor and camper are notable. Unfortunately, research on service-learning in relation to the profession of recreation is currently limited, although the link between the two entities is overwhelmingly strong and consistently used as an educational tool for professionals (Zimmerman, Dupre & Hodges, 2014).

Limitations

All three studies had limitations, which are explained below. First, the duration of Family Diabetes Camp (FDC) was short, lasting approximately 36 hours over a three-day weekend. Also, the data were based on self-report. Moreover, the first measures of the study were taken at intake into the camp setting and are baseline scores. A more accurate baseline,

taken prior to camp, would have been ideal. Additionally, the camp environment in which the campers, parents and counselors took the questionnaire was not controlled for during the administration and delivery of the questionnaires, nor were the participants randomly selected. Finally, the small sample size limited the generalizability of findings.

Paper One [Chapter II] revealed the following specific limitations. The researchers did not use the campers' HbA1c levels to compare resilience to other outcomes identified in this study. Throughout the intervention, the students used fitness tracking devices to monitor their heart rate, steps, and calories burned. However, none of these data were analyzed in this study. Future studies should implement the use of fitness tracking devices during camp to monitor campers' level of engagement. They must explore, identify, and examine the motivational factors that address various concepts surrounding the needs of youth with T1DM, to increase their overall well-being. An expansion on the recreational, educational, and social aspects in relation to youth with T1DM and the opportunities they receive is essential in determining the best ways to counteract issues faced due to health, income, or family background. Additionally, campers' experiences must be analyzed through program implementation in conjunction with their blood glucose level and diastolic readings or other assessments used to evaluate their participation in physical activity as it relates to outcomes achieved from participation.

Paper Two [Chapter III] revealed the following limitations. The environment in which the youth, counselors, and parents took the questionnaire was not controlled. Additionally, the camp environment was not controlled for during the administration and delivery of the questionnaires. The delivery technique of each facilitator was varied, and the amount of time the

parents spent completing each questionnaire was varied. The campers' ability to understand questionnaire questions and directions was not controlled. Low response rates from the parents in the one-month follow-up questionnaire did limit the generalizability of the findings. The sample size of the parents who completed the online, follow-up questionnaire yielded only 11 respondents. This small sample may have occurred as some parents may have felt that no changes had occurred since the posttest and chose not to respond or complete the follow-up questionnaire. The delivery technique of each facilitator was varied and the amount of time the parents spent completing each questionnaire was varied. The campers' ability to understand questionnaire questions and directions was not controlled. Finally, the participants were not randomly selected, and low response rates from the parents in the one-month follow-up questionnaire did limit the generalizability of the findings.

Paper Three [Chapter IV] revealed the following limitations in the study. First, the student counselors were volunteers from local universities who were interested in supporting youth with (T1DM) during a medical specialty camp. Future studies should extend the opportunity to participate as a student counselor to students who are not already directly associated with a current staff member of FDC. Although the student counselors were provided with an in-depth educational session about T1DM, many had never engaged with someone who had been diagnosed with T1DM. Future studies should look at implementing a more intensive training to educate the student counselors about T1DM. The environment where the student counselors took the questionnaire was not controlled. Future studies should identify how environmental conditions affect data collection in a camp setting. The student counselors' ability

to understand questionnaire questions and directions was not controlled. Future studies should assess how observers interpret the questions to limit inconsistencies. Finally, the small sample size limited the generalizability of findings. The sample size of the student counselors who completed the online questionnaire yielded only 8 respondents, with only 5 completed questionnaires (three failed to complete the survey). The researchers believe that this may have occurred because the questionnaire was too long. Future studies should tease out questions to reduce the number of questions asked, as the student counselors may have been exhausted when they were given the ACA-YOB-SP survey immediately following the end of the three-day camp experience.

Implications for Future Research

This study can be used as the framework for future studies to explore medical specialty camps and resilience. Its findings may encourage researchers to better understand the need to provide services that encourage resilient behaviors, stimulate learning, and educate participants about the importance of healthy diabetes management. Expanding the recreational, educational, and social opportunities for youth with T1DM is essential in order to determine the best ways to counteract issues faced due to health, income or family background (American Association of Diabetes Educators, 2018). Campers' experiences must be analyzed through program implementation in conjunction with their blood glucose level or other assessments used to evaluate their participation in physical activity as it relates to outcomes achieved from participation (Colberg, 2015). Future researchers should explore current methods of programming (e.g., camps, activities, events), as well as conduct a needs assessment, to

determine design criteria for structured programs beyond medical specialty camps that provide a platform to support, assist, and educate youth with various outcomes that result from mismanagement of T1DM. Finally, future research could explore all eleven original outcomes presented by the ACA (i.e., Friendship Skills, Independence, Teamwork, Family Citizenship, Perceived Competence, Affinity for Exploration, Responsibility, Affinity for Nature, Problem-Solving Confidence, Camp Connectedness, and Spiritual Well-Being), to understand how campers are impacted by the outcomes, specifically, in a medical specialty camp.

More research should be conducted on the psychosocial impact surrounding youth's ability to overcome both the internal and external adversities that threaten a child's ability to successfully sustain healthy management of T1DM. Adherence rates for youth are typically poor, and as evidenced in a recent meta-analysis, adolescents have significantly more mental, social, and academic problems than their healthy peers (Pinquart & Shen, 2011). Previous studies have focused on youth outcomes grounded in self-determination theory in diabetes camps (Hill & Sibthorp, 2006; Hilliard, Hagger, Hendrieckx, Anderson, Trawley, Jack, Pouwer, Skinner & Speight, 2017; Husted, Thorsteinsson, Esbensen, Gluud, Winkel, Hommel, & Zoffmann, 2014; Ryan & Deci, 2000; Taylor et al., 2012), while few studies have examined the impact of parental involvement and youth resilience in family diabetes camps (Hilliard et al., 2017; Winsett, Stender, Gower, & Burghen, 2010). Additionally, future longitudinal research is needed to analyze and compare parent and child perceptions and to explore the differences in perceptions regarding what campers learn at camp and what they need to learn and understand through the camping experience.

Future research is also needed to further explore the reciprocity of gains through the integration of service-learning (Jacoby, 2013). Empirical evidence of such gains from student counselor perceptions has been limited, resulting in limited access and knowledge about student counselor involvement in medical specialty camps. Future research should be conducted on the psychosocial impact surrounding student counselors' ability to implement, engage, and successfully attain skills associated with service-learning. The positive outcomes associated with participation in medical specialty camps should lead to further research to identify those influential factors that enhance medical treatment practices in a camp setting. Furthermore, researchers can work to better understand the medical specialty camp model to enhance collaborative opportunities among professionals in a variety of disciplines.

Conclusion

Poor diabetes management can lead to medical complications including blindness, kidney failure, stroke, non-emergent amputation, and even death (Bryden et al., 2001, JDRF 2013). Type 1 diabetes mellitus (T1DM) is a longstanding, incurable chronic illness affecting 13,000 children in the United States yearly, resulting in an insulin-dependent lifestyle for the remaining years of their lives (CDC, 2017). The camp setting uniquely offers participants the opportunity to share common experiences, form meaningful friendships, and make decisions about behaviors that impact their diabetes (Garst et al., 2011; Hill et al., 2015; Hill et al., 2016). The analysis of a collective and diverse medical specialty camp designed to nurture resilience and enhance diabetes management in youth was assessed to better understand the effects of incorporating a treatment team approach with the use of a resilience-based framework. Programs and "camps for

children and youth focused on diabetes are invaluable” (Hergenroeder & Wiemann, 2018, p. 37). More research is needed to explore the underpinnings of medical specialty camps and resilience to narrow the gap and further understand the need to provide services that will stimulate growth, encourage autonomy, educate participants about the importance of healthy diabetes management, and empower resilient behaviors. The findings from this study indicate that parental involvement involves a multifaceted connection to a child’s ability to manage life that is adversely affected by a chronic illness.

Prior studies indicated successful outcomes for youth with diabetes in developing skills to navigate and manage the adversity of having diabetes from participating in a medical specialty camp (Hill et al., 2015; McAuliffe-Fogarty, 2007). Family Diabetes Camp (FDC) encompassed opportunities to support the family through activities and education, while allowing college students to engage in service-learning. Literature focused on the use of recreational programming and service-learning, as a combined practice in higher education, is limited (Shultz, 2017). This study documents the impact, correlation, and benefits associated with practical-learning experiences in the combined areas of recreational programming and service-learning, as compared to other areas (Coetzee et al., 2011; Maynes et al., 2013; Zimmerman et al., 2014). The findings provide evidence that the use of service-learning in a medical specialty camp can enhance meaningful outcomes associated with the student counselor and camper. Recreation practitioners and medical professionals must emphasize the importance of not only attaining the gains associated with the campers and their parents, but also of analyzing the impact of student counselors in programming. Programming helps recreation practitioners and medical

professionals focus on organizing, developing, and addressing programs related to health, behavior, education, and recreation to support and promote good health in youth with T1DM and other chronic illnesses.

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VITA

TAKEYRA M. COLLINS, CTRS**Education**

- Ph.D. Sport & Recreation Management, Old Dominion University, 2019**
 Doctor of Philosophy in Education
 Dissertation Title: *Medical Specialty Camps: A Holistic Approach to Assist in the Management of Diabetes* Advisor: Dr. Eddie Hill, CPRP
- M. Ed. Physical Education, Old Dominion University, 2009**
 Concentration: Recreation & Tourism Studies
 Thesis Topic/Title: *Design, Development, and Implementation of a Resiliency based After-School Program for Sixth Grade Students through Recreational Activities.*
- B.A. Recreation and Leisure Studies, Virginia Wesleyan College, 2008**
 Emphasis: Recreation Therapy
 Minor: Psychology

Academia Employment

- 2017-2019 *Instructor*, Recreation and Leisure Studies Department, Virginia Wesleyan University, Virginia Beach, VA.
- 2013-2017 *Visiting Instructor*, Recreation and Leisure Studies Department, Virginia Wesleyan College, Norfolk, VA.
- 2009-2010 *Lecturer*, Human Movement Sciences Department, Recreation & Leisure Studies Program, Old Dominion University, Norfolk, VA.
- CO-Director-CARE NOW After-School Program Manager (Character & Resiliency Education with Norfolk Public Schools & Old Dominion University)*
 Human Movement Sciences Department, Recreation & Tourism Studies, Old Dominion University. Norfolk, VA. (2009-2010).
- 2008-2009 *Graduate Teaching Assistant*, Human Movement Sciences Department, Recreation & Tourism Studies, Old Dominion University, CARE NOW After-School Program Manager (Character & Resiliency Education with Norfolk Public Schools & Old Dominion University)

Professional Employment (Outside of Academia)

- 2013 *Director of Therapeutic Recreation, CTRS, Oceans Behavioral Health Hospital, Kenner & Gretna Facilities, Inpatient Psych Hospital, Adults 55 and older, New Orleans, LA (Full-time).*
- 2012 *Recreation Therapist, CTRS, Psychiatry Department, Naval Medical Center Portsmouth Hospital, Directorate Mental Health, Bio-psychosocial Services, Contract- Chesapeake Government Health Services, Portsmouth, VA 23704 (Full-time).*
- 2010-2011 *Recreation Therapist- GS-10-0638, Department of Veterans Affairs, VHA, Pacific Health Care System, Geriatrics, Rehabilitation and Extended Care, Community Living Center, 459 Patterson Road, Honolulu, HI 96815 (Full-time).*

SCHOLARLY ACTIVITY

*Publications, Published Proceedings, Abstracts and Reports (*indicated refereed publication or proceeding)*

1. *Stolley, K. S., & **Collins, T.**, Clark, P., Hotaling, D., & Takacs, R. (2017, August). "Taking the Learning from Service Learning into the Post-College World." *Journal of Applied Social Science*, 11(2), 109-126.
2. Hill, E., Evans, A., Ramsing, R., & **Collins, T.** (Under review). Examining collaborative day camps: A focus on youth outcomes. *Journal of Youth Development*.
3. *Hill, E., Ramsing, R., Goff, J., Kennedy, B., Posey, **T., Collins, T.**, & Turnage, M. (Under review). Family diabetes camp: Fostering resiliency among campers and parents. *Journal of Park and Recreation Administration*.
4. *Hill, E., Ramsing, R., Goff, J., Turnage, M., Kennedy, B., & **Collins, T.** (2016). *Family diabetes camp: Fostering resiliency among campers and parents*. Paper presented at National Recreation and Parks Association Leisure Research Symposium, St. Louis, MO. Abstract retrieved from <http://www.academyofleisureciences.com/publications/nrpa-leisure-research-symposium-book-abstracts>
5. *Goff, J., Hill, E., Holt, J., Ramsing, R., & **Collins, T.** (2015, September). Campus recreation day camps: Predicting camper outcomes. Paper presented at the NRPA Leisure Research Symposium (pp. 65-67). Ashburn, VA: National Recreation & Park Association.
6. ***Collins, T.**, Gómez, E., Hill, E. L., Milliken, T., Goff, J., and Gregory, N. (2013). The Resiliency and Attitudes Skills Profile: An Assessment of Factor Structure. *Illuminare: A Student Journal in Recreation, Parks, and Leisure Studies*, 11(1), (pp.16-30).

Research in Progress

1. Doctoral Dissertation: *Medical Specialty Camps: A Holistic Approach to assist in the Management of Diabetes*

2. Stolley, K., **Collins, T.**, & Hotaling, H. (In progress). "An On-Campus Homeless Shelter: A Case Study in Service-Learning and Civic-Engagement."

Published Abstracts

1. Goff, J., Hill, E., Holt, J., Ramsing, R., & **Collins, T.** (2015, September). *Campus recreation day camps: Predicting camper outcomes*. Paper presented at the NRPA Leisure Research Symposium (pp. 65-67). Ashburn, VA: National Recreation & Park Association.
<http://www.academyofleisureciences.com/publications/nrpa-leisurerearch-symposium-book-abstracts>.

Presentations (*indicated refereed presentation)

National

1. **Collins, T.** (2019, October). "Incorporating Family into Medical Specialty Programming: A Parent Perspective". National Recreation & Parks Association, Baltimore, MD.
2. **Collins, T.** (2019, October). "Medical Specialty Camps: Exploring the Impact of Service-Learning". Association for Applied & Clinical Sociology Annual Conference, Portland, OR.
3. Allen, A., **Collins, T.**, Gabriele, C., Hill, E., Kennedy, B., & Williams, L. (2018, October). 2018 AORE WEA Joint National Conference in Snowbird, UT. *Medical Specialty Camps: Campers/Staff Perceptions using the ACA Youth Outcomes Battery*.
4. **Collins, T.** (2017, October). "Academic Service Learning: Can an Interdisciplinary Studies course focused around homelessness serve as an intervention for risk factors of stigmatization while increasing knowledge?." *Association For Applied & Clinical Sociology Annual Conference*, Cleveland, OH.
5. **Collins, T.**, Stolley, K. S., & Takacs, R. (2017, October). "Ten Steps to an On-Campus Winter Homeless Shelter." (Panorama of Applied & Clinical Sociology: A Modified Pecha Kucha Presentation). *Association For Applied & Clinical Sociology Annual Conference*, Cleveland, OH.
6. Hill, E., Abigail, M., **Collins, T.**, & Ramsing, R. (Under review). Examining collaborative day camps: A focus on youth outcomes. *American Camp Association*. Orlando, FL. February.
7. *Hill, E., Ramsing, R., Goff, J., Turnage, M., Kennedy, B., & **Collins, T.** (2016, October). "Family Diabetes Camp: Fostering Resiliency Among Campers and Parents." *National Recreation & Parks Association Annual Conference*, St. Louis, MO.
8. *Stolley, K. S., & **Collins, T.** (Clark, P., Hotaling, D., & Takacs, R.). (2016, August). "Taking the Learning from Service-Learning into the Post-College World." *American Sociological Association Annual Conference*, Seattle, WA.
9. *Hill, E., **Collins, T.**, Ramsing, R., & Evans, A. (2016). Collaboration between secondary schools and universities for outdoor camps: Using the ACA Youth Outcomes Battery.

Association for Outdoor Recreation & Education National: Research Symposium. Minneapolis, MN. November.

10. *Goff, J., Hill, E., Holt, J., Ramsing, R., & **Collins, T.** (2015, September). Campus recreation day camps: Predicting camper outcomes. National Recreation and Park Association Congress and Exposition: Leisure Research Symposium, Las Vegas, NV.
<http://www.academyofleisuresciences.com/publications/nrpa-leisure-research-symposium-book-abstracts>.
11. Kennedy, B. & **Collins, T.** (2015, September). *Facilitating Group Activities Using a Therapeutic Recreation Toolkit*. Oral Presentation at the American Therapeutic Recreation Association Conference in Albuquerque, NM.
12. *Goff, J., Bower, J., Hill, E., & **Collins, T.** (2014, October). *Impacts of service learning on undergraduate teaching assistants in an after-school program: A qualitative approach to discovery*. Oral Presentation at the Leisure Symposium, National Recreation & Parks Association, Charlotte, NC.

State

1. **Collins, T.** (2019, March). Pet Therapy, Animal-Assisted Therapy, & Recreation Therapy. Guest Speaker/Oral Presentation in SOC 237: Animals in Society Course at VWU.
2. **Collins, T.** (2018, March). Pet Therapy, Animal-Assisted Therapy, & Recreation Therapy. Guest Speaker/Oral Presentation in SOC 237: Animals in Society Course at VWU.
3. **Collins, T.**, Sturts, J., Allen, A., & Wright, D. (2017, October). *It's a Win-Win: Strategies for Internship Success (Seekers and Supervisors)*. Oral Presentation at Virginia Recreation & Parks Society Annual Conference in Hampton, VA.
4. **Collins, T.** (2017, October). *Effective Senior Programming in Long-Term Care*. Oral Presentation at Sentara Senior Services Workshop Training for Recreational Therapists and Activity Staff.
5. **Collins, T.**, Mock, L., & Kyrus, C. (2017, May). *Utilization of Computer Technology tailored towards recreation therapy among various populations*. Oral Presentation at the Virginia State Therapeutic Recreation Association Conference at Longwood University, Farmville, VA.
6. **Collins, T.** (2017, May). *Props or No Props: Games for Leaders. Adding More Fun to Your Bag of Tricks*. Oral Presentation at the Virginia State Therapeutic Recreation Association Conference at Longwood University, Farmville, VA.
7. **Collins, T.**, Mock, L., & Kyrus, C. (2017, May). *Agency/University Partnership: Providing Service Learning Through a Technology-based Study*. Oral Presentation at the Virginia State Therapeutic Recreation Association Conference at Longwood University, Farmville, VA.

8. **Collins, T.** (2017, May). *It's Time to Meet Someone New....Speed Networking 101*. Oral Presentation at the Virginia State Therapeutic Recreation Association Conference at Longwood University, Farmville, VA.
9. **Collins, T.** (2017, April). Trends in Programming for Dementia. Oral Presentation at Sentara Senior Services Workshop Training for Recreational Therapists and Activity Staff.
10. **Collins, T.** (2017, March). Pet Therapy, Animal-Assisted Therapy, & Recreation Therapy. Guest Speaker/Oral Presentation in SOC 237: Animals in Society Course at VWU.
11. **Collins, T.,** Mock, L., & Kyrus, C. (2016, September). *Utilization of Computer Technology tailored towards recreation therapy among various populations*. Oral Presentation at the MidEastern Symposium on Therapeutic Recreation at Clarion Fontainebleau Hotel and Resort in Ocean City, MD.
12. **Collins, T.** Mock, L., & Kyrus, C. (2016, September). *Agency/University Partnership: Providing Service Learning Through a Technology-based Study*. Oral Presentation at the MidEastern Symposium on Therapeutic Recreation at Clarion Fontainebleau Hotel and Resort in Ocean City, MD.
13. **Collins, T.** (2016, March). Pet Therapy, Animal-Assisted Therapy, & Recreation Therapy. Guest Speaker/Oral Presentation in SOC 237: Animals in Society Course at VWU.
14. **Collins, T.** & Kennedy, B. (2015, May). *Facilitating Group Activities Using a Therapeutic Recreation Toolkit*. Oral Presentation at the Virginia State Therapeutic Recreation Association Conference at Longwood University, Farmville, VA.

CERTIFICATION/LICENSURE

National Council for Therapeutic Recreation Certification. CTRS Certification #56256.
 Basic Life Support Healthcare Provider Certified (BLS).
 CPR & Automated External Defibrillation

ACADEMIC RECOGNITIONS & OUTSTANDING ACHIEVEMENTS

2019 Bronze Presidential Community Service (100-249 Service Hours Completed)
 2018 Young Professional Fellowship Recipient from the National Recreation & Park Association
 2018 Faculty Service & Community Engagement Award Recipient from Virginia Wesleyan University
 2018 Outstanding Faculty Advisor at Virginia Wesleyan University Recipient
 2018 Outstanding Collaborative Program- Winter Shelter Managers- Shack-a-Thon Recipient
 2018 Outstanding Program- Winter Shelter Managers- Shack-a-Thon Recipient
 2017 INTEL Grant Recipient:
 '15-'16 Faculty Team Advisor (FTA) of the Year Recipient (Athletic Awards Banquet May 4, 2016)
 2015 James K. Cole Scholarship Recipient: VRPS & The Foundation of VRPS '15
 2008 VRPS Eastern Therapeutic Recreation Student Scholarship Award Recipient.
 '06-'07 All-Academic Team, Old Dominion Athletic Conference Recipient
 2006 Coaches Award Recipient Virginia Wesleyan College, Volleyball Collegiate Athlete.
 2004 Coaches Award Recipient Virginia Wesleyan College, Volleyball Collegiate Athlete.