Social Marketing Approach to Understanding What Adolescents Need in a Community-Based Healthy Lifestyle Intervention Program

by

Tiffany Patterson
B.Sc., University of Victoria, 2012

A Thesis Submitted in Partial Fulfillment of the
Requirements for the Degree of

MASTER OF SCIENCE

in the School of Exercise Science, Physical and Health Education

Supervisory Committee

Social Marketing Approach to Understanding What Adolescents Need
in a Community-Based Healthy Lifestyle Intervention Program

by

Tiffany Patterson
B.Sc., University of Victoria, 2012

Supervisory Committee

Dr. Patti-Jean Naylor, School of Exercise Science, Physical and Health Education
Supervisor

Dr. Joan Wharf Higgins, School of Exercise Science, Physical and Health Education
Departmental Member

Abstract

Supervisory Committee

Dr. Patti-Jean Naylor, School of Exercise Science, Physical and Health Education
Supervisor

Dr. Joan Wharf Higgins, School of Exercise Science, Physical and Health Education
Departmental Member

Background: Overweight and obesity affects almost 30% of Canadian children and adolescents aged 2-17 years old which can lead to chronic disease later on in life. Research shows that healthy weight programs are effective at reducing BMI but have issues regarding recruitment and retention. One way to address these problems is by using a Social Marketing framework to determine what adolescents need in a community-based healthy weight program. **Methods:** Open-ended and closed-ended question surveys were conducted with multiple perspectives including youth aged 13-17 years, parents, and youth workers in Fall 2018. Open-ended question answers were *a priori* categorized by the '4Ps' of the SM framework (Product, Price, Place, and Promotion) while frequency count data was generated for closed-ended question answers. Open-ended answer data were managed using NVivo 12 and were analyzed using Braun and Clarke's six-step approach to thematic analysis (Braun & Clarke, 2006). **Results:** A 'marketing mix' was thematically generated to identify elements of a healthy weight program that adolescents need in order to participate from all three perspectives. Based on the findings, programs should include physical activity, nutrition, and emotional/social health components that are relevant and fun (Product). They should also emphasize benefits to participating such as improvement to physical and mental health, having fun, receiving incentives, and building relationships (Product) while minimizing barriers including emotional health concerns, lack of time, financial cost, transportation, boring programs (Price). Differences were found amongst perspectives in terms of types of incentives, transportation, and cost of program. Programs should take place in convenient, appealing, and safe locations that may already exist including schools or recreation centres (Place) and should also be promoted using social media and peer word-of-mouth or create partnerships with youth-relevant organizations and use body positive language (Promotion). **Conclusion:** Using this foundational work of a 'marketing mix' can help program developers design programs that will help recruit and retain youth in community-based healthy weight programs. Elements of social marketing were not considered in this study including competition, segmentation, and branding which further highlights the need for exploring competing behaviours in youths' lives, different priority audience segments of BC, and brands that can be used to recruit and retain youth.

Table of Contents

List of Tables

List of Figures

Acknowledgements

Thank you first off to my wonderful supervisor Dr. PJ Naylor who took me on as "one last student" and guided me through this research project with wisdom and enthusiasm. Your consistent optimism and support made this experience a truly positive one. I would also like to thank Dr. Joan Wharf Higgins for her expert guidance in Social Marketing and patience for my bombardment of email questions throughout the course of this project. I truly appreciate it!

I would also like to thank a few professors who have helped shaped by experience these past few years. First, I would like to thank Dr. Lara Lauzon for her kind and thoughtful conversations. Second, I would also like to thank Dr. Kathy Gaul for her faith in my abilities. Lastly, Dr. Todd Milford whose demeanor made statistics more enjoyable than I thought possible.

To my friends and family, thank you for supporting me along the way – I couldn't have done this without any of you. My parents and sisters, I love you all and thank you for sacrificing holiday time so that I could finish my projects – I owe you! Special thanks to my fiancé Aaron for all of his heavy lifting and always believing in me and pushing me to be better and reach higher – I love you.

Tiffany

Victoria, BC
March 2019

CHAPTER ONE

1.1 Introduction and review of the literature

Global childhood and adolescent obesity rates have increased at an alarming rate for the past 3-4 decades and in Canada roughly 30% of Canadian individuals between the ages of 5-17 years-old are now affected (Ng, Fleming, Robinson, Thomson, & Graetz, 2014; Rao, Kropac, Do, Roberts, & Jayaraman, 2016; Fuentes et al., 2016). Overweight and obesity increase the risk of chronic disease later in life because of the higher likelihood of overweight adolescents growing up to be overweight adults (Flynn et al., 2006). Up to eighty-percent of obese adolescents are likely to be obese past the age of 30 which can lead to the development of chronic non-communicable diseases including cardiovascular disease, cancer, type 2 diabetes mellitus, and many more (Elvsaas, Giske, Fure, & Juvet, 2017; Moores et al., 2018; Thunfors, Collins, & Hanlon, 2009; Tripicchio et al., 2017; Wilson, 2007). Gradual increases in weight gain from adolescence to adulthood are common (Goldschmidt et al., 2017) which is why this time period is crucial for developing healthy lifestyles and initiating preventive efforts that can be carried forward into early adulthood and beyond (Kornet-van der Aa, Altenburg, van Randeraad-van der Zee, & Chinapaw, 2017; Reece, Bissell, & Copeland, 2016). This time period is also crucial for healthy behaviour change because better maintenance of weight loss has been observed in youth when compared to adults (Smith, Straker, McManus, & Fenner, 2014) and those in younger adolescence have been found to be more likely interested in healthy behaviour practices than those in older adolescent years (Thunfors et al., 2009).

The obesity epidemic has been heavily debated but conclusively attributed to an imbalance of energy which stems from a multitude of factors starting with genetics and social structures and including the health behaviour practices such as unhealthy eating patterns, lack of physical activity and excessive inactivity (Elvsaas et al., 2017). The gradual decrease in physical

activity levels during adolescence (Colley et al., 2017; Huhman et al., 2010; Moores et al., 2018; Wilson, 2007) combined with unhealthy dietary changes (Araújo & Ramos, 2017) and an increase in sedentary behaviour (Tremblay et al., 2011), strengthens the argument that this time period is a critical point to address these issues (Moores et al., 2018).

Unfortunately, there is limited evidence on weight management interventions that serve adolescents and where it exists there are issues with their success. The following literature review provides an overview of unique characteristics of adolescence as a stage of development, details existing healthy weight intervention programs and the issues contributing to their lack of success and suggests an alternative approach is needed. Social marketing is introduced as a potential framework for improving the development of youth healthy weight interventions leading to the need for further research to explore the unique needs of adolescents beginning with an understanding of the features of adolescence as a stage of development.

1.2 Unique features of adolescence that impact healthy weight intervention programs

Adolescence is an important time where biological, social, and behavioural changes begin to develop (Kornet-van der Aa et al., 2017) At this point in time, adolescents are starting to: cultivate a sense of autonomy and identity separate from their family and parents, strive to fit in and gain acceptance from peers, develop competence and pursue achievement, and make commitments to particular goals, activities, and beliefs (Brown, Clasen, & Eicher, 1986; Neumark-Sztainer, Larson, Fulkerson, Eisenberg, & Story, 2010; Reece et al., 2016). At this stage, it's been found that obese youth tend to de-prioritize non-structured physical activity (e.g., walking, playing, etc.) while believing that the only way to lose weight is through vigorous exercise (Kebbe et al., 2017). This misperception may have reinforced adolescents' sedentariness we see today (Kebbe et al., 2017) as adolescence is associated with a decline in physical activity

engagement (Colley et al., 2017) and an increase in sedentary behaviour (Tremblay et al., 2011). Youth also begin to take responsibility for their food choices (Bassett, Chapman, & Beagan, 2008) and peer-dynamics start to become very important (Dailey, 2010) which is a concern that may contribute to overweight risk behaviours such as physical inactivity and unhealthy diets (Moores et al., 2018). Moreover, adolescence is a peak time for caloric consumption and poor diet quality (Alberga, Sigal, Goldfield, Prud Homme, & Kenny, 2012). Since teens increasingly begin to purchase and consume food away from home during this development stage, the influences of peer pressure, acceptance, and conformity needs become important factors to consider (Bassett et al., 2008) when addressing dietary behaviours in healthy weight interventions.

An additional concern is the unhealthy dietary practices that may occur when youth experience age-related weight gain, such as binge eating or extreme dieting which could further increase the risk for overweight/obesity in early adulthood (Goldschmidt et al., 2017). Concerns about intervention programs possibly contributing to unhealthy eating and physical activity obsessions and behaviours have been voiced in the literature (Wilson, 2007). Researchers advise program developers to assess future interventions for doing no harm in order to limit the possible risk of developing unhealthy preoccupations with weight status (Thunfors et al., 2009). Specifically, there is concern surrounding weight lifting being linked to steroid and human growth hormone use in males, while for females the concern is the notion that participation in health behaviour programs is more out of a desire to improve attractiveness than to improve their physical fitness (Thunfors et al., 2009). Research demonstrates that a strong motivator for obese youth to participate in these programs is oftentimes dissatisfaction with body and appearance (Engström, Abildsnes, & Mildestvedt, 2016a). Facilitators and program developers need to be

aware of these attitudes in order to lower the risk of participants developing or exacerbating extreme health behaviours as a result of program participation.

Autonomy-striving and independence are two very important aspects during the adolescent development process and the relationship between parents and their youth becomes more egalitarian (Steinberg & Sheffield Morris, 2001). As a result, research does show that parents serve somewhat of a secondary role when it comes to adolescent healthy weight interventions compared to parents playing a more direct role in child healthy weight interventions (Faith et al., 2012).

1.3 Healthy weight programs for adolescents

Adolescents are described as a relatively underserved population compared with children aged 6-12 years and adults with regards to nutrition, health education, and long term healthy weight intervention research (Butryn et al., 2010; Casazza & Ciccazzo, 2007; Epstein, Valoski, Wing, & McCurley, 1994; Reece et al., 2016; Smith, Straker, et al., 2014). Meta-analyses have been conducted in the past two years detailing evidence for youth healthy weight programs focusing on specifics such as: multi-component lifestyle interventions (Elvsaas et al., 2017), maintenance interventions (van der Heijden, Feskens, & Janse, 2018), and community-based interventions (Moores et al., 2018).

Elvsaas et al. (2017) focused on 39 randomized control trials (RCT) multi-component child (under the age of 12 years: $n = 20$) and youth (over the age of 12 years: $n = 19$) lifestyle interventions in which two or more strategies were targeted including diet, physical activity, and behaviour. Studies were included if they assessed BMI and/or BMI *Z* score from baseline to 6, 12, and/or 24 months post-treatment and compared that against standard, minimal, and no treatment. Meta-analyses were performed based on studies' follow-up time period (i.e. 6, 12, and/or 24 months post-treatment) and statistical significance was found for intervention effect for

both BMI and BMI Z score at 6 and 12 months but not 24 months. It was also found that multi-component interventions had a moderate treatment effect on BMI and BMI *Z* scores in which the most effective interventions seemed to be delivered through specialist healthcare (n = 8 and n = 6 for 6 months and 12 months, respectively) and included a group treatment component (n = 8, n = 13, and n = 7 for 6 months, 12 months, and 24 months, respectively). Elvsaas et al. (2017) however, did remark that this outcome may have been due to the limited data and lack of standardized procedures in other settings like primary care or Internet interventions. All studies included in this review took place either in schools, primary care, hospitals, or other health institutions and most of the studies experienced high dropout rates (Elvsaas et al., 2017).

A systemic review by Moores et al. (2018) instead looked at 21 different community-based interventions specific to the treatment of adolescent (13-17 years) obesity and assessed BMI *Z* scores at the end of the intervention and at a follow up period anywhere from 10 weeks to 24 months after baseline. Programs were heterogenous in terms of frequency of contact/intensity of sessions, length, and parent involvement and did not seem to be associated with weight specific outcomes post-intervention. However, there were seven interventions that reported weight management follow-up with significant sustained outcome effectiveness and four of those seven that included a psychological component seemed to be the most effective at follow-up. As a secondary outcome, researchers also found that programs that were effective at reducing the level of overweight had significant positive effects for increasing self-esteem and/or quality of life in participants. Upon closer inspection, 19 of the community-based interventions that Moores et al. (2018) reviewed appeared to be either facilitated by health professionals (e.g., pediatricians, nurses, doctorate-level psychologists, etc.), conducted in primary care or outpatient clinics, conducted entirely online, or one-time university-led pilot studies (Moores et al., 2018). Only two of the 21 studies were facilitated in community-based facilities but involved both allied and

non-allied health professionals (Bartelink, Jansen, Kremers, Mulkens, & Mujakovic, 2014; Bartelink, Mulkens, Mujakovic, & Jansen, 2018; Foster et al., 2014). Foster et al. (2014) facilitated a program including both children and adolescents of which adolescents only made up roughly 25% of the group studied. According to Moores et al. (2018), after assessing sustained effect in BMI Z scores, the results achieved in this study were not clinically significant. Bartelink et al. (2014; 2018) conducted a successful community-based adolescent healthy weights program in the Netherlands called RealFit but the team facilitators consisted of dieticians, sports instructors, and psychologists (Bartelkink et al. 2014; 2018). Outcome results at follow up were significant according to previous research (Kolsgaard et al., 2011) when sustained effect in BMI Z scores was calculated.

In light of Moores et al. (2018) review, it can be seen that adolescent healthy weight programs experience modest results with the findings of only 16 of the studies reporting follow-up measurements post-intervention and only 7 of the programs reviewed maintained weight management outcomes (Moores et al., 2018). Further, 20 of the 21 community-based programs reviewed were delivered by clinical professionals and often in a clinical setting which may not be available in all communities. Only one demonstrated a non-allied health professionally delivered model in a community facility setting (Foster et al., 2014) and a majority of the studies reviewed experienced recruitment and retention challenges (Moores et al., 2018).

Although there is some evidence for the positive effects of adolescent healthy weight intervention programs, it appears that issues are still present when it comes to recruitment, retention, and attrition rates.

1.4 Challenges for adolescent healthy weight intervention programs

It is evident from the literature that a majority of studies on adolescent obesity management programs in the community have been delivered by clinical professionals but still struggle with recruitment and dropout issues (Moores et al., 2018; Smith, Straker et al., 2014).

The quality and accessibility of some programs have been regarded as inconsistent and literature on these treatments show a lack of statistical and clinical significance in outcomes with high rates of drop-out and relapse post-intervention (Smith, Straker et al., 2014; Thunfors et al., 2009). Moores et al. (2018) examined the significant changes in adolescent BMI Z scores in weight interventions programs but noted the difficulty determining clinical significance in weight loss since there is no specific definition for this population (Moores et al., 2018). However, according to Moores et al. (2018), studies reporting a change in BMI Z score with a sustained effect at or above 9% would be regarded as clinically significant in terms of weight loss as recommended in the literature (Kolsgaard et al., 2011).

Despite a substantive body of evidence suggesting efficacy there is a dearth of research regarding recruitment, retention, and best-practices for adolescent intervention programs (Cui, Seburg, Sherwood, Faith, & Ward, 2015; Smith, Straker, et al., 2014; Thunfors et al., 2009); a need suggested by multiple researchers. Further, older adolescents tend to have more trouble achieving success in weight management programs compared with children (Danielsson, Kowalski, Ekblom, & Marcus, 2012; Knop et al., 2015) and older adolescent ages seem to be predictive of attrition (Dhaliwal et al., 2014) with rates ranging from 27-73% (Sallinen Gaffka, Frank, Rhodes, Santos, & Hampl, 2013) and the majority of studies reporting a rate higher than 50% (Skelton, Goff, Ip, & Beech, 2011). Suggestions about what the structure and content of weight intervention programs should look like are inconsistent (van der Heijden et al., 2018). Although best practice recommendations for effective program structure and outcomes have

been suggested, no one program model has emerged as superior (Flynn et al., 2006) despite more recent accounts of the challenges and facilitators influencing recruitment, retention, maintenance of healthy behaviour change, and attrition rate issues (Dhaliwal et al., 2014; Grow et al., 2013; Sallinen Gaffka et al., 2013; Smith, Straker, et al., 2014).

Furthermore, parents, youth, and community stakeholders have noted the need for community-based programs for adolescents to both achieve *and* maintain healthy behaviour changes (Smith, Straker et al., 2014). Support opportunities in the community after interventions are key for helping participants maintain lifestyle changes they've adapted during the program (Reece et al., 2016).

Research has also explored the involvement of parents in adolescent intervention programs. Parents have limited direct effect on youth health behaviour which would explain the disappointing findings in adolescent healthy weight interventions involving parents and/or family units (Danielsson et al., 2012); however, research does show that parents serve somewhat of a different role through modelling healthy behaviours that their adolescent may mimic (Knop et al., 2015) and also consenting, supporting, and providing coordination in order for the adolescent to participate in programs (Cui et al., 2015). They also monitor and control the environment in which their adolescent is given independence and responsibility to choose food for consumption (Hermans, de Bruin, Larsen, Mensink, & Hoek, 2017). Although youth participants involved in lifestyle programs have stated that family support is important for making healthy lifestyle choices, having their family directly participate in prevention programs has not been highly valued (Wilson, 2007). Research has shown that youth want the option to participate in programs on their own without their families or guardians (Jung, Bourne, & Gainforth, 2018). It has also been mentioned that addressing adolescents via their parents has been shown to be inappropriate;

therefore it has been suggested that interventions for adolescent weight management should be addressed directly to the adolescent (Markert et al., 2014).

1.5 Determinants of and barriers to program participation

Multiple studies have outlined program and personal characteristics that may affect youth participation in healthy weight interventions. These factors include a lack of awareness that they are overweight, embarrassment about having to attend, financial cost to attend a program, support at home and from peers, transportation/location, life stresses, and lack of time (Kebbe et al., 2017; Nader, Ward, Eltonsy, & Bélanger, 2018; Riiser et al., 2014; Smith, Straker et al., 2014; Young et al., 2006). Smith et al. (2014) suggested that parents may not know their youth are overweight because of the normalization of overweight in today's society (Smith, Straker et al., 2014). Gerards et al. (2012) also found this to be a common view among health care professionals who referred parents with overweight youth to weight interventions and further added that denial of an issue and resistance towards discussing weight was particularly a problem (Gerards, Dagnelie, Jansen, De Vries, & Kremers, 2012), further exacerbating youth from achieving a healthy lifestyle (Gerards et al., 2012; Kebbe et al., 2017).

If youth do address their weight and attend healthy weight programs, focus group research has shown that youth are often embarrassed about having to attend due to the stigma attached to being overweight which may prevent them from seeking assistance (Smith, Straker et al., 2014; Vangeepuram, Carmona, Arniella, Horowitz, & Burnet, 2015). Creating programs that limit these barriers will help youth be more successful in their pursuit of a healthy lifestyle. One way that has been suggested in order to minimize these effects includes positive language and message advertising that presents programs as creating "healthy lifestyles" and not "weight loss" programs (Smith, Straker et al., 2014). Excluding terms that relate to weight may reduce the

stigma surrounding being overweight and potentially attract targeted youth (Smith, Straker, et al., 2014; Van Kessel et al., 2016).

Another way that researchers have recommended reducing barriers for program participation is to reduce the price of programs for youth (Young et al., 2006; James et al., 2018); however, this element is debated amongst stakeholders. Smith et al. (2014) remarked on the discrepancies amongst parents, adolescents, and other stakeholders in which some parents believed that offering these programs free-of-charge could overcrowd the group and attract individuals who might not be there for the right reasons (Smith, Straker et al., 2014). Although in contrast, most adolescents have stated in focus groups that in order for them to be more physically active and hence, participate, these programs and areas where physical activity takes place have to either be free or heavily discounted (James et al., 2018; Kebbe et al., 2017; M Dwyer et al., 2006; Nader et al., 2018; Smith, Straker et al., 2014).

Another strong barrier to not only program participation but also program success and maintenance post-intervention was support from peers and parents or guardians (Madrigal, Adams, Chacon, & Barnoya, 2017; Nader et al., 2018; Neumark-Sztainer, Story, Perry, & Casey, 1999; Reece et al., 2016). Since adolescent participation in physical activity, particularly among females, tends to decline from early to late adolescence, parent and peer support becomes essential for continued physical activity involvement (Nader et al., 2018; Thunfors et al., 2009). Adolescents interacting with peers in a socially supportive environment is enjoyable and has also been found to be conducive to losing weight and eating healthy (Reece et al., 2016). This possibly serves an indirect purpose (Kebbe et al., 2017; Reece et al., 2016; Sundar, Løndal, Lagerløv, Galvin, & Helseth, 2018) as peers play a role in eating behaviour based on which foods are “cool” to eat (i.e. unhealthy food) and which ones aren’t (i.e. healthy food) (Hermans et al., 2017; Kebbe et al., 2017). Additionally, peers may positively influence an adolescent’s

level of activity through encouragement or negatively affect it by teasing obese youth when participating in physical activity (Kebbe et al., 2017). Research found that even when youth attend healthy lifestyle programs on their own, they still struggle to make healthy choices at home and school when these environments are not supportive of their new behaviour change (Neumark-Sztainer et al., 1999; Reece et al., 2016).

Rice et al. (2008) stated that parents were the largest barrier for youth recruitment to healthy weight intervention program (Rice et al., 2008). This was due to numerous factors including denial of their youth's weight problem, unwillingness to alter home environment to support youth in nutrition and exercise changes, and inflexibility to changing family schedule in order to accommodate the intervention program among other things (Rice et al., 2008). Research has shown that a key predictor of child's weight status is driven by parental weight status (Reece et al., 2016) and roughly 60% of an adolescent's diet is consumed at home (Kebbe et al., 2017). As a result, food intake patterns outside of the home will stem from familiarity which is thought of as a reflection on the home environment (Kebbe et al., 2017). When healthy food is readily available in the household environment, it's considered an enabler to healthy eating and could be the support that teens need in order to make healthier food choices (Kebbe et al., 2017). To further emphasize, obese adolescents found it difficult to make and maintain healthy food choices when family support was lacking in the home environment (Kebbe et al., 2017).

An additional barrier to program and physical activity participation is transportation and/or inaccessibility to facilities (Chircop et al., 2015; Kebbe et al., 2017; Nader et al., 2018; Smith, Straker et al., 2014). Providing transportation has been found to be a way for parents to support their youth in programs but can represent a barrier for them when it comes to distance, gas, and money (Sallinen et al., 2013; Nader et al., 2018).

A less prominent but potent barrier to youth program and physical activity participation involved life stresses and responsibilities for youth surrounding academic work, household chores, social barriers, and personal life events (Kebbe et al., 2017; Madrigal et al., 2017; Nader et al., 2018). Exposure to life stress and not having the tools to cope can also play a role in facilitating emotional eating for some adolescents (Kebbe et al., 2017). These factors could address a need for a psychological component introducing stress reducing techniques, fostering positive body image, and cultivating time management skills for future adolescent programs (Kebbe et al., 2017).

Lack of time has been frequently cited as a barrier to implementing a healthy lifestyle (Kebbe et al., 2017). Youth are often in search of food that is quick and easy to make as well as tasty which could potentially lead to poor nutrition decisions (Neumark-Sztainer et al., 1999) especially when youth have remarked on disliking the flavour of more nutritious food (Kebbe et al., 2017). Furthermore, obese adolescents have also reported a lack of time when it comes to not only preparing healthy meals but also engaging in exercise due to household chores, jobs, and academic commitments (Kebbe et al., 2017). Families also struggle with prioritizing commitments which can interfere with recruitment and retention of youth in healthy weight programs.

A prime determinant that both youth and stakeholder focus group responses have indicated is important for program recruitment and retention is that the program activities and content must be “fun”, particularly with physical activity (Gillespie et al., 2015; James et al., 2018; Kitzman-Ulrich, Wilson, & Lyerly, 2016; Sundar et al., 2018; Wilson, 2007). Sundar et al. (2018) researched views that overweight adolescents had towards physical activity and found that it was mainly associated with organized sports, health, and competence which could be a restraining factor even if adolescents are motivated to become more physically active (Sundar et al., 2018).

As mentioned previously, the fact that adolescents with obesity tend to de-prioritize unstructured physical activity, like walking or playing, as a tool for weight maintenance, this may have contributed to youth sedentariness (Kebbe et al., 2017). Programs emphasizing different forms of physical activity that are fun aside from organized sports may help participants stay engaged and successful in the long run. In addition to programs being fun for participants, it's important that the environment foster self-esteem, body satisfaction, and positive body image (Wilson, 2007).

Another determinant that is debated within the literature as effective or not for both recruitment and retention is the use of incentives. Wilson (2007) conducted research asking teens specifically what types of features they would like in an obesity prevention program with more than 54% either strongly agreeing or agreeing that earning a type a prize would be an incentive to adopting a healthy lifestyle (Wilson, 2007). Greene et al. (2013) however, found that incentives were negatively associated with youth engagement which they described as participants finding the "program activities enjoyable, interesting, and challenging" but may be effective in recruitment/enrollment and attendance (Greene, Lee, Constance, & Hynes, 2013). Although self-determination theory supports that extrinsic rewards may lower intrinsic motivation (Deci, Koestner, & Ryan, 2001), recent research has shown that not only does the use of incentives mitigate any initial perceived costs or negative aspects that the priority audience has towards taking up the new behaviour (Higgins, Cookson, Hastings-James, & Frazer, 2012) but that the removal of incentives does not affect intrinsic motvation whatsoever (Pope & Harvey, 2015).

Yet, without the advice and insights from youth in the development of healthy weight interventions (Peterson-Sweeney, 2005), the field is likely to remain stagnant. A social marketing lens may provide a functional framework in identifying what adolescents need in a

program to ensure relevance and applying their perspectives to future programming, delivery and research. The chapter now turns to the discussion and review of social marketing.

1.6 Social Marketing

> Andreasen (1994) proposed the following definition for Social Marketing (SM):
>
> Social marketing is the adaptation of commercial marketing technologies to programs designed to influence the voluntary behavior of target audiences to improve their personal welfare and that of the society of which they are a part (p.110).

The "bottom line" of SM is to influence behaviour and to an extent, behaviour change (Andreasen, 1994).

SM and advertising are two different things (Andreasen, 1994). Whereas those who assume they are practicing social marketing by educating the public and "getting the word out," are in actuality only demonstrating advertising techniques that are fundamentally not designed to change behaviour (Andreasen, 1994). SM comprises of the four elements of the marketing mix including product, place, price, and promotion while advertising only includes the latter (Andreasen, 1994).

According to Andreasen (1995), Product refers to the package of benefits the priority audience receives from performing the desired behaviour and can be broken down into the three components known as core, tangible, and augmented products (Andreasen, 1995; Lee & Kotler, 2011). The core product refers to the desired benefits the audience would like to receive in exchange for performing the behaviour, tangible products refer to the actual product or behaviour that is being promoted, and augmented products refer to any incentives or services being offered in conjunction with the tangible product to increase appeal or reduce barriers towards the desired behaviour (Lee & Kotler, 2011).

The second element of the marketing mix is Price which refers to the costs that may be associated with adopting the new behaviour and can be further broken down into two components known as terminal and instrumental (Andreasen, 1995; Lee & Kotler, 2011). Terminal cost refers to the beliefs or attitudes adolescents may have about the negative aspects of adopting the new behaviour and instrumental cost refers to the costs associated with physically engaging with this new behaviour (Andreasen, 1995).

The third element, Place, refers to when and where this behaviour may be performed, and the fourth element Promotion refers to the communication techniques including key messages, key messengers, and channels used to persuade the priority audience to engage in the desired behaviour (Andreasen, 1995; Lee & Kotler, 2011).

When program developers are evaluating program success, they must evaluate based on the capability of the program to change behaviour and not simply educate the public (Andreasen, 1994). SM campaigns have been around a long time and have had success in influencing not only public behaviour but also public policy (Andreasen, 1994). Some have argued that social marketing must at times engage 'midstream' and 'upstream' decision-makers addressing social influences (parents, teachers, peers, coaches etc.), as well as policy and regulations such as price changes, taxes, and smoke-free areas (Lee & Kotler, 2016; Thornley & Marsh, 2010).

The 'upstream-downstream' concept was first introduced by Wallack et al. (1993) in order to detract social marketers from focusing their efforts solely on changing the behaviour of the 'downstream' audience without considering the effects that 'upstream' factors may place on consumers' behaviour choices (Newton, Newton, & Rep, 2016). According to Gordon (2013), 'upstream' audiences refers to those that may influence law or policy and alter the structural environment including educators, managers, regulators, and policy makers. 'Midstream' refers to those that may be in the immediate social environment of the 'downstream' audience including

parents, teachers, coaches, and peers at the community and school level, and 'downstream' refers to the priority audience and influences on behaviour at the individual level including personality and life experiences (Gordon, 2013). Each of these categories can be further segmented to improve marketing efficiency and effectiveness when addressing behaviour change (Andreasen, 1995).

Segmentation is an important concept in SM theory in which different priority audiences require different strategies when encouraging a new behaviour (Andreasen, 1995). For example, campaigns directed at youth need to take into consideration geographic, demographic, psychographic, and behavioural differences which are traditional variables used to segment consumer markets (Lee & Kotler, 2011). This allows for managers to allocate resources appropriately for more productive uses (Andreasen, 1995). Once segments have been identified, elements like competing behaviours must be taken into account when developing an effective SM campaign.

The potential for competing behaviours is an important aspect to consider within priority audiences and is labeled as behaviours that "most often come from past habits or from inertia" (Andreasen, 1995, p.153). This refers to the behaviour that priority audiences may prefer, be tempted to do, or are currently doing instead of the behaviour that is being promoted (Lee & Kotler, 2011). Downstream strategies used to discourage audiences from participating in competing behaviours includes highlighting the downside of engaging in the behaviour in an honest and credible way, while upstream strategies may include legislature action such as policy change (Lee & Kotler, 2011). In order to encourage the priority behaviour and discourage competing behaviours, the priority audience must perceive that benefits of taking up the behaviour will either be equal to or greater than the perceived costs associated with it (Lee & Kotler, 2011). This is otherwise known as the exchange theory (Lee & Kotler, 2011).

The exchange theory in SM was first proposed by Philip Kotler in 1972 stating that exchange was a concept of marketing and that audiences had to believe they were getting more in return than they were giving (Kotler, 1972). Over time, this theory has evolved to now include four main audience perspectives that must be considered including barriers (what the audience believes they have to give up to perform new behaviour), benefits (what audience believes they will get if they perform new behaviour), competition (what behaviours they are doing instead of new behaviour), and influential others (who does your priority audience listen to and are those influential others engaged in desired behaviour) in order to understand and develop effective campaigns for the priority audience (Lee & Kotler, 2011). This exchange can be summarized using Andreasen's acronym, SESDED, used to convey this idea in a more digestible way to help marketers understand how they might influence consumers to take up the desired behaviour (Andreasen, 1995).

SESDED is an acronym used to help marketers understand that they must create a "Superior Exchange, that is Social Desirable and Easily Done" in order for the priority audience to take up the new behaviour (Andreasen, 1995, p.224). Superior exchange relates to the benefits of taking up the desired behaviour (i.e. Product) outweighing the perceived costs (i.e. Price) that may be associated with it; socially desirable refers to the compatibility engaging in the behaviour has with the priority audiences values, identify, and relationships; and easily done refers to removing any barriers that may be associated with adopting new behaviour and increasing accessibility and self-efficacy (Andreasen, 1995). Using SESDED as a main objective for behaviour change can be accomplished by understanding the audience perspectives and needs to reduce barriers and communicate desirable benefits and also use tools like branding to create socially desirable behaviours.

According to Salvy, de la Haye, Bowker, and Hermans, (2012), influencing health behaviours, like healthy eating, can conflict with teens' desired image that they wish to portray; even certain brands of food are important to building one's social image and social standing among peers (Salvy, de la Haye, Bowker, & Hermans, 2012). Brands are distinctive labels, signs, or symbols that differentiate the goods and services of one seller from another (Asbury, Wong, Price, & Nolin, 2008). In social marketing, brands must embody and reflect the values and beliefs that the priority population/market holds about the product as well as its costs and benefits. Since brands are a way of self-expression for youth, they are more sensitive to the messages that they convey to peers through brand choices (Breiner, Parker, Olson, Committee, & Board, 2013). Brands and branding are a successful commercial marketing technique that has been effective in public health campaigns like the tween physical activity VERB campaign (Asbury et al., 2008). SM has been shown to be an effective model for not only understanding and engaging adolescents but also for influencing them to make healthy behaviour decisions (Breiner et al., 2013; Thornley & Marsh, 2010) through multiple strategies including branding. For instance, the successful marketing campaign Truth, which was conducted in the United States and ran from 1999-2002, showed a direct social marketing campaign effect for tobacco reduction of 22% in youth smoking (Breiner et al., 2013). It continues today empowering teens to be the last generation to take up smoking and fall victim to the tobacco industry, branding itself #finishit (https://www.thetruth.com/ accessed March 18, 2019).

As this chapter has detailed, youth are an important priority for obesity management, and social marketing a viable framework for guiding intervention development. In the following section, a more in-depth understanding of the impact of two key social marketing campaigns addressing physical activity for youth is presented.

1.7 Youth oriented Social Marketing campaigns

Two notable youth oriented social marketing campaigns that have successfully changed physical health outcomes in youth include VERB and TAAG (Thornley & Marsh, 2010).

VERB was a social marketing campaign that ran from 2002 – 2006 in the US and after extensive formative research with youth and parents, cleverly branded the campaign to encourage adolescents between the ages of 9-13 years old to be physically active each day (Asbury et al., 2008; Potter, Judkins, Piesse, Nolin, & Huhman, 2008). Instead of using traditional healthy education messages that emphasized facts and figures about the benefits of physical activity, VERB inspired young people to become active to overcome their tendency to be optimistic and unconcerned about their health at that age (Asbury et al., 2008). Informed by the focus group data with tween and parents revealing both barriers and motivators for engaging in physical activity, VERB marketers focused the campaign on having fun with friends, exploring something new, and not being judged (Asbury et al., 2008; Berkowitz et al., 2008). Additional focus groups were then conducted with "trendsetter" tweens in order to gather ideas on what an ideal campaign directed at tweens might look like (Asbury et al., 2008). This technique of gathering information from the priority audience in order to build a well-received program by that same audience is essential for successful social marketing campaigns (Asbury et al., 2008; Berkowitz et al., 2008; Fuentes et al., 2016; Thornley & Marsh, 2010). Consistent evaluations of the VERB campaign highlighted that using individual and small-group interviews with the priority audience was a critical component to not only understanding tweens but also developing an effective messaging and branding strategy for the campaign (Berkowitz et al., 2008). Indeed, since 'policy gaps' are often created between professional understandings of young peoples' health needs and what teenager's really want, regular feedback from intervention participants is crucial for guiding policy makers when designing and adjusting physical activity

initiatives (James et al., 2018). The campaign resulted in the average tween aged 9-10 years who was aware of the campaign engaging in 34% more free-time physical activity sessions per week than tweens of the same age who were unaware of the campaign (Huhman, 2005). Furthermore, tweens that had been originally targeted in 2002 by the campaign and had a higher frequency of exposure to VERB, showed an increase in free-time physical activity sessions as 13-17 year olds when surveyed in 2006 (Huhman et al., 2010). This provided preliminary evidence that social marketing campaigns could have a longer-term effect on audiences after the campaign is over. One analysis by Huhman et al. (2007) demonstrated a statistically significant dose-response effect for children exposed to VERB; they were more likely to report physical activity on the day before the interview but also the median number of weekly sessions of physical activity they reported during free time was higher than non-exposed children (Huhman et al., 2007).

Equally effective yet on a smaller scale community-based social marketing campaign was the Trial of Activity for Adolescent Girls (TAAG) which ran from 2002-2005 in the United States (Thornley & Marsh, 2010). Developers for TAAG used a social marketing approach to promote awareness and participation in physical activities using media and promotional events (Webber et al., 2008). Focus groups and interviews were conducted with boys and girls in grades 6 to 8 along with school PE teachers, principals, and parents of which data were used to enhance program development, facilitate implementation, tailor key messages, and explore channels for delivering those key messages (Gittelsohn et al., 2006). Key messages were provided schoolwide and were designed to increase the support and acceptance for physical activity in girls (Webber et al., 2008). The intervention was designed to improve social support and norms, and to increase self-efficacy, outcomes, expectations, and behavioural skills to foster greater moderate to vigorous activity primarily in girls (Thornley & Marsh, 2010; Webber et al., 2008). Selected schools were linked up with community agencies (e.g. YMCA) to develop and promote physical

activity programs that were outside school hours (Thornley & Marsh, 2010; Webber et al., 2008). A statistical significant increase in MET-weighted minutes of MVPA was found in year three of the program after a program champion intervention was undertaken (Thornley & Marsh, 2010; Webber et al., 2008). This significant increase showed girls in intervention schools doing on average 11 more minutes of MET-weighted MVPA on weekdays after school compared to control schools (Thornley & Marsh, 2010). This amount roughly translates into 80 kilocalories/week and could potentially prevent weight gain of 0.82kg/year which could be substantial and clinically significant on a population level as the average weight gain for young adults over the age of 15 years is approximately 1kg/year (Thornley & Marsh, 2010).

These two SM informed interventions demonstrate the success at influencing positive weight-related health behaviour change in adolescents. The promise of such an approach for integrating healthy eating with physical activity to address healthy body weight management was the premise of this study.

1.8 Limitations and key gaps in the literature

To my knowledge, there is no published research using social marketing as a conceptual framework to inform a community-based healthy weight intervention program targeting youth that are off the healthy weight trajectory. Much research has focused on interventions designed by professionals using theory-based approaches to encourage individuals to adopt new lifestyle behaviour(s) but none that we know of has used formative research to design for youth as a specific priority audience. In order to address the issue of adolescent obesity, formative research must be conducted with the priority market in order to understand their beliefs and perceptions surrounding healthy weight intervention programs. **Research Purpose:**

The purpose of this research was fourfold: 1) to understand the multiple audience needs and perceptions of adolescents (downstream) and practitioners and parents (midstream) in order

to influence recruitment and retainment of youth in healthy weight programs and influence healthy long term behaviour change; 2) identify perceived costs, benefits, and promise that need to be addressed in order for youth to participate in healthy weight programs; 3) identify key design elements and promotional components for healthy weight programs; and, 4) add evidence to the current research surrounding adolescent healthy weight interventions.

1.9 Research Questions

1. What does a healthy weight program have to include to recruit and retain adolescents?
2. How does the program need to be framed in terms of costs, benefits, and promise?
3. Where does a healthy weight program need to be promoted and accessed?
4. What delivery formats should be adopted that will facilitate program adherence and retention of adolescents (e.g., group, online, mixed, etc.)?

1.10 Operational Definitions

Adolescent: Individual aged 13-17 years.

Health Weights Program: A secondary prevention community-based weight management intervention targeting youth who are off the healthy weight trajectory.

Social Marketing (SM) Lens: The application of commercial marketing technology to programs that are designed to influence the voluntary behaviour of the priority audience (i.e. adolescents) to improve their personal welfare (Andreasen, 1994). This approach includes acting on the concepts of Understanding the Consumer (Participant) Perspective on motivations, beliefs, values; Exchange (identifying and acknowledging the benefits and costs associated with taking up a new behaviour); Competition or the alternatives vying for the participant's time, energy, interest; and, Segmentation that recognizes

audiences are distinct groups each with their own set of needs, interests, motivations, resources etc.

The 4 P's of SM: Product, Price, Place, and Promotion (Andreasen, 2006)

- ***Product*** refers to the package of benefits of which the recommended behaviour offers to adolescents. As part of the product platform, there are three components: the core product reflecting the underlying values, beliefs and attitudes regarding the benefits; the tangible product which is the actual service, experience, program or policy enabling the behaviour change; and the augmented product which can include supplemental resources, gifts, incentives and other means to enhance the appeal of the tangible product.
- ***Price*** refers to the perceived benefits and costs at which adolescents will have to exchange to adopt behaviour. The benefits and costs may be financial, time, social, psychological or emotional in nature. Costs may be further delineated as terminal (tied to beliefs, values, attitudes) and instrumental (associated with taking up a new behaviour).
- ***Place*** refers to places and times where the tangible product will reach or be distributed to the audience.
- ***Promotion*** refers to communication of key messages through multiple channels intended to both inform and persuade audiences.

Upstream SM: Refers to the structural environment and bodies of influence (economic conditions, law, policy, etc.) that can influence consumer behaviour (Gordon, 2013).

Midstream SM: Refers to groups within the more immediate social environment such as community level, school, etc. (Gordon, 2013).

Downstream SM: Refers to influences on behaviour at the individual level (personality, life experience, etc.) (Gordon, 2013).

Overweight: BMI at or above 85th percentile (WHO)

Obese: BMI at or above 95th percentile (WHO)

1.11 Assumptions

- Youth, youth workers, and parents of youth willingly and honestly took part in opinion surveys.
- Multiple perceptions exist on the topic of healthy weight programs including both perspectives of the participants and of the researcher and project partners
- Researcher interactions with participants may influence the data and their interpretation of the data

1.12 Delimitations

- Youth from 13-17 years of age with a BMI in the 85th percentile or higher
- Adults who are parents of adolescents aged 13-17 years of age with a BMI in the 85th percentile or higher
- Youth workers who have worked with adolescents from 13-17 years of age with a BMI in the 85th percentile or higher
- English-speaking and a resident of British Columbia

1.13 Limitations

- Both response and recall bias could influence the results

- Sampling and consenting procedures may have created a more positive volunteer response bias
- Small targeted sample may influence the transferability of the results
- Researcher bias may influence interpretation

1.14 References for Chapter 1

Alberga, A. S., Sigal, R. J., Goldfield, G., Prud Homme, D., & Kenny, G. P. (2012). Overweight and obese teenagers: Why is adolescence a critical period? *Pediatric Obesity*, *7*(4), 261–273. https://doi.org/10.1111/j.2047-6310.2011.00046.x

Andreasen, A. R. (1994). Social Marketing: Its definition and domain. *Journal of Public Policy & Marketing*, *13*(1), 108–114. https://doi.org/10.2307/30000176

Araújo, J., & Ramos, E. (2017). Paediatric obesity and cardiovascular risk factors – A life course approach. *Porto Biomedical Journal*, *2*(4), 102–110. https://doi.org/10.1016/j.pbj.2017.02.004

Asbury, L. D., Wong, F. L., Price, S. M., & Nolin, M. J. (2008). The VERB™Campaign. Applying a Branding Strategy in Public Health. *American Journal of Preventive Medicine*, *34*(6 SUPPL.), 183–187. https://doi.org/10.1016/j.amepre.2008.03.010

Bartelink, N. H., Jansen, M. W., Kremers, S. P., Mulkens, S., & Mujakovic, S. (2014). Long-Term Effects of the RealFit Intervention on Body Composition, Aerobic Fitness, and Behavior. *Childhood Obesity*, *10*(5), 383–391. https://doi.org/10.1089/chi.2014.0027

Bartelink, N. H. M., Mulkens, S., Mujakovic, S., & Jansen, M. W. J. (2017). Long-term effects of the RealFit intervention on self-esteem and food craving. *Child Care in Practice*, *24*(1), 65–75. https://doi.org/10.1080/13575279.2016.1259158

Bassett, R., Chapman, G. E., & Beagan, B. L. (2008). Autonomy and control: The co-construction of adolescent food choice. *Appetite*, *50*(2–3), 325–332. https://doi.org/10.1016/j.appet.2007.08.009

Berkowitz, J. M., Huhman, M., Heitzler, C. D., Potter, L. D., Nolin, M. J., & Banspach, S. W. (2008). Overview of Formative, Process, and Outcome Evaluation Methods Used in the VERB™Campaign. *American Journal of Preventive Medicine*, *34*(6 SUPPL.), 222–229.

https://doi.org/10.1016/j.amepre.2008.03.008

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Breiner, H., Parker, L., Olson, S., Committee, S., & Board, N. (2013). *Challenges and Opportunities for Change in Food Marketing to Children and Youth*. https://doi.org/10.17226/18274

Brown, B. B., Clasen, D. R., & Eicher, S. A. (1986). Perceptions of Peer Pressure, Peer Conformity Dispositions, and Self-Reported Behavior Among Adolescents. *Developmental Psychology*, *22*(4), 521–530. https://doi.org/10.1037/0012-1649.22.4.521

Butryn, M. L., Wadden, T. A., Rukstalis, M. R., Bishop-Gilyard, C., Xanthopoulos, M. S., Louden, D., & Berkowitz, R. I. (2010). Maintenance of weight loss in adolescents: Current status and future directions. *Journal of Obesity*. Hindawi Publishing Corporation. https://doi.org/10.1155/2010/789280

Casazza, K., & Ciccazzo, M. (2007). The method of delivery of nutrition and physical activity information may play a role in eliciting behavior changes in adolescents. *Eating Behaviors*, *8*(1), 73–82. https://doi.org/10.1016/j.eatbeh.2006.01.007

Chircop, A., Shearer, C., Pitter, R., Sim, M., Rehman, L., Flannery, M., & Kirk, S. (2015). Privileging physical activity over healthy eating: "Time" to Choose? *Health Promotion International*, *30*(3), 418–426. https://doi.org/10.1093/heapro/dat056

Colley, R. C., Carson, V., Garriguet, D., Janssen, I., Roberts, K. C., & Tremblay, M. S. (2017). Physical activity of Canadian children and youth, 2007 to 2015. *Health Reports*, *28*(10), 8–16.

Cui, Z., Seburg, E. M., Sherwood, N. E., Faith, M. S., & Ward, D. S. (2015). Recruitment and retention in obesity prevention and treatment trials targeting minority or low-income

children: A review of the clinical trials registration database. *Trials*, *16*(1). https://doi.org/10.1186/s13063-015-1089-z

Dailey, R. M. (2010). Testing components of confirmation: How acceptance and challenge from mothers, fathers, and siblings are related to adolescent self-concept. *Communication Monographs*, *77*(4), 592–617. https://doi.org/10.1080/03637751.2010.499366

Danielsson, P., Kowalski, J., Ekblom, Ö., & Marcus, C. (2012). Response of Severely Obese Children and Adolescents to Behavioral Treatment. *Archives of Pediatrics & Adolescent Medicine*, *166*(12), 1103. https://doi.org/10.1001/2013.jamapediatrics.319

Deci, E. L., Koestner, R., & Ryan, R. M. (2001). Extrinsic Rewards and Intrinsic Motivation in Education: Reconsidered Once Again. *Review of Educational Research*, *71*(1), 1–27. https://doi.org/10.3102/00346543071001001

Dhaliwal, J., Rasquinha, A., Nosworthy, N. M. I., Ball, G. D. C., Zwaigenbaum, L., Avis, J. L. S., & Holt, N. L. (2014). Attrition and the Management of Pediatric Obesity: An Integrative Review. *Childhood Obesity*, *10*(6), 461–473. https://doi.org/10.1089/chi.2014.0060

Drummond, J. R., Higgins, S. J. W., & Hubert, E. (2009). The healthy ecosystems, healthy people project: Using social marketing to promote environmentally active living. *International Review on Public and Nonprofit Marketing*, *6*(2), 167–180. https://doi.org/10.1007/s12208-009-0033-x

Elvsaas, I. K. Ø., Giske, L., Fure, B., & Juvet, L. K. (2017). Multicomponent Lifestyle Interventions for Treating Overweight and Obesity in Children and Adolescents: A Systematic Review and Meta-Analyses. *Journal of Obesity*. https://doi.org/10.1155/2017/5021902

Engström, A., Abildsnes, E., & Mildestvedt, T. (2016a). It's not like a fat camp''-a focus group study of adolescents' experiences on group-based obesity treatment. *International Journal*

of Qualitative Studies on Health and Well-Being. https://doi.org/10.3402/qhw.v11.32744

Engström, A., Abildsnes, E., & Mildestvedt, T. (2016b). It's not like a fat camp''-a focus group study of adolescents' experiences on group-based obesity treatment. *International Journal of Qualitative Studies on Health and Well-Being*, *11*(1). https://doi.org/10.3402/qhw.v11.32744

Epstein, L. H., Valoski, A., Wing, R. R., & McCurley, J. (1994). Ten-year outcomes of behavioral family-based treatment for childhood obesity. *Health Psychology : Official Journal of the Division of Health Psychology, American Psychological Association*, *13*(5), 373–383. Retrieved from http://ovidsp.ovid.com/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&D=emed5&AN=125021597%0Ahttp://man-fe.hosted.exlibrisgroup.com/openurl/44MAN/44MAN_services_page?sid=OVID:embase&id=pmid:7805631&id=doi:&issn=0278-6133&isbn=&volume=13&issue=5&spage=373&pag

Evans, W. D., Blitstein, J., Lynch, C., de Villiers, A., Draper, C., Steyn, N., & Lambert, E. V. (2009). Childhood obesity prevention in South Africa: Media, social influences, and social marketing opportunities. *Social Marketing Quarterly*, *15*(1), 22–48. https://doi.org/10.1080/15245000802669005

Evans, W. D., Christoffel, K. K., Necheles, J. W., & Becker, A. B. (2010). Social marketing as a childhood obesity prevention strategy. *Obesity*, *18*(SUPPL. 1), S23–S26. https://doi.org/10.1038/oby.2009.428

Evans, W. D., Necheles, J., Longjohn, M., & Christoffel, K. K. (2007). The 5-4-3-2-1 Go! Intervention: Social Marketing Strategies for Nutrition. *Journal of Nutrition Education and Behavior*, *39*(2 SUPPL.), 2–6. https://doi.org/10.1016/j.jneb.2006.08.024

Faith, M. S., Van Horn, L., Appel, L. J., Burke, L. E., Carson, J. A. S., Franch, H. A., … Wylie-Rosett, J. (2012). Evaluating Parents and Adult Caregivers as "Agents of Change" for Treating Obese Children: Evidence for Parent Behavior Change Strategies and Research Gaps. *Circulation*, *125*(9), 1186–1207. https://doi.org/10.1161/CIR.0b013e31824607ee

Flynn, M. A. T., McNeil, D. A., Maloff, B., Mutasingwa, D., Wu, M., Ford, C., & Tough, S. C. (2006). *Reducing obesity and related chronic disease risk in children and youth: a synthesis of evidence with "best practice" recommendations*. *Obesity Reviews: An Official Journal Of The International Association For The Study Of Obesity* (Vol. 7 Suppl 1). https://doi.org/OBR242 [pii]\n10.1111/j.1467-789X.2006.00242.x

Foster, G. D., Sundal, D., Lent, M. R., McDermott, C., Jelalian, E., & Vojta, D. (2014). 18-Month Outcomes of a Community-Based Treatment for Childhood Obesity. *Pediatric Obesity*, *9*(3), 63–67. https://doi.org/10.1111/j.2047-6310.2013.00197.x

Fuentes, L., Lebenkoff, S., White, K., Gerdts, C., Hopkins, K., Potter, J. E., … Sciences, R. (2016). A Youth-Leader Program in Baltimore City Recreation Centers: Lessons Learned and Applications, *93*(4), 292–297. https://doi.org/10.1016/j.contraception.2015.12.017.Women

Gerards, S. M., Dagnelie, P. C., Jansen, M. W., De Vries, N. K., & Kremers, S. P. (2012). Barriers to successful recruitment of parents of overweight children for an obesity prevention intervention: a qualitative study among youth health care professionals. *BMC Family Practice*, *13*(1), 37. https://doi.org/10.1186/1471-2296-13-37

Gillespie, J., Midmore, C., Hoeflich, J., Ness, C., Ballard, P., & Stewart, L. (2015). Parents as the start of the solution: A social marketing approach to understanding triggers and barriers to entering a childhood weight management service. *Journal of Human Nutrition and Dietetics*, *28*(s1), 83–92. https://doi.org/10.1111/jhn.12237

Gillison, F., Standage, M., & Verplanken, B. (2014). A cluster randomised controlled trial of an intervention to promote healthy lifestyle habits to school leavers: study rationale, design, and methods. *BMC Public Health*, *14*, 221. https://doi.org/10.1186/1471-2458-14-221\r1471-2458-14-221 [pii]

Gittelsohn, J., Steckler, A., Johnson, C. C., Pratt, C., Grieser, M., Pickrel, J., … Staten, L. K. (2006). Formative research in school and community-based health programs and studies: "State of the art" and the TAAG approach. *Health Education and Behavior*, *33*(1), 25–39. https://doi.org/10.1177/1090198105282412

Goldschmidt, A. B., Wall, M. M., Choo, T.-H. J., Evans, E. W., Jelalian, E., Larson, N., & Neumark-Sztainer, D. (2017). Fifteen-year Weight and Disordered Eating Patterns Among Community-based Adolescents. https://doi.org/10.1016/j.amepre.2017.09.005

Gordon, R. (2013). Unlocking the potential of upstream social marketing. *European Journal of Marketing*, *47*(9), 1525–1547. https://doi.org/10.1108/EJM-09-2011-0523

Grow, H. M. G., Hsu, C., Liu, L. L., Briner, L., Jessen-Fiddick, T., Lozano, P., & Saelens, B. E. (2013). Understanding family motivations and barriers to participation in community-based programs for overweight youth: One program model does not fit all. *Journal of Public Health Management and Practice*, *19*(4), 1–10. https://doi.org/10.1097/PHH.0b013e31825ceaf9

Hermans, R. C. J., de Bruin, H., Larsen, J. K., Mensink, F., & Hoek, A. C. (2017). Adolescents' Responses to a School-Based Prevention Program Promoting Healthy Eating at School. *Frontiers in Public Health*, *5*(November). https://doi.org/10.3389/fpubh.2017.00309

Higgins, J. W., Cookson, S., Hastings-James, C., & Frazer, A. (2012). Redeeming behaviours: A push, not a shove. *Healthcare Papers*, *12*(4), 42–47. https://doi.org/10.12927/hcpap.2013.23223

Houle-Johnson, S. A., & Kakinami, L. (2018). Do sex differences in reported weight loss intentions and behaviours persist across demographic characteristics and weight status in youth? A systematic review. *BMC Public Health*, *18*(1), 1343. https://doi.org/10.1186/s12889-018-6179-x

Hsu, M. S. H., Rouf, A., & Allman-Farinelli, M. (2018). Effectiveness and Behavioral Mechanisms of Social Media Interventions for Positive Nutrition Behaviors in Adolescents: A Systematic Review. *Journal of Adolescent Health*. https://doi.org/10.1016/j.jadohealth.2018.06.009

Huhman, M. (2005). Effects of a Mass Media Campaign to Increase Physical Activity Among Children: Year-1 Results of the VERB Campaign. *PEDIATRICS*, *116*(2), e277–e284. https://doi.org/10.1542/peds.2005-0043

Huhman, M., Potter, L. D., Duke, J. C., Judkins, D. R., Heitzler, C. D., & Wong, F. L. (2007). Evaluation of a National Physical Activity Intervention for Children. VERB^{TM} Campaign, 2002-2004. *American Journal of Preventive Medicine*, *32*(1), 38–43. https://doi.org/10.1016/j.amepre.2006.08.030

Huhman, M., Potter, L. D., Nolin, M. J., Piesse, A., Judkins, D. R., Banspach, S. W., & Wong, F. L. (2010). The influence of the VERB campaign on children's physical activity in 2002 to 2006. *American Journal of Public Health*, *100*(4), 638–645. https://doi.org/10.2105/AJPH.2008.142968

James, M., Todd, C., Scott, S., Stratton, G., Mccoubrey, S., Christian, D., … Brophy, S. (2018). Teenage recommendations to improve physical activity for their age group: a qualitative study. *BMC Public Health*, *18*(372), 1–9. https://doi.org/10.1186/s12889-018-5274-3

Jung, M. E., Bourne, J. E., & Gainforth, H. L. (2018). Evaluation of a community-based, family focused healthy weights initiative using the RE-AIM framework. *International Journal of*

Behavioral Nutrition and Physical Activity, *15*(1), 1–16. https://doi.org/10.1186/s12966-017-0638-0

Kebbe, M., Damanhoury, S., Browne, N., Dyson, M. P., McHugh, T. L. F., & Ball, G. D. C. (2017). Barriers to and enablers of healthy lifestyle behaviours in adolescents with obesity: a scoping review and stakeholder consultation. *Obesity Reviews*, *18*(12), 1439–1453. https://doi.org/10.1111/obr.12602

Kitzman-Ulrich, H. E., Wilson, D. K., & Lyerly, J. E. (2016). Qualitative perspectives from African American Youth and caregivers for developing the families improving together (FIT) for weight loss intervention. *Clinical Practice in Pediatric Psychology*, *4*(3), 263–274. https://doi.org/10.1037/cpp0000147

Knop, C., Singer, V., Uysal, Y., Schaefer, A., Wolters, B., & Reinehr, T. (2015). Extremely obese children respond better than extremely obese adolescents to lifestyle interventions. *Pediatric Obesity*, *10*(1), 7–14. https://doi.org/10.1111/j.2047-6310.2013.00212.x

Kolsgaard, M. L. P., Joner, G., Brunborg, C., Anderssen, S. A., Tonstad, S., & Andersen, L. F. (2011). Reduction in BMI z-score and improvement in cardiometabolic risk factors in obese children and adolescents. The Oslo Adiposity Intervention Study - a hospital/public health nurse combined treatment. *BMC Pediatrics*, *11*. https://doi.org/10.1186/1471-2431-11-47

Kornet-van der Aa, D. A., Altenburg, T. M., van Randeraad-van der Zee, C. H., & Chinapaw, M. J. M. (2017). The effectiveness and promising strategies of obesity prevention and treatment programmes among adolescents from disadvantaged backgrounds: a systematic review. *Obesity Reviews*, *18*(5), 581–593. https://doi.org/10.1111/obr.12519

Lau, P. W. C., Lau, E. Y., Wong, D. P., & Ransdell, L. (2011). A Systematic review of information and communication technology-based interventions for promoting physical activity behavior change in children and adolescents. *Journal of Medical Internet Research*,

13(3), 1–18. https://doi.org/10.2196/jmir.1533

Livingood, W. C., Monticalvo, D., Bernhardt, J. M., Wells, K. T., Harris, T., Kee, K., … Woodhouse, L. D. (2017). Engaging Adolescents Through Participatory and Qualitative Research Methods to Develop a Digital Communication Intervention to Reduce Adolescent Obesity. *Health Education and Behavior*, *44*(4), 570–580. https://doi.org/10.1177/1090198116677216

Llauradó, E., Aceves-Martins, M., Tarro, L., Papell-Garcia, I., Puiggròs, F., Arola, L., … Giralt, M. (2015). A youth-led social marketing intervention to encourage healthy lifestyles, the EYTO (European Youth Tackling Obesity) project: A cluster randomised controlled0 trial in Catalonia, Spain Health behavior, health promotion and society. *BMC Public Health*, *15*(1). https://doi.org/10.1186/s12889-015-1920-1

Luecking, C. T., Hennink-Kaminski, H., Ihekweazu, C., Vaughn, A., Mazzucca, S., & Ward, D. S. (2017). Social marketing approaches to nutrition and physical activity interventions in early care and education centres: a systematic review. *Obesity Reviews*, *18*(12), 1425–1438. https://doi.org/10.1111/obr.12596

M Dwyer, J. J., Allison, K. R., Goldenberg, E. R., Fein, A. J., Yoshida, K. K., Boutilier, M. A., … Varsamidou, V. (2006). ADOLESCENT GIRLS' PERCEIVED BARRIERS TO PARTICIPATION IN PHYSICAL ACTIVITY from Toronto Public Health for their contribution in or- ganizing the focus group sessions, *41*(161). Retrieved from http://content.ebscohost.com/ContentServer.asp?T=P&P=AN&K=16689442&S=R&D=mnh&EbscoContent=dGJyMNHr7ESep7A4zOX0OLCmr0%2BeqLBSrqm4Sq6WxWXS&ContentCustomer=dGJyMPGrtE%2Bwp7dMuePfgeyx5n3f4vKA

Madrigal, L., Adams, I., Chacon, V., & Barnoya, J. (2017). Perceived barriers to achieving a healthy weight: A qualitative study using focus groups at public and private schools in

Guatemala City. *BMC Public Health*, *17*(1), 1–6. https://doi.org/10.1186/s12889-016-3978-9

Markert, J., Herget, S., Marschke, S., Lehnert, T., Falkenberg, C., & Blüher, S. (2014). Case management via telephone counseling and SMS for weight maintenance in adolescent obesity: Study concept of the TeAM program. *BMC Obesity*, *1*(1). https://doi.org/10.1186/2052-9538-1-8

Moores, C. J., Bell, L. K., Miller, J., Damarell, R. A., Matwiejczyk, L., & Miller, M. D. (2018). A systematic review of community-based interventions for the treatment of adolescents with overweight and obesity. *Obesity Reviews*, *19*(5), 698–715. https://doi.org/10.1111/obr.12660

Morrison, K. M., Ball, G. D. C., Ho, J., Mackie, P., Buchholz, A., Chanoine, J. P., … Zenlea, I. (2018). The CANadian Pediatric Weight management Registry (CANPWR): Lessons learned from developing and initiating a national, multi-centre study embedded in pediatric clinical practice. *BMC Pediatrics*, *18*(1), 1–7. https://doi.org/10.1186/s12887-018-1208-6

Nader, P. A., Ward, S., Eltonsy, S., & Bélanger, M. (2018). The impact of life stresses on physical activity participation during adolescence: A 5-year longitudinal study. *Preventive Medicine*, *116*(February), 6–12. https://doi.org/10.1016/J.YPMED.2018.08.030

Neumark-Sztainer, D., Larson, N. I., Fulkerson, J. A., Eisenberg, M. E., & Story, M. (2010). Family meals and adolescents: What have we learned from Project EAT (Eating Among Teens)? *Public Health Nutrition*, *13*(7), 1113–1121. https://doi.org/10.1017/S1368980010000169

Neumark-Sztainer, D., Story, M., Perry, C., & Casey, M. A. (1999). Factors Influencing Food Choices of Adolescents: Findings from Focus-Group Discussions with Adolescents. *Journal of the American Dietetic Association*. https://doi.org/10.1016/S0002-8223(99)00222-9

Newton, J. D., Newton, F. J., & Rep, S. (2016). Evaluating social marketing's upstream metaphor: does it capture the flows of behavioural influence between 'upstream' and 'downstream' actors? *Journal of Marketing Management*, *32*(11–12), 1103–1122. https://doi.org/10.1080/0267257X.2016.1186105

Ng, M., Fleming, T., Robinson, M., Thomson, B., & Graetz, N. (2014). Global, regional and national prevalence of overweight and obesity in children and adults 1980-2013: A systematic analysis. *Lancet*, *384*(9945), 766–781. https://doi.org/10.1016/S0140-6736(14)60460-8.Global

Peterson-Sweeney, K. (2005). The use of focus groups in pediatric and adolescent research. *Journal of Pediatric Health Care*, *19*(2), 104–110. https://doi.org/10.1016/j.pedhc.2004.08.006

Pope, L., & Harvey, J. (2015). The impact of incentives on intrinsic and extrinsic motives for fitness-center attendance in college first-year students. *American Journal of Health Promotion*, *29*(3), 192–199. https://doi.org/10.4278/ajhp.140408-QUAN-135

Potter, L. D., Judkins, D. R., Piesse, A., Nolin, M. J., & Huhman, M. (2008). Methodology of the Outcome Evaluation of the VERB™ Campaign. *American Journal of Preventive Medicine*, *34*(6S), S230–S240. https://doi.org/10.1016/j.amepre.2008.03.007

Ramanathan, S., Faulkner, G., Berry, T., Deshpande, S., Latimer-Cheung, A. E. L.-C., Rhodes, R. E., … Tremblay, M. S. (2018). Perceptions of organizational capacity to promote physical activity in Canada and ParticipACTION's influence five years after its relaunch: a qualitative study. *Health Promotion and Chronic Disease Prevention in Canada*, *38*(4), 170–178. https://doi.org/10.24095/hpcdp.38.4.03

Rao, D. P., Kropac, E., Do, M. T., Roberts, K. C., & Jayaraman, G. C. (2016). Childhood overweight and obesity trends in Canada. *Health Promotion and Chronic Disease*

Prevention in Canada : Research, Policy and Practice, *36*(9), 194–8. https://doi.org/10.24095/hpcdp.36.9.03

Reece, L. J., Bissell, P., & Copeland, R. J. (2016). 'I just don't want to get bullied anymore, then I can lead a normal life'; Insights into life as an obese adolescent and their views on obesity treatment. *Health Expectations*, *19*(4), 897–907. https://doi.org/10.1111/hex.12385

Rice, J., Thombs, D., Leach, R., & Rehm, R. (2008). Successes and barriers for a youth weight-management program. *Clinical Pediatrics*, *47*(2), 143–147. https://doi.org/10.1177/0009922807306168

Ridder, M. A. M., Heuvelmans, M. A., Visscher, T. L. S., Seidell, J. C., & Renders, C. M. (2009). We are healthy so we can behave unhealthily A qualitative study of the health behaviour of Dutch lower vocational students Monica. *Health Education*, *110*(1), 30–42. https://doi.org/10.1108/IntR-08-2012-0154

Riiser, K., Løndal, K., Ommundsen, Y., Småstuen, M. C., Misvær, N., & Helseth, S. (2014). The outcomes of a 12-week internet intervention aimed at improving fitness and health-related quality of life in overweight adolescents: The young & active controlled trial. *PLoS ONE*, *9*(12), 1–22. https://doi.org/10.1371/journal.pone.0114732

Sallinen, B. J., Schaffer, S., & Woolford, S. J. (2013). In Their Own Words: Learning from Families Attending a Multidisciplinary Pediatric Weight Management Program at the YMCA. *Childhood Obesity*, *9*(3), 200–207. https://doi.org/10.1089/chi.2012.0106

Sallinen Gaffka, B. J., Frank, M., Rhodes, E. T., Santos, M., & Hampl, S. (2013). Parents and Pediatric Weight Management Attrition: Experiences and Recommendations. *Childhood Obesity*, *9*(5), 409–417. https://doi.org/10.1089/chi.2013.0069

Salvy, S. J., de la Haye, K., Bowker, J. C., & Hermans, R. C. J. (2012). Influence of peers and friends on children's and adolescents' eating and activity behaviors. *Physiology and*

Behavior, *106*(3), 369–378. https://doi.org/10.1016/j.physbeh.2012.03.022

Scott, J. E., & Higgins, J. W. (2012). Upstream social marketing: Exploring the experiences of recreation professionals in delivering physical activity to low-income citizens. *Social Marketing Quarterly*, *18*(2), 112–123. https://doi.org/10.1177/1524500412450488

Silva, D. F. O., Sena-Evangelista, K. C. M., Lyra, C. O., Pedrosa, L. F. C., Arrais, R. F., & Lima, S. C. V. C. (2018). Motivations for weight loss in adolescents with overweight and obesity: a systematic review. *BMC Pediatrics*, *18*(1), 364. https://doi.org/10.1186/s12887-018-1333-2

Skelton, J. A., Goff, D. C., Ip, E., & Beech, B. M. (2011). Attrition in a Multidisciplinary Pediatric Weight Management Clinic. *Childhood Obesity*, *7*(3), 185–193. https://doi.org/10.1089/chi.2011.0010

Smith, K. L., Kerr, D. A., Fenner, A. A., & Straker, L. M. (2014). Adolescents just do not know what they want: A qualitative study to describe obese adolescents' experiences of text messaging to support behavior change maintenance post intervention. *Journal of Medical Internet Research*, *16*(4). https://doi.org/10.2196/jmir.3113

Smith, K. L., Straker, L. M., McManus, A., & Fenner, A. A. (2014). Barriers and enablers for participation in healthy lifestyle programs by adolescents who are overweight: A qualitative study of the opinions of adolescents, their parents and community stakeholders. *BMC Pediatrics*, *14*(1), 1–14. https://doi.org/10.1186/1471-2431-14-53

Steinberg, L., & Sheffield Morris, A. (2001). *Adolescent Development*. Retrieved from www.annualreviews.org

Sundar, T. K. B., Løndal, K., Lagerløv, P., Galvin, K., & Helseth, S. (2018). Overweight adolescents' views on physical activity - Experiences of participants in an internet-based intervention: A qualitative study. *BMC Public Health*, *18*(1).

https://doi.org/10.1186/s12889-018-5324-x

Thornley, L., & Marsh, K. (2010a). *What Works in Social Marketing to Young People? Systematic Review for the Health Research Council of New Zealand and the Ministry of Youth Development Final Report*. Retrieved from http://www.myd.govt.nz/documents/policy-and-research/social-marketing-syst-rev-final.pdf

Thornley, L., & Marsh, K. (2010b). What Works in Social Marketing to Young People. *Systematic Review for the Health Research …*, (July).

Thunfors, P., Collins, B. N., & Hanlon, A. L. (2009). Health behavior interests of adolescents with unhealthy diet and exercise: Implications for weight management. *Health Education Research*, *24*(4), 634–645. https://doi.org/10.1093/her/cyn064

Tremblay, M. S., LeBlanc, A. G., Larouche, R., Kho, M. E., Colley, R. C., Gorber, S., … Goldfield, G. (2011). Systematic review of sedentary behaviour and health indicators in school-aged children and youth. *International Journal of Behavioral Nutrition and Physical Activity*, *8*(98), 1–22. https://doi.org/10.1186/1479-5868-8-98

Tripicchio, G. L., Ammerman, A. S., Neshteruk, C., Faith, M. S., Dean, K., Befort, C., … Davis, A. (2017). Technology Components as Adjuncts to Family-Based Pediatric Obesity Treatment in Low-Income Minority Youth. *Childhood Obesity*, *13*(6), chi.2017.0021. https://doi.org/10.1089/chi.2017.0021

van der Heijden, L. B., Feskens, E. J. M., & Janse, A. J. (2018). Maintenance interventions for overweight or obesity in children: a systematic review and meta-analysis. *Obesity Reviews*, *19*(6), 798–809. https://doi.org/10.1111/obr.12664

Van Kessel, G., Kavanagh, M., & Maher, C. (2016). A qualitative study to examine feasibility and design of an online social networking intervention to increase physical activity in teenage girls. *PLoS ONE*, *11*(3), 1–11. https://doi.org/10.1371/journal.pone.0150817

Vangeepuram, N., Carmona, J., Arniella, G., Horowitz, C. R., & Burnet, D. (2015). Use of Focus Groups to Inform a Youth Diabetes Prevention Model. *Journal of Nutrition Education and Behavior*, *47*(6), 532–539.e1. https://doi.org/10.1016/j.jneb.2015.08.006

Vangeepuram, N., Townsend, K., Arniella, G., Goytia, C., & Horowitz, C. R. (2016). Recruitment in Clinical Versus Community-Based Sites for a Pilot Youth Diabetes Prevention Program, East Harlem, New York, 2011–2012. *Preventing Chronic Disease*, *13*, 150449. https://doi.org/10.5888/pcd13.150449

Wallack, L., Forman, L., Jernigan, D., & Themba, M. (1993). Media advocacy and public health: Power for prevention. Newbury Park, CA: Sage Publications.

Webber, L. S., Catellier, D. J., Lytle, L. A., Murray, D. M., Pratt, C. A., Young, D. R., … Pate, R. R. (2008). Promoting Physical Activity in Middle School Girls. Trial of Activity for Adolescent Girls. *American Journal of Preventive Medicine*, *34*(3), 173–184. https://doi.org/10.1016/j.amepre.2007.11.018

Wilson, L. F. (2007). Adolescents' Attitudes About Obesity and What They Want in Obesity Prevention Programs. *The Journal of School Nursing*, *23*(4), 229–238. https://doi.org/10.1177/10598405070230040801

Young, D. R., Johnson, C. C., Steckler, A., Gittelsohn, J., Saunders, R. P., Saksvig, B. I., … McKenzie, T. L. (2006). Data to action: Using formative research to develop intervention programs to increase physical activity in adolescent girls. *Health Education and Behavior*, *33*(1), 97–111. https://doi.org/10.1177/1090198105282444

CHAPTER TWO

Manuscript for Social Marketing Approach to Understanding What Adolescents Need in a Community-Based Healthy Lifestyle Intervention Program

2.1 Introduction

Global childhood and adolescent obesity rates have increased at an alarming rate for the past 3-4 decades and in Canada roughly 30% of Canadian individuals between the ages of 5-17 years-old are now affected (Ng, Fleming, Robinson, Thomson, & Graetz, 2014; Rao, Kropac, Do, Roberts, & Jayaraman, 2016; Fuentes et al., 2016). Overweight and obesity increase the risk of chronic disease later in life because of the higher likelihood of overweight adolescents growing up to be overweight adults (Flynn et al., 2006). With the current trend in adolescent obesity, whereby obese youth bear the same comorbidities as obese adults, researchers have predicted these youth may suffer 20 to 30 years longer with chronic illnesses (Wilson, 2007). The gradual decrease in physical activity levels during adolescence (Colley et al., 2017; Huhman et al., 2010; Moores et al., 2018; Wilson, 2007) combined with unhealthy dietary changes (Araújo & Ramos, 2017) and an increase in sedentary behaviour (Tremblay et al., 2011), makes the argument that this time period is a critical point to address these issues (Moores et al., 2018).

An array of healthy weight intervention programs targeting adolescents have attempted to address this issue but have had limited success and high dropout rates (Smith, Straker, et al., 2014; Sundar et al., 2018). Much of this can be attributed to the fact that many programs were not developed in conjunction with their target audience and may not have appealed to the values, beliefs, and perceptions that youth hold surrounding the adoption of healthy behaviours (James et al., 2018; Wilson, 2007). Although certain factors have been identified as being crucial for program development and success including being community-based, adolescent-focused, and delivered using multi-components (Jung et al., 2018; Lau, Lau, Wong, & Ransdell, 2011; Markert et al., 2014), adolescent healthy weight programs still struggle with recruitment and

retention issues (Smith, Straker, et al., 2014) with some researchers suggesting a need for designing studies that test specific recruitment and retention strategies (Cui et al., 2015).

Youth are different from children in that they begin cognitive and social developmental processes like seeking autonomy from parents, relying on peers as a source of acceptance and normative behaviour, and shifting towards abstract thinking (Brown et al., 1986; Llauradó et al., 2015; Neumark-Sztainer et al., 2010). A different approach to program development and implementation that incorporates or responds to these processes may be required in order to successfully reach this priority population (Riiser et al., 2014; Smith, Kerr, Fenner, & Straker, 2014).

Social Marketing (SM) is a technique used by marketers to develop relevant and inviting messages and products for target audiences (Lee & Kotler, 2011). Using SM as a framework can help understand how target markets differ and the types of beliefs and perceptions they possess by exploring the four main elements product, price, place, and promotion in relation to the desired behaviour (Lee & Kotler, 2011). SM frameworks have had previous success in influencing healthy adolescent behaviour (Van Kessel, Kavanagh, & Maher, 2016; Young et al., 2006) and may be a way to inform successful health interventions (Luecking et al., 2017) and address the current childhood and adolescent obesity issue at hand (W. Douglas Evans, Christoffel, Necheles, & Becker, 2010).

As a result of the rise in adolescent obesity, the evidence indicating that community-delivered programs were not common (Moores et al., 2018) and the identified issues of recruitment, retention and sustainability of behaviour change associated with existing clinical youth programming, the Childhood Obesity Foundation (COF) in collaboration with the University of Victoria (UVic), launched a formative research project using a Social Marketing

(SM) lens to understand the needs and perceptions of adolescents in order to recruit and retain youth in healthy weight programs and influence healthy long term behaviour change.

The purpose of this research was fourfold: 1) to understand the multiple audience needs and perceptions of adolescents (downstream) and practitioners and parents (midstream) in order to influence recruitment and retainment of youth in healthy weight programs and influence healthy long term behaviour change; 2) identify perceived costs, benefits, and promise that need to be addressed in order for youth to participate in healthy weight programs; 3) identify key design elements and promotional components for healthy weight programs; and, 4) add evidence to the current research surrounding adolescent healthy weight interventions.

2.2 Research Design and Sampling

An instrumental single case study design (Patton, 2015; Stake, 2005) drawing from multiple sources of information (Creswell, 1998; Yin, 1989) was used to explore and express the beliefs and values youth held when it came to healthy lifestyle programs. Further we employed a maximum variation sampling strategy (Patton, 2015; Stake, 2005). This allowed us to illustrate the issue at hand and further analyze emerging themes from different perspectives (Creswell, 1998; Stake, 1995). As Patton (2015) has noted, uncovering any common patterns or emerging themes from greater variation in sampling is particularly important in terms of value when it comes to capturing the central ideas and experiences of a specific phenomenon.

2.2.1 Recruitment and Sample

The first audience we reached out to were youth program directors, facilitators, and leaders around British Columbia including Victoria, Vancouver, Prince George, Kelowna, and Campbell River. We distributed surveys to youth workers from two youth worker conferences in both Vancouver, BC at the British Columbia Recreation and Parks Association (BCRPA)

Empower Youth Conference and Victoria, BC at the Helping Youth Programs Excel (HYPE) Conference. We also distributed opinion surveys to current youth participants of a clinical weight management program for youth Shapedown BC (SDBC) as well as their parents. Ethical approval of the study was obtained from the Human Research Ethics Board at the University of Victoria (Appendix A). Forty-four youth worker surveys were completed, ten SDBC youth participant surveys were completed, and sixteen SDBC parent surveys were filled out in Fall 2018.

Table 1.
Number of participants from youth, parents, and youth workers

Perspective	Number of survey participants
Youth (Y)	10
Parent (P)	16
Youth workers (YW)	44
Total	*70*

2.2.2 Data Collection

Surveys for all three perspectives contained both open-ended and closed-ended questions. Format varied depending on the audience and was largely based on feedback from the SDBC staff who wanted more closed-ended questions to reduce respondent burden. Consequently, the SDBC youth and parent survey had 1 open-ended question with 6 or 5 closed-ended questions, respectively (Appendix B and C respectively). The youth workers survey included 7 open-ended questions with 3 closed-ended questions (Appendix D). All surveys were informed by the social marketing framework including questions addressing the 4P's such as perceived benefits and

costs. Specific survey questions, format, and closed-ended answer options can be seen in the Appendices. Each closed-ended question for all three audience surveys had a "other" selection box in which participants could elaborate in detail.

SDBC program coordinators distributed the surveys to their youth and their parents to fill out along with typical end of program evaluation materials, and completed surveys were picked up by the primary researcher from the SDBC program team in Vancouver, BC.

Youth worker surveys were distributed and collected from youth workers attending the Empower Youth BCRPA conference in Vancouver, BC and the HYPE conference in Victoria, BC. Youth worker surveys were handed out in the morning at each conference by the conference facilitators (BCRPA Empower Youth) or primary researcher (HYPE) and returned back via courier service (BCRPA Empower Youth) or at the end of the conference (HYPE).

2.2.3 Data Analysis

Quantitative close-ended questions

To analyse the quantitative data survey responses were entered into Excel and frequency counts were generated and represented as percentages. Frequency data were transformed into tables and figures for visual inspection.

Open ended qualitative feedback

The methods used to analyse the open ended qualitative data were modeled after procedures conducted in other research involving SM campaigns regarding healthy eating and physical activity (Grow et al., 2013; James et al., 2018; Ramanathan et al., 2018). Open ended survey data were managed and thematically analyzed with NVivo 12 (QSR International, Melbourne, Australia). We employed Braun and Clarke's six-step approach to thematic analysis (Braun & Clarke, 2006) beginning with a provisional "start list" of codes derived from the social marketing framework. In Step 1, the qualitative survey data were read and re-read as a familiarization step

prior to initial coding that allowed for the identification of any ideas or patterns to be shaped. Once sufficiently familiar with the data, step 2 was implemented and consisted of generating initial codes for the data. However, in light of working with the SM framework, a provisional "start list" of codes was used (Miles and Huberman, 1994; Andreasen, 1995). We organized the data *a priori* according to the social marketing categories: Product (perceived core values and benefits associated with participating in healthy lifestyle programs), Price (perceived costs associated with participating in healthy lifestyle programs), Place (spaces and locations to participate in healthy lifestyle programs), and Promotion (key messages and communication strategies increase awareness and popularity of healthy lifestyle programs) (Andreasen, 1995; Lee & Kotler, 2011). Product and Price also have subcategories which explore the concepts a bit further. The Product subcategories include: Core Products (the benefits youth value and believe the will experience by participating in programs), Actual Products (the actual features or program components), and Augmented Products (any additional services that will be included in offering programs to youth) (Lee & Kotler 2011). The Price subcategories include: Terminal Costs (youths' values or beliefs about the negative psychological consequences of participating in a program) and Instrumental Costs (costs associated with actually participating in a program) (Andreasen, 1995).

In Step 3, the coded data were re-focused at a broader scale to identify potential emerging patterns (Braun & Clarke, 2006). Since the codes were already organized *a priori* by the overarching concepts of SM, time was taken to sort the coded data into the overarching themes of Product, Price, Place, and Promotion (Andreasen, 1995). In Step 4, the analysis was reviewed to ensure that the themes previously set out were congruent with the data set. In Step 5, the themes were refined by clarifying the relevant concepts in order to understand how the themes wove together in the overall story unfolding from the data (Braun & Clarke, 2006).

2.3 Results

The surveys were designed in a way to uncover the needs and perceptions of youth aged 13-17 surrounding healthy weight programs and understand how best to design future programs in order to encourage long term behaviour change and positively influence youth recruitment and retainment. The needs and perspectives were examined from multiple stakeholders. Differences and overlaps in perspective are highlighted. Quantitative data and then the qualitative themes related to each theme within the *a priori* SM framework are discussed following. Qualitative themes are illustrated with quote display. Agreement between the quantitative and qualitative data is also presented.

Product:

The Product platform elements were identified from youth, parent, and youth worker responses included improvement in physical health, improvement in mental health, having fun, incorporating movement, incorporating nutrition into the program, building relationships, and providing incentives. Quantitative data are displayed in Figures 1 and 2 as well as Tables 2 and 3.

Core Products:

A main theme seen across all three perspectives in the quantitative and qualitative data was the overall improvement of **physical health**. In the quantitative data, the majority of youth and parents both agreed that a positive outcome that they would like to experience in a program or while supporting their teen in a program would be to "improve physical health and/or reduce risk of disease" and "feeling better physically" would be a positive outcome they would like to experience (Figure 1). In the qualitative data, youth workers supported this in the open-ended question when asked about what the importance of offering a program like this to youth would

be in which some youth workers responded with “reduce obesity and secondary diseases,” [YW43] and “promoting health and longevity,” [YW22]. When asked about thoughts that came to mind when thinking about healthy lifestyle programs, parents also expressed ideas like “good for health” [P3] and “emphasis on long term health” [P5]. In addition to this more objective and longer-term health status, the majority of youth also indicated that “having more energy” (80%) would be a positive outcome they would like to experience (Figure 1).

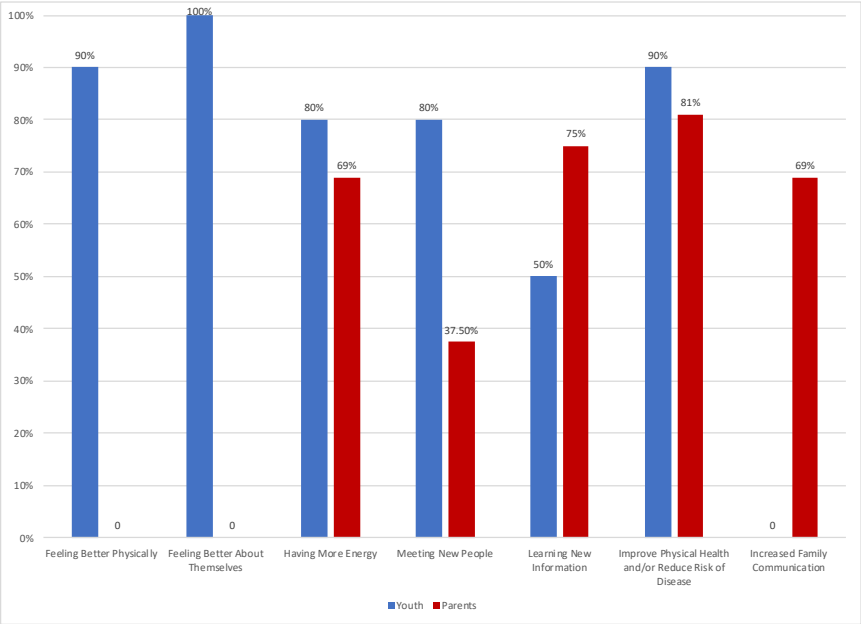

Figure 1. Core product - percentages represent boxes ticked off when asked the following questions:
Youth: “What are some positive outcomes or benefits that you think youth would like to experience in a healthy lifestyle intervention program?”
Parents: “What are some positive outcomes or benefits that you would like to experience while supporting your teen in a program?”

Supporting emotional health was a theme strongly emphasized in the quantitative data by youth in which all youth agreed to “feeling better about themselves” as a benefit that youth would want to experience in a program (Figure 1). This finding is also reflected in the qualitative data from youth workers. When youth workers were asked an open-ended question about the benefits of youth participating in these programs, frequently mentioned terms included “confidence”, “self-esteem”, “quality of life”, and “self-efficacy”. Youth workers also expressed in open-ended questions the importance of incorporating “support or counselling” [YW32] in order to make the program seem more interesting and important to youth. In the qualitative data,

one youth did note that "listening to their kid, understand how they feel" [Y2] was a way for parents to best support their youth in a program. Related to mental health, a majority of youth also agreed with the statement that "peer support" would be a desired feature that they would want in a program (Figure 2). Parents were not asked questions surrounding mental health of their youth but were asked about features that would be helpful in supporting their teen in a program. A minority of respondents agreed that in-person or phone support would be helpful (Figure 2).

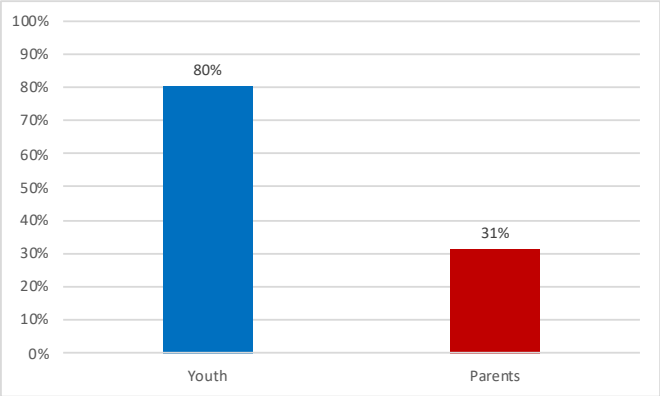

Figure 2. A representation of youth and parents who ticked off boxes "peer-support" (youth) or "in-person/phone support" (parents) when asked the following question:
Youth: "What kinds of supportive features do you think youth would want in such a program?"
Parents: "What kinds of extra features would you find helpful in supporting your teen during a program?"

Fun was identified by the majority across all three perspectives as an important element integral to encourage youth participation. Eighty percent of youth, 63% of parents, and 93% of youth workers highlighted this component. In the qualitative data, youth workers emphasized "fun leaders" who could relate to the youth as being key program components. Fun was a way to recruit and retain youth through activities that were "youth directed, dynamic, fun, adrenaline-based…" [YW21] and that were "relevant enough to their real life," [YW33] in order to get adolescent buy-in. One youth worker mentioned that "youth input, to get buy in, always important," [YW41]. When asked in an open-ended question about what someone could say in order to make the program seem more interesting and important to youth, one youth worked noted that "exercise should be fun. Find something you love and pursue it" [YW22].

Tangible/Actual Products:

Key design elements expressed quantitatively and qualitatively in this category included movement and a nutrition program component.

Movement through either exercise or active games was seen as a staple component in programs. The qualitative data demonstrated youth and parents using terms like "exercise", "training", "activities", and "physical activity" when describing their views about healthy lifestyle programs. Youth workers added and supported those terms in open-ended questions with specifics like "fitness", "exercise", "slacklining", "sports", and "diversity".

A **nutrition** component expressed as either free food, cooking classes, education, or recipes was appreciated in some way or another by all three perspectives. The majority of youth and parents in the quantitative data checked off the statements "recipes" and "nutrition information" but not "cooking classes" in response to a question asking them about what topics, skills, or resources would be helpful in meeting their needs or helping them (parents) support their teens (Table 2). Youth workers expressed in the qualitative data that free food had been successful in recruiting and retaining youth in previous programs and that "cooking recipes together" [YW2] or "learning how to make healthy meals" [YW32] were key components and ways to make the program seem interesting and more important to youth.

Table 2.
Tangible products and Augmented products- percentages represent boxes ticked off when asked the following question
Youth: "What topics, skills, and/or resources would be helpful in meeting your needs?" or
Parents: "What topics, skills, and/or resources do you need to support your teen in making healthy lifestyle changes?"

	Sleep Information	Recipes	Nutrition Information	Cooking Classes	Stress Management Tips	Individual Coaching	Activity Passes and/or Memberships
Youth	30%	70%	60%	30%	50%	30%	60%
Parents	37.5%	69%	56%	50%	37.5%	37.5%	75%

Augmented Products

Aspects of the quantitative and qualitative data coded as augmented products also included building relationships and offering incentives.

The majority of youth (80%) who responded to the survey agreed that a positive outcome that youth would like to experience in a program would be to "meet new people" (Figure 1) or "doing it with friends", and thus foster new or pre-existing **relationships**. Most youth workers also concurred that "doing it with friends" would be a programmatic strategy for encouraging youth to participate. This theme was echoed in the youth workers' responses in the qualitative data where some mentioned "friend circles tend to sign up together" [YW28], "building relationships [with staff]", and "social connection" as benefits to the program.

Additionally, having "face-to-face instruction" selected as a valued supplement to the program by all three participant groups (Table 3).

Table 3.
Augmented products responses when asked about supportive features and features that would make it easy and fun
Youth and youth workers: "What kinds of supportive features do you think youth would want in such a program?"
Parents: "What kinds of extra features would you find helpful in supporting your teen during a program?"

	Supportive, easier/more fun, and engaging			
	Phone App	**Videos**	**Face-to-Face Instruction**	**Cool Gadgets**
Youth	60%	60%	60%	70%
Parents	25%	44%	81%	31%
Youth workers	57%	29.5%	77%	43%

Incentives were also mentioned as techniques that could motivate or remove barriers in order to attract and keep youth engaged in programs. The quantitative data demonstrated that two thirds of youth (Table 3) checked off boxes with the statements "phone app" and "videos" as supportive features youth would want in a program. "Cool gadgets" (Table 3) were seen as items that would make it easier and more fun for youth to participate, and "activity passes and/or memberships" (Table 2) as resources that would be helpful in meeting their needs. The majority of parents only checked off the box "activity passes and/or memberships" (Table 2) as resources that could help them support their teen and there was less agreement about the need for "phone app", "videos," (Table 3) and "cool gadgets" (Table 3). Adults, both parents and youth workers, identified "cool gadgets" as making it easier or more fun for youth to attend but this was a less frequent response. However, the qualitative data supported the quantitative data where ideas for

enhancements to the product were explored. For instance, youth workers mentioned ideas including “incorporating technology” [YW36], giving teens free access to facilities with “recreation passes” [YW10], “free stuff (swag)” [YW32], prizes, and grants as methods to make the program seem more interesting and attractive to youth; however, some youth workers did express that incentives only “sometimes work” [YW20] and that they should only be given “at first” [YW5].

Price

Price elements that were identified in both the closed-ended and open-ended questions terminal and instrumental costs including: psychological consequences, no support from parents or peers, lack of time, transportation, cost, and the programs being boring, repetitive, or not relevant to youth. Quantitative responses are displayed in Figures 3 – 5 and Table 4 and qualitative responses are displayed in Table 4.

Terminal Costs

Psychological consequences were a terminal cost and barrier that came up in both youth’s closed-ended and youth worker open-ended survey responses. Quantitative data showed that a majority of youth checked the box titled “feeling embarrassed” (Figure 3) as a negative outcome that they themselves might experience participating in an intervention with one youth noting in an open-ended question that “only dumb people go there!” [Y9] (Table 4) when asked about thoughts when thinking about healthy lifestyle programs. Youth workers provided more details in the open-ended questions mentioning possibilities like “body shaming”, “negative self ID”, “something is wrong with their body”, “body image issues”, “stigma” and “judgement” (Table 4).

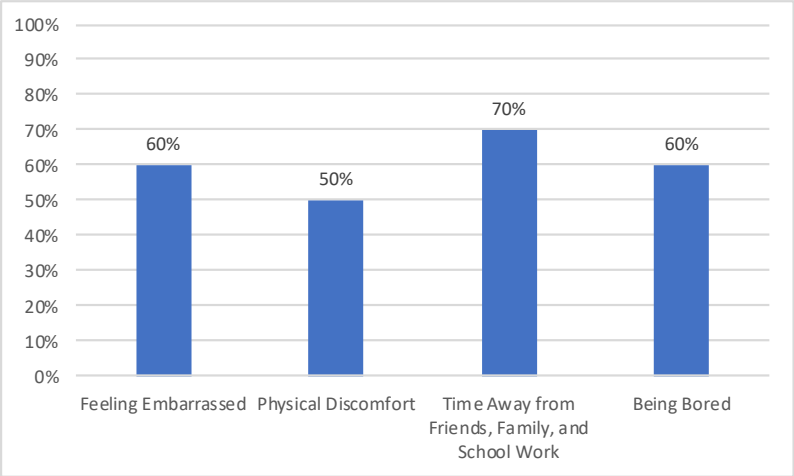

Figure 3. Psychological, physical, and instrumental costs - percentages represent boxes ticked off when asked the following question Youth: "What are some negative things you might experience participating in a healthy lifestyle intervention?"

Table 4.
Qualitative data from open-ended questions to youth and youth workers about price of attending healthy lifestyle programs; quantitative data from parents for the closed-ended question "What are some negative things you might experience while supporting your teen?

Qualitative				
	Price	**Youth**		**Youth Workers**
	a) Instrumental Cost	Boring, repetitive		Cost, no parent/peer support, competitive environment/activities, boring/repetitive programs, transportation, lack of time, youth not having skill development to participate in prescribed activities
	b) Terminal Cost	Judgement (e.g. "only dumb people go there!" from one respondent)		Psychological costs like fat shaming, stigma, judgement, anxiety, embarrassment, pressure, critical.

Quantitative

	Decreased Family Communication	**Loss of Time Due to Program Duration and Transportation**	**Information Overload**	**Incorporating New Behaviours that are Challenging**
Parents	19%	56%	12.5%	56%

Instrumental Costs

Main elements identified quantitatively and qualitatively as instrumental costs were lack of time, transportation, no support from parents or peers, cost, and programs being boring, repetitive, or not relevant.

Lack of time was equated negatively in a closed-ended question as "loss of time due to program duration and transportation" (Table 4) for parents and "time away from friends, family,

and school work" (Figure 3) for youth. Youth workers also expressed in an open-ended question an aspect of "time consuming for families" [YW12] as being a negative outcome of participation.

In relation to time, **transportation** was also seen quantitatively as an issue that impact parents negatively when supporting their youth in a program (Table 4) while youth expressed that "transportation to and from program" (Figure 4) would be a way that parents could best support youth in the program. In the qualitative data, youth workers did suggest that transportation is a key component to healthy weight programs [YW21].

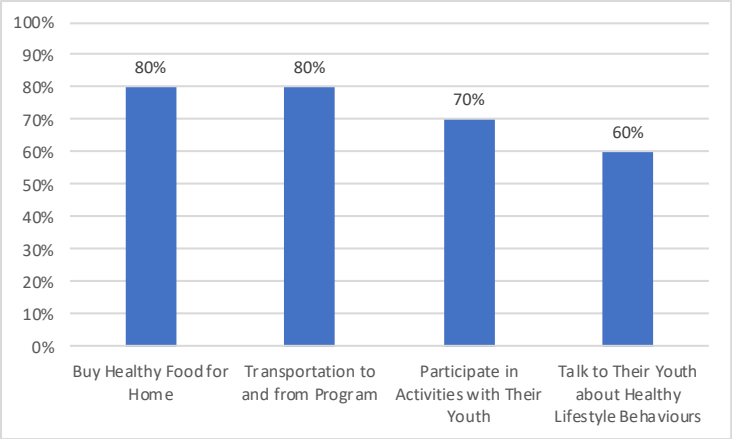

Figure 4. Supportive features outside program - percentages represent boxes ticked off when asked the following question Youth: "How can parents best support youth like you in healthy lifestyle programs?"

In the quantitative data, parent support for participation was identified, with the majority of youth highlighting their role in "buying healthy food for home", "participating in activities with their youth", and "talking to their youth about healthy lifestyle behaviours" (Figure 4). The qualitative data illustrated the complexity of support mentioning that support from parents and peers could be both supportive or not depending on the youth and their family situation. For instance, one youth worker suggested "parents (could go either way)" [YW38], and another stated "hopefully parents, friends, teachers, family (but these are all variables that could go either

way)" [YW33] when asked about who might or might not support teens in a healthy lifestyle program.

Youth workers also expressed qualitatively that having **no support from parents and peers** can inhibit youth program participation with one youth worker stating that "if they [youth's friends] find it boring or lame that could discourage youth to join" [YW35] or another mentioning that "when youth's friends do not join they will not join" [YW34].

Program Cost of programs was noted as a barrier to youth participation especially by the youth workers. Quantitative data showed that the majority of youth agreed that "no or low cost" (Figure 5) would make it easier for youth to participate in these programs. In contrast, only half of parents checked off the "no or low cost" (Figure 5) box when asked what would make it easier for them to support their teen in a program. In the qualitative data, many youth workers expressed that programs should be "free" to youth and that "whoever has to pay" [YW44] could be a potential barrier. These sentiments were supported by the youth as mentioned above.

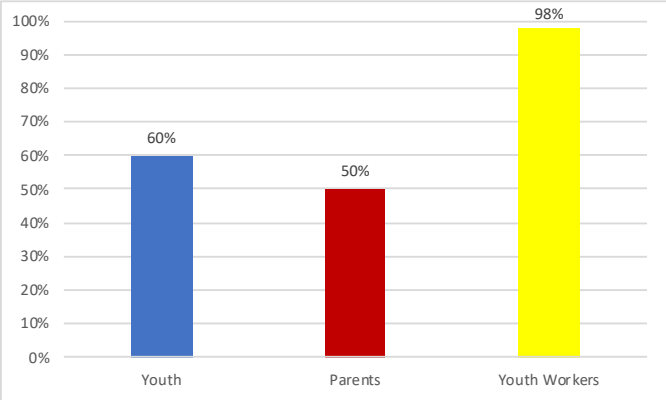

Figure 5. Price - A representation of youth, parents, and youth workers who ticked off the box "no or low cost" when asked the following question
Youth: "What would make it easier for youth to participate? What would make healthy lifestyle programs more fun and/or engaging?"
Parents: "What would make it easier for you to support your teen in a healthy lifestyle program?"
Youth workers: "In your experience, what might make it easier for youth to participate in healthy weight programs? What would make these programs fun and/or cool?"

Programs that were **boring, repetitive, and not relevant** to the youth was a cost that youth felt would limit youth engagement in lifestyle programs. In the quantitative data, the majority of youth checked off the box "being bored" as possible negative things they might experience in a program (Figure 3). In the qualitative data, some youth expressed that thoughts of "boring" [Y9 and Y10] and "repetitive" [Y8] came to mind when hearing the term "healthy lifestyle program" (Table 4) while youth workers not only expressed those ideas but also ideas surrounding "parents enrolling youth who don't want to be there" [YW42] as possible negative outcomes.

Different perspectives were found in the quantitative and qualitative data for three different categories in the Product and Price elemenrs including supportive features that youth would want in a program when it came to technology (Product), transportation (Price), and program cost (Price) (Table 5).

Table 5.
Comparison of the difference in multiple perspectives on beliefs surrounding what youth want in a program. Quantitative data is expressed in percentages.

	Incentives (Product – Augmented)			**Transportation (Price – Instrumental)**	**Program Cost (Price – Instrumental)**
	Phone Apps	Videos	Cool Gadgets		
Youth	Majority (60%)	Majority (60%)	Majority (70%)	Majority (80% - supportive feature from parents)	Majority (60% - no or low cost)
Parents	Minority (25%)	Minority (44%)	Minority (31%)	Majority (56% - negative aspect to program participation)	Minority (50% - no or low cost)
Youth Workers	Majority (57%)	Minority (29.5%)	Minority (43%)	Negative aspect to program participation **(qualitative)**	Majority (98% - no or low cost)

Place

Elements that were prominent in the Place category included convenience, being outdoors, and safety. Quantitative support for these elements is shown in Figure 6.

The quantitative responses of all three participating groups highlighted the importance of holding the program "**in a convenient time and place**" and how this would make it easier for youth to participate in a healthy weight program (Figure 6). Youth workers advised in open-ended questions that "easily accessible (close to school)" [YW21] or "location (convenient)" [YW17] as being key components for healthy lifestyle programs.

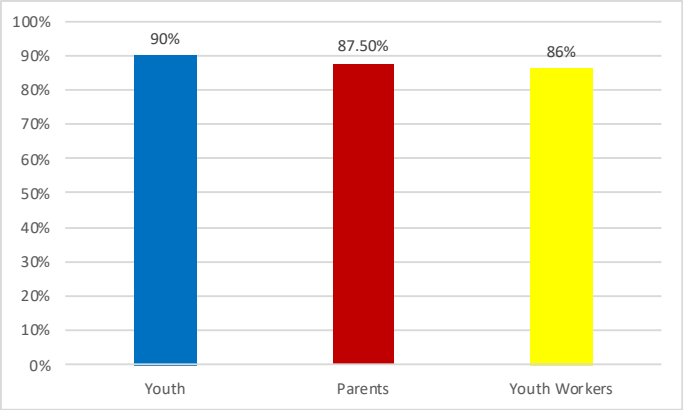

Figure 6. Developing place strategies - A representation of youth, parents, and youth workers who ticked off the box "In a convenient time and place" when asked the following question
Youth: "What would make it easier for youth to participate? What would make healthy lifestyle programs more fun and/or engaging?"
Parents: "What would make it easier for you to support your teen in a healthy lifestyle program?"
Youth workers: "In your experience, what might make it easier for youth to participate in healthy weight programs? What would make these programs fun and/or cool?"

Some youth workers also expressed that going **outdoors** was important for recruiting and retaining youth with some noting "an emphasis on outdoors," [YW22], "outdoor activities," [YW42], and "fitness activities…more outdoors," [YW43]. One parent also noted that "fresh air" [P7] came to mind when hearing the term "healthy lifestyle program."

Safety in terms of acceptance and inclusivity was expressed by youth workers as important to recruiting youth and making the program seem more important to them. One youth

worker noted that a potential negative outcome of delivering this type of program would be "lack of participation from youth who don't feel safe to enter a 'healthy weight' program," [YW27].

Promotion

The primary elements of the Promotion aspect were the use of body positive language, social media, peer word-of-mouth, and creating partnerships.

Many youth workers advised that using the term "weight" would discourage youth from participating and to instead focus on **body positive language** including "health", "wellness", and "lifestyles". One youth worker noted "don't call it a healthy weight program. Weight stigma will prevent participation" [YW37]. Another mentioned that a way to make the program seem more interesting or important to youth was to say "It's not about the numbers, it's about how you feel," [YW15].

Social media was also highlighted by youth workers as a way that they had recruited youth, for example, using "# contests on Instagram," [YW36]. As well, using "social media," [YW12] or "social media engagement," [YW15] was cited as a way to portray the program as being interesting to youth.

Further, youth workers also noted that **peer word-of-mouth** was the best way to recruit youth and make the program seem more interesting or important to them. One youth worker recommended "talk to youth about it in person," [YW31] while another youth worker noted that "friend circles tend to sign up together" [YW28].

Another effective promotional messenger strategy expressed qualitatively by youth workers to recruit and retain youth has been building **partnerships** "with schools," [YW9] or "with…youth-engaging organizations" [YW27] and using "youth-led advertisement," [YW10] with "promo posters" [YW31].

2.4 Discussion

The study objectives were to understand the needs and perceptions of multiple audience perspectives in order to influence recruitment and retainment of youth in healthy weight programs and influence healthy long term behaviour, identify perceived benefits and costs, and program design, content, delivery, and communication components that need to be addressed in order for youth to participate in healthy weight programs.

The literature has continually stressed the idea that overweight and obesity in adolescence is an epidemic where solutions need to be found urgently in order to effectively manage the issue (Houle-Johnson & Kakinami, 2018; Livingood et al., 2017). Healthy lifestyle programs are an effective intervention strategy for addressing those youth already off the healthy weight trajectory, but they suffer from low recruitment and high drop-out (Dhaliwal et al., 2014; Morrison et al., 2018). Social marketing is a potential method to tailoring these programs so they are more appealing to youth who may be in need of them (Evans et al., 2010). This study collected data using social marketing as an *a priori* framework to explore the perceptions of youth, parents, and youth workers and identify a critical marketing mix for a healthy lifestyle intervention serving overweight and obese youth as the target audience. Although the findings echoed those in the literature around determinants, barriers, and best-practice recommendations, the SM framework provides the foundation for a more in-depth program analysis. In addition, the instrumental case design and multiple perspectives allowed for a richer understanding of the needs, issues, and barriers. The data also highlighted some relevant issues to Social Marketing theory and provided a preliminary 'marketing mix' that BC communities can use to design community-based youth healthy weight programs. The specific findings are discussed below.

Product

In this study, the core motivations for youth participation as noted by all the audience streams included improving overall physical health, improving emotional health, and having fun. These findings have been described in previous research related to the Product element of the framework (Berkowitz et al., 2008; Engström, Abildsnes, & Mildestvedt, 2016; James et al., 2018; Kebbe et al., 2017; Reece et al., 2016; Silva et al., 2018; Smith, Straker, et al., 2014; Sundar et al., 2018; Wilson, 2007). Some studies have shown that overall physical health has been important whether it's pertained to chronic illness prevention or for appearance reasons (Engström et al., 2016b; Silva et al., 2018; Sundar et al., 2018). Researchers and public health practitioners have warned against using physical appearance as a motivator as it may lead to unhealthy and extreme weight loss strategies (Houle-Johnson & Kakinami, 2018). This stands in stark contrast to research with youth, especially females, where they expressed the importance of using messaging and branding techniques to emphasize benefits of attractiveness and featuring "attractive, slender, healthy-looking young women," (Van Kessel et al., 2016, p.9). Youth workers in our study warned against using a "standard" of a healthy weight or body image in fear of the development of weight stigma, judgement, fat shaming, depression, or eating disorders. To prevent this, youth workers suggested fostering mental health via support or counselling and youth suggested peer support as a feature they would want in a healthy weight program. Previous research has suggested that a mental health component designed to build self-esteem, develop coping strategies, provide support, foster body satisfaction, and promote positive body image is important for intervention environments and essential for supporting positive healthful lifestyle change (Reece et al., 2016; Wilson, 2007).

Incorporating fun was found to be a strong value described by youth, parents, and youth workers as essential for healthy weight interventions. The research has found that youth are not

only more willing to exercise if it's fun (Wilson, 2007) but Reece et al. (2016) recommended looking into enjoyment and having fun as being crucial determinants for success in physical activity participation. In the same vein, the youth, youth workers, and parents in this study show the importance of building relationships as positive or beneficial outcomes to a healthy weights program. Sundar et al. (2018) also noted that friendship and the opportunity to get together with friends in sports was important to youth and their perception of having fun which was a key motivator for overweight adolescents. On the other hand, adolescents who take up new sports where they don't know other participants appear to be more likely to not enjoy the activity and eventually drop out (Sundar et al., 2018); therefore, social engagement and friendship may be another avenue through which youth may experience fun in healthy weight programs.

Tangible products in the form of physical activity and nutritional components were noted as important elements for intervention programs. This is in line with previous studies showing that adolescents view physical activity as essential for improving future general health and fitness and the number one program component that youth prefer to help them lead a healthy lifestyle (Wilson, 2007; Sundar et al., 2018; Silva et al., 2018). Also consistent, was that youth workers in this study noted that it was important to offer a variety of activities to adolescents. James et al. (2018) not only supported this but further recommended that offering a variety of activities is especially important for teenage girls otherwise they would not participate in it and prefer to be inactive (James et al., 2018). Nutrition elements in the form of provided snacks, cooking skills, or nutrition education were emphasized by the youth workers but not as strongly by the youth themselves or their parents. This may have been due to using the term "class" and youth having a negative connotation because of school. Nonetheless, previous research has noted that youth enjoy learning new cooking skills and receiving free healthy food (Kitzman-Ulrich et

al., 2016; Ridder, Heuvelmans, Visscher, Seidell, & Renders, 2009; Sallinen, Schaffer, & Woolford, 2013).

All three participant perspectives reflected augmented products to complement the programmatic components including relationships and incentives as important key factors for adolescent participation. Youth and youth workers in this study mentioned peer support, building relationships, and attracting friend groups as ways to make it easier for adolescents to participate in programs. Previous studies have supported these findings also noting that they are highly emphasized during treatment interventions and when done in a socially supportive context, are enjoyable and conducive to losing weight (Reece et al., 2016; Vangeepuram, Townsend, Arniella, Goytia, & Horowitz, 2016; Wilson, 2007). As mentioned above, this may be an avenue to explore as a means to introduce an element of fun into programs and motivate overweight adolescents to participate in programs. Similar to previous literature (Wilson, 2007), the research findings were ambiguous about including families/parents in the programming. This study showed that adolescents liked the idea of parents directly participating in program activities with their youth and also provide supporting features like transportation and healthy food for home. However, our sample of youth was drawn from a family-based intervention which could have influenced results. Conversely, youth workers indicated that it depended on the youth but also highlighted that parents played an important supporting role by assisting adolescents with transportation and at home through modeling behaviour, providing healthy food, and creating a supportive environment for healthy behaviour. Previous research has found similar findings with parents acting as a support base for their youth in healthy weights programs (Cui et al., 2015; Knop et al., 2015).

Another aspect to augment the tangible product were incentives for program participation. Specific features that were recommended by youth were technology and cool

gadgets while youth workers recommended prizes, technology gadgets, and free swag in the qualitative data. There were however some differences in perspectives noted in the quantitative data as to what supportive features youth would want in a program when it came to using technology. All three audiences recommended free activity memberships. Congruent with the research, incentives in the form of prizes, memberships, and other rewards are favourable in exchange for adopting a new behaviour (Wilson, 2007). However, some youth workers in our study cautioned that incentives should only be offered initially which is supported in the literature (Gillison, Standage, & Verplanken, 2014) and theoretically by self-determination theory which shows extrinsic rewards may lower intrinsic motivation (Deci et al., 2001). Although, according to Wharf Higgins et al. (2012) offering incentives using a social marketing paradigm "is critical to ensuring that the benefits of change are more immediate and outweigh the instrumental costs of taking up the change" (Wharf Higgins, Cookson, Hastings-James, & Frazer, 2012, p. 46). Recent research by Pope & Harvey (2015) supports this perspective whereby the removal of incentives did not affect intrinsic motivation (Pope & Harvey, 2015). Augmenting the core product with these additional extras, such as swag and gadgets, may mitigate the more upfront perceived costs or negative aspects that youth associate with attending these types of programs because often a benefit that is certain right now (instant gratification) is typically worth more than a future possible payoff (delayed gratification) (Wharf Higgins et al., 2012).

Price

Some of the terminal costs in relation to the Price component have been already discussed in this study but nonetheless include weight stigma, emotional health issues, fear of over-competitive environments, lack of physical skills, stress, low self-esteem, low self-worth, fear of judgement, and development of eating disorders. All of these factors have been

expressed previously in the literature (Reece et al., 2016; Sundar et al., 2018; Wilson, 2007). Recognizing the potential for harm youth workers in this study advised screening for eating disorders before admitting youth to a program, something that other researchers have also recommended to ensure that the intervention "does no harm" (Wilson, 2007). In addition to terminal costs, instrumental costs of actually participating in healthy weight programs need to be considered in order to overcome barriers to program participation.

In terms of instrumental costs, this study found that lack of time, transportation, cost, and boring or repetitive programs were negative aspects or barriers to program participation. All of these components have also been noted in the literature (James et al., 2018; Sundar et al., 2018; Wilson, 2007). Offering free passes and transportation to alleviate some of the barriers surrounding program participation have been recommended (James et al., 2018; Wilson 2007) and addressing the boring or repetitive aspect by ensuring that the programs are fun, inviting friends, and offering incentives are ways to mitigate those costs (Silva et al., 2018; Reece et al., 2016). In the quantitative and qualitative data, there were some discrepancies in perspectives found in terms of transportation and program costs.

Place

Place strategies were less often emphasized by the participants in this study. Nonetheless, place elements that were emphasized in youth worker surveys included making the location closer for convenience; making the location more appealing (outdoors and with friends); overcoming psychological barriers associated with place (safety); and using existing distribution channels (locations at schools and recreation centers). Relating to other studies, place strategies including convenient locations, safe spaces, outdoor recreation, and existing distribution channels have been previously noted (Douglas Evans, Necheles, Longjohn, & Christoffel, 2007;

Kitzman-Ulrich et al., 2016; Thunfors et al., 2009; Van Kessel et al., 2016; Vangeepuram et al., 2015; Lee & Kotler, 2011).

Promotion

Finally, Lee and Kotler (2011) and Drummond et al. (2009) suggest that the Promotion element is commonly mistaken as the whole of SM with marketers neglecting the other 'P's when designing campaigns to reach their target audience (Drummond, Higgins, & Hubert, 2009; Lee & Kotler, 2011). Developing a marketing mix that includes all four components strengthens a campaign by maximizing its effectiveness (Luecking et al., 2017; Kotler & Lee, 2011). Similar to other research surrounding 'promotion' strategies in SM, using social media, peer word-of-mouth, creating partnerships, and using body positive language all emerged as important in this study. This finding was consistent with the communication channels, key messengers, and elements of key messages that other research has shown to be effective for reaching priority audiences (Evans et al., 2009; Hsu, Rouf, & Allman-Farinelli, 2018; Scott & Wharf-Higgins, 2012; Van Kessel et al., 2016; Vangeepuram et al., 2015).

Informed by social marketing, we set out to capture and understand the perspectives of multiple audiences critical to youth healthy weight programs. Our results demonstrated relevant core values elicited from all three audiences that have immediate real-world practical implications. Above all else, having fun and improving physical and emotional health were noted as top priority core benefits that youth wanted to experience in, and leave with from, healthy lifestyle programs. In designing these programs, developers should be sure to consider these core values and integrate them in the key messages. Creating an appropriate 'marketing mix' for this target audience will ensure that the desired behaviour is directly linked back to youths' core values and beliefs (Andreasen, 1995).

Based on the study findings, we identified the following criteria for youth healthy weight programs:

- Youth need to have a program that includes physical activity, nutrition, and emotional/social health components that are relevant and fun in order to attract and engage them.
- Programs need to emphasize the benefits of program participation including physical and mental health, having fun, receiving incentives, and building relationships while minimizing the barriers including emotional health concerns, lack of time, cost of program, transportation, and boring programs.
- Creating partnerships throughout the community, using peer word-of-mouth, and using social media platforms are communication lines that should be utilized for promoting youth healthy weight programs.
- Youth want a face-to-face group dynamic delivery system in combination with technological components.

2.5 Limitations and ways forward

This qualitative case study utilized an SM lens to identify the values, beliefs, needs, and attitudes in youth in order to determine what youth required in a community-based healthy weight intervention program. It was delimited to English-speaking youth who were age 13-17 years and over the 85th BMI percentile, and adults who were parents of children over the 85th BMI percentile or who worked with overweight or obese youth.

There were methodological limitations as the initial study plan was to include focus group interviews; a recommended optimal approach to data collection with this population (Peterson-Sweeney, 2005). However, interestingly, there was a lack of response to recruitment efforts and

so the survey was selected instead. In terms of response numbers, we had a proportionately larger response from youth workers and parents compared to youth which could have skewed the data. Youth worker surveys also included more open-ended questions that allowed for more qualitative data to be collected. In addition, the youth had participated in a clinical healthy weights program which may have made them respond more positively to the questions. The fact that recruitment of youth to the study was extremely challenging highlights the potential for a positive response bias.

Initially, we hoped to do focus groups and surveys in different parts of BC due to rural vs urban setting differences (Joens-Matre et al., 2008); however, lack of recruitment support among youth programs also inhibited this process. Many didn't feel that they served the overweight and obese youth population and in many cases the time demands of supporting recruitment were a barrier.

Future research can move beyond the findings of this study. Our study identified a rich description of the Product and Price elements of the framework, less related to Place and Promotion components. Since SM campaigns are optimal when all four factors are used (Luecking et al., 2017; Lee & Kotler, 2011), further exploration of Place and Promotion will only strengthen our understanding of how to best design and reach youth audiences. More in-depth qualitative exploration of the four P's including key promotional messages and identifying competing behaviours that may discourage youth participation may help increase recruitment for healthy weight programs. Furthermore, research into different segmented markets of the priority audience is important in order to effectively reach different youth audiences (Andreasen, 1995). It remains important to understand differences between rural and urban youth, how to reach and intervene with youth from lower socio-economic strata and youth of different ethnicities and cultures. Working with the latter two audiences will aid in gathering more diverse perspectives

and also the specifics that may be contextually appropriate for specific geographic areas (Joens-Matre et al., 2008) and different groups of youth.

Finally mobilizing what was learned into 'a healthy living intervention/product' and testing whether a youth-tailored community-based model is effective in reach, retention and outcomes, is of paramount importance. Although this is foundational work, program developers could also use these findings to create a socially desirable brand that may reflect the values and beliefs that youth have about program participation as well as its costs and benefits in order to increase youth recruitment. Doing so will require a longitudinal, collaborative and mixed-methods approach ideally engaging youth themselves in defining indicators beyond the standard health measures.

2.6 Summary

In summary, tailoring healthy weights intervention to youth must include aspects of the product, price, place, and promotional strategies and messages that are distinctly relevant for that age group. Such initiatives should aim to contain the themes we found in this study in order to create effective weight management interventions that address the core benefits of adolescents and reduce barriers to their participation. Informing the marketing mix were themes capturing found physical health, emotional health, fun, movement, nutrition, relationships, and incentives to supplement participation. Regarding the price of their participation, we need to tend to emotional consequences, time, and transportation constraints, support from parents and peers, financial costs, and create meaningful and inspiring content. These programs must be convenient in terms of location and time, offer an outdoor component, and a safe environment free from stigma and shame. Using body positive language, social media, peer word-of-mouth strategies, and existing partnerships will help inform and persuade youth to participate.

2.7 References for Chapter 2

Alberga, A. S., Sigal, R. J., Goldfield, G., Prud Homme, D., & Kenny, G. P. (2012). Overweight and obese teenagers: Why is adolescence a critical period? *Pediatric Obesity*, *7*(4), 261–273. https://doi.org/10.1111/j.2047-6310.2011.00046.x

Andreasen, A. R. (1994). Social Marketing: Its definition and domain. *Journal of Public Policy & Marketing*, *13*(1), 108–114. https://doi.org/10.2307/30000176

Araújo, J., & Ramos, E. (2017). Paediatric obesity and cardiovascular risk factors – A life course approach. *Porto Biomedical Journal*, *2*(4), 102–110. https://doi.org/10.1016/j.pbj.2017.02.004

Asbury, L. D., Wong, F. L., Price, S. M., & Nolin, M. J. (2008). The VERB™Campaign. Applying a Branding Strategy in Public Health. *American Journal of Preventive Medicine*, *34*(6 SUPPL.), 183–187. https://doi.org/10.1016/j.amepre.2008.03.010

Bartelink, N. H., Jansen, M. W., Kremers, S. P., Mulkens, S., & Mujakovic, S. (2014). Long-Term Effects of the RealFit Intervention on Body Composition, Aerobic Fitness, and Behavior. *Childhood Obesity*, *10*(5), 383–391. https://doi.org/10.1089/chi.2014.0027

Bartelink, N. H. M., Mulkens, S., Mujakovic, S., & Jansen, M. W. J. (2017). Long-term effects of the RealFit intervention on self-esteem and food craving. *Child Care in Practice*, *24*(1), 65–75. https://doi.org/10.1080/13575279.2016.1259158

Bassett, R., Chapman, G. E., & Beagan, B. L. (2008). Autonomy and control: The co-construction of adolescent food choice. *Appetite*, *50*(2–3), 325–332. https://doi.org/10.1016/j.appet.2007.08.009

Berkowitz, J. M., Huhman, M., Heitzler, C. D., Potter, L. D., Nolin, M. J., & Banspach, S. W. (2008). Overview of Formative, Process, and Outcome Evaluation Methods Used in the VERB™Campaign. *American Journal of Preventive Medicine*, *34*(6 SUPPL.), 222–229.

https://doi.org/10.1016/j.amepre.2008.03.008

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Breiner, H., Parker, L., Olson, S., Committee, S., & Board, N. (2013). *Challenges and Opportunities for Change in Food Marketing to Children and Youth*. https://doi.org/10.17226/18274

Brown, B. B., Clasen, D. R., & Eicher, S. A. (1986). Perceptions of Peer Pressure, Peer Conformity Dispositions, and Self-Reported Behavior Among Adolescents. *Developmental Psychology*, *22*(4), 521–530. https://doi.org/10.1037/0012-1649.22.4.521

Butryn, M. L., Wadden, T. A., Rukstalis, M. R., Bishop-Gilyard, C., Xanthopoulos, M. S., Louden, D., & Berkowitz, R. I. (2010). Maintenance of weight loss in adolescents: Current status and future directions. *Journal of Obesity*. Hindawi Publishing Corporation. https://doi.org/10.1155/2010/789280

Casazza, K., & Ciccazzo, M. (2007). The method of delivery of nutrition and physical activity information may play a role in eliciting behavior changes in adolescents. *Eating Behaviors*, *8*(1), 73–82. https://doi.org/10.1016/j.eatbeh.2006.01.007

Chircop, A., Shearer, C., Pitter, R., Sim, M., Rehman, L., Flannery, M., & Kirk, S. (2015). Privileging physical activity over healthy eating: "Time" to Choose? *Health Promotion International*, *30*(3), 418–426. https://doi.org/10.1093/heapro/dat056

Colley, R. C., Carson, V., Garriguet, D., Janssen, I., Roberts, K. C., & Tremblay, M. S. (2017). Physical activity of Canadian children and youth, 2007 to 2015. *Health Reports*, *28*(10), 8–16.

Cui, Z., Seburg, E. M., Sherwood, N. E., Faith, M. S., & Ward, D. S. (2015). Recruitment and retention in obesity prevention and treatment trials targeting minority or low-income

children: A review of the clinical trials registration database. *Trials*, *16*(1). https://doi.org/10.1186/s13063-015-1089-z

Dailey, R. M. (2010). Testing components of confirmation: How acceptance and challenge from mothers, fathers, and siblings are related to adolescent self-concept. *Communication Monographs*, *77*(4), 592–617. https://doi.org/10.1080/03637751.2010.499366

Danielsson, P., Kowalski, J., Ekblom, Ö., & Marcus, C. (2012). Response of Severely Obese Children and Adolescents to Behavioral Treatment. *Archives of Pediatrics & Adolescent Medicine*, *166*(12), 1103. https://doi.org/10.1001/2013.jamapediatrics.319

Deci, E. L., Koestner, R., & Ryan, R. M. (2001). Extrinsic Rewards and Intrinsic Motivation in Education: Reconsidered Once Again. *Review of Educational Research*, *71*(1), 1–27. https://doi.org/10.3102/00346543071001001

Dhaliwal, J., Rasquinha, A., Nosworthy, N. M. I., Ball, G. D. C., Zwaigenbaum, L., Avis, J. L. S., & Holt, N. L. (2014). Attrition and the Management of Pediatric Obesity: An Integrative Review. *Childhood Obesity*, *10*(6), 461–473. https://doi.org/10.1089/chi.2014.0060

Drummond, J. R., Higgins, S. J. W., & Hubert, E. (2009). The healthy ecosystems, healthy people project: Using social marketing to promote environmentally active living. *International Review on Public and Nonprofit Marketing*, *6*(2), 167–180. https://doi.org/10.1007/s12208-009-0033-x

Elvsaas, I. K. Ø., Giske, L., Fure, B., & Juvet, L. K. (2017). Multicomponent Lifestyle Interventions for Treating Overweight and Obesity in Children and Adolescents: A Systematic Review and Meta-Analyses. *Journal of Obesity*. https://doi.org/10.1155/2017/5021902

Engström, A., Abildsnes, E., & Mildestvedt, T. (2016a). It's not like a fat camp''-a focus group study of adolescents' experiences on group-based obesity treatment. *International Journal*

of Qualitative Studies on Health and Well-Being. https://doi.org/10.3402/qhw.v11.32744

Engström, A., Abildsnes, E., & Mildestvedt, T. (2016b). It's not like a fat camp''-a focus group study of adolescents' experiences on group-based obesity treatment. *International Journal of Qualitative Studies on Health and Well-Being*, *11*(1). https://doi.org/10.3402/qhw.v11.32744

Epstein, L. H., Valoski, A., Wing, R. R., & McCurley, J. (1994). Ten-year outcomes of behavioral family-based treatment for childhood obesity. *Health Psychology : Official Journal of the Division of Health Psychology, American Psychological Association*, *13*(5), 373–383. Retrieved from http://ovidsp.ovid.com/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&D=emed5&AN=125021597%0Ahttp://man-fe.hosted.exlibrisgroup.com/openurl/44MAN/44MAN_services_page?sid=OVID:embase&id=pmid:7805631&id=doi:&issn=0278-6133&isbn=&volume=13&issue=5&spage=373&pag

Evans, W. D., Blitstein, J., Lynch, C., de Villiers, A., Draper, C., Steyn, N., & Lambert, E. V. (2009). Childhood obesity prevention in South Africa: Media, social influences, and social marketing opportunities. *Social Marketing Quarterly*, *15*(1), 22–48. https://doi.org/10.1080/15245000802669005

Evans, W. D., Christoffel, K. K., Necheles, J. W., & Becker, A. B. (2010). Social marketing as a childhood obesity prevention strategy. *Obesity*, *18*(SUPPL. 1), S23–S26. https://doi.org/10.1038/oby.2009.428

Evans, W. D., Necheles, J., Longjohn, M., & Christoffel, K. K. (2007). The 5-4-3-2-1 Go! Intervention: Social Marketing Strategies for Nutrition. *Journal of Nutrition Education and Behavior*, *39*(2 SUPPL.), 2–6. https://doi.org/10.1016/j.jneb.2006.08.024

Faith, M. S., Van Horn, L., Appel, L. J., Burke, L. E., Carson, J. A. S., Franch, H. A., … Wylie-Rosett, J. (2012). Evaluating Parents and Adult Caregivers as "Agents of Change" for Treating Obese Children: Evidence for Parent Behavior Change Strategies and Research Gaps. *Circulation*, *125*(9), 1186–1207. https://doi.org/10.1161/CIR.0b013e31824607ee

Flynn, M. A. T., McNeil, D. A., Maloff, B., Mutasingwa, D., Wu, M., Ford, C., & Tough, S. C. (2006). *Reducing obesity and related chronic disease risk in children and youth: a synthesis of evidence with "best practice" recommendations*. *Obesity Reviews: An Official Journal Of The International Association For The Study Of Obesity* (Vol. 7 Suppl 1). https://doi.org/OBR242 [pii]\n10.1111/j.1467-789X.2006.00242.x

Foster, G. D., Sundal, D., Lent, M. R., McDermott, C., Jelalian, E., & Vojta, D. (2014). 18-Month Outcomes of a Community-Based Treatment for Childhood Obesity. *Pediatric Obesity*, *9*(3), 63–67. https://doi.org/10.1111/j.2047-6310.2013.00197.x

Fuentes, L., Lebenkoff, S., White, K., Gerdts, C., Hopkins, K., Potter, J. E., … Sciences, R. (2016). A Youth-Leader Program in Baltimore City Recreation Centers: Lessons Learned and Applications, *93*(4), 292–297. https://doi.org/10.1016/j.contraception.2015.12.017.Women

Gerards, S. M., Dagnelie, P. C., Jansen, M. W., De Vries, N. K., & Kremers, S. P. (2012). Barriers to successful recruitment of parents of overweight children for an obesity prevention intervention: a qualitative study among youth health care professionals. *BMC Family Practice*, *13*(1), 37. https://doi.org/10.1186/1471-2296-13-37

Gillespie, J., Midmore, C., Hoeflich, J., Ness, C., Ballard, P., & Stewart, L. (2015). Parents as the start of the solution: A social marketing approach to understanding triggers and barriers to entering a childhood weight management service. *Journal of Human Nutrition and Dietetics*, *28*(s1), 83–92. https://doi.org/10.1111/jhn.12237

Gillison, F., Standage, M., & Verplanken, B. (2014). A cluster randomised controlled trial of an intervention to promote healthy lifestyle habits to school leavers: study rationale, design, and methods. *BMC Public Health*, *14*, 221. https://doi.org/10.1186/1471-2458-14-221\r1471-2458-14-221 [pii]

Gittelsohn, J., Steckler, A., Johnson, C. C., Pratt, C., Grieser, M., Pickrel, J., … Staten, L. K. (2006). Formative research in school and community-based health programs and studies: "State of the art" and the TAAG approach. *Health Education and Behavior*, *33*(1), 25–39. https://doi.org/10.1177/1090198105282412

Goldschmidt, A. B., Wall, M. M., Choo, T.-H. J., Evans, E. W., Jelalian, E., Larson, N., & Neumark-Sztainer, D. (2017). Fifteen-year Weight and Disordered Eating Patterns Among Community-based Adolescents. https://doi.org/10.1016/j.amepre.2017.09.005

Gordon, R. (2013). Unlocking the potential of upstream social marketing. *European Journal of Marketing*, *47*(9), 1525–1547. https://doi.org/10.1108/EJM-09-2011-0523

Grow, H. M. G., Hsu, C., Liu, L. L., Briner, L., Jessen-Fiddick, T., Lozano, P., & Saelens, B. E. (2013). Understanding family motivations and barriers to participation in community-based programs for overweight youth: One program model does not fit all. *Journal of Public Health Management and Practice*, *19*(4), 1–10. https://doi.org/10.1097/PHH.0b013e31825ceaf9

Hermans, R. C. J., de Bruin, H., Larsen, J. K., Mensink, F., & Hoek, A. C. (2017). Adolescents' Responses to a School-Based Prevention Program Promoting Healthy Eating at School. *Frontiers in Public Health*, *5*(November). https://doi.org/10.3389/fpubh.2017.00309

Higgins, J. W., Cookson, S., Hastings-James, C., & Frazer, A. (2012). Redeeming behaviours: A push, not a shove. *Healthcare Papers*, *12*(4), 42–47. https://doi.org/10.12927/hcpap.2013.23223

Houle-Johnson, S. A., & Kakinami, L. (2018). Do sex differences in reported weight loss intentions and behaviours persist across demographic characteristics and weight status in youth? A systematic review. *BMC Public Health*, *18*(1), 1343. https://doi.org/10.1186/s12889-018-6179-x

Hsu, M. S. H., Rouf, A., & Allman-Farinelli, M. (2018). Effectiveness and Behavioral Mechanisms of Social Media Interventions for Positive Nutrition Behaviors in Adolescents: A Systematic Review. *Journal of Adolescent Health*. https://doi.org/10.1016/j.jadohealth.2018.06.009

Huhman, M. (2005). Effects of a Mass Media Campaign to Increase Physical Activity Among Children: Year-1 Results of the VERB Campaign. *PEDIATRICS*, *116*(2), e277–e284. https://doi.org/10.1542/peds.2005-0043

Huhman, M., Potter, L. D., Duke, J. C., Judkins, D. R., Heitzler, C. D., & Wong, F. L. (2007). Evaluation of a National Physical Activity Intervention for Children. VERB™ Campaign, 2002-2004. *American Journal of Preventive Medicine*, *32*(1), 38–43. https://doi.org/10.1016/j.amepre.2006.08.030

Huhman, M., Potter, L. D., Nolin, M. J., Piesse, A., Judkins, D. R., Banspach, S. W., & Wong, F. L. (2010). The influence of the VERB campaign on children's physical activity in 2002 to 2006. *American Journal of Public Health*, *100*(4), 638–645. https://doi.org/10.2105/AJPH.2008.142968

James, M., Todd, C., Scott, S., Stratton, G., Mccoubrey, S., Christian, D., … Brophy, S. (2018). Teenage recommendations to improve physical activity for their age group: a qualitative study. *BMC Public Health*, *18*(372), 1–9. https://doi.org/10.1186/s12889-018-5274-3

Jung, M. E., Bourne, J. E., & Gainforth, H. L. (2018). Evaluation of a community-based, family focused healthy weights initiative using the RE-AIM framework. *International Journal of*

Behavioral Nutrition and Physical Activity, *15*(1), 1–16. https://doi.org/10.1186/s12966-017-0638-0

Kebbe, M., Damanhoury, S., Browne, N., Dyson, M. P., McHugh, T. L. F., & Ball, G. D. C. (2017). Barriers to and enablers of healthy lifestyle behaviours in adolescents with obesity: a scoping review and stakeholder consultation. *Obesity Reviews*, *18*(12), 1439–1453. https://doi.org/10.1111/obr.12602

Kitzman-Ulrich, H. E., Wilson, D. K., & Lyerly, J. E. (2016). Qualitative perspectives from African American Youth and caregivers for developing the families improving together (FIT) for weight loss intervention. *Clinical Practice in Pediatric Psychology*, *4*(3), 263–274. https://doi.org/10.1037/cpp0000147

Knop, C., Singer, V., Uysal, Y., Schaefer, A., Wolters, B., & Reinehr, T. (2015). Extremely obese children respond better than extremely obese adolescents to lifestyle interventions. *Pediatric Obesity*, *10*(1), 7–14. https://doi.org/10.1111/j.2047-6310.2013.00212.x

Kolsgaard, M. L. P., Joner, G., Brunborg, C., Anderssen, S. A., Tonstad, S., & Andersen, L. F. (2011). Reduction in BMI z-score and improvement in cardiometabolic risk factors in obese children and adolescents. The Oslo Adiposity Intervention Study - a hospital/public health nurse combined treatment. *BMC Pediatrics*, *11*. https://doi.org/10.1186/1471-2431-11-47

Kornet-van der Aa, D. A., Altenburg, T. M., van Randeraad-van der Zee, C. H., & Chinapaw, M. J. M. (2017). The effectiveness and promising strategies of obesity prevention and treatment programmes among adolescents from disadvantaged backgrounds: a systematic review. *Obesity Reviews*, *18*(5), 581–593. https://doi.org/10.1111/obr.12519

Lau, P. W. C., Lau, E. Y., Wong, D. P., & Ransdell, L. (2011). A Systematic review of information and communication technology-based interventions for promoting physical activity behavior change in children and adolescents. *Journal of Medical Internet Research*,

13(3), 1–18. https://doi.org/10.2196/jmir.1533

Livingood, W. C., Monticalvo, D., Bernhardt, J. M., Wells, K. T., Harris, T., Kee, K., … Woodhouse, L. D. (2017). Engaging Adolescents Through Participatory and Qualitative Research Methods to Develop a Digital Communication Intervention to Reduce Adolescent Obesity. *Health Education and Behavior*, *44*(4), 570–580. https://doi.org/10.1177/1090198116677216

Llauradó, E., Aceves-Martins, M., Tarro, L., Papell-Garcia, I., Puiggròs, F., Arola, L., … Giralt, M. (2015). A youth-led social marketing intervention to encourage healthy lifestyles, the EYTO (European Youth Tackling Obesity) project: A cluster randomised controlled0 trial in Catalonia, Spain Health behavior, health promotion and society. *BMC Public Health*, *15*(1). https://doi.org/10.1186/s12889-015-1920-1

Luecking, C. T., Hennink-Kaminski, H., Ihekweazu, C., Vaughn, A., Mazzucca, S., & Ward, D. S. (2017). Social marketing approaches to nutrition and physical activity interventions in early care and education centres: a systematic review. *Obesity Reviews*, *18*(12), 1425–1438. https://doi.org/10.1111/obr.12596

M Dwyer, J. J., Allison, K. R., Goldenberg, E. R., Fein, A. J., Yoshida, K. K., Boutilier, M. A., … Varsamidou, V. (2006). ADOLESCENT GIRLS' PERCEIVED BARRIERS TO PARTICIPATION IN PHYSICAL ACTIVITY from Toronto Public Health for their contribution in or- ganizing the focus group sessions, *41*(161). Retrieved from http://content.ebscohost.com/ContentServer.asp?T=P&P=AN&K=16689442&S=R&D=mnh&EbscoContent=dGJyMNHr7ESep7A4zOX0OLCmr0%2BeqLBSrqm4Sq6WxWXS&ContentCustomer=dGJyMPGrtE%2Bwp7dMuePfgeyx5n3f4vKA

Madrigal, L., Adams, I., Chacon, V., & Barnoya, J. (2017). Perceived barriers to achieving a healthy weight: A qualitative study using focus groups at public and private schools in

Guatemala City. *BMC Public Health*, *17*(1), 1–6. https://doi.org/10.1186/s12889-016-3978-9

Markert, J., Herget, S., Marschke, S., Lehnert, T., Falkenberg, C., & Blüher, S. (2014). Case management via telephone counseling and SMS for weight maintenance in adolescent obesity: Study concept of the TeAM program. *BMC Obesity*, *1*(1). https://doi.org/10.1186/2052-9538-1-8

Moores, C. J., Bell, L. K., Miller, J., Damarell, R. A., Matwiejczyk, L., & Miller, M. D. (2018). A systematic review of community-based interventions for the treatment of adolescents with overweight and obesity. *Obesity Reviews*, *19*(5), 698–715. https://doi.org/10.1111/obr.12660

Morrison, K. M., Ball, G. D. C., Ho, J., Mackie, P., Buchholz, A., Chanoine, J. P., … Zenlea, I. (2018). The CANadian Pediatric Weight management Registry (CANPWR): Lessons learned from developing and initiating a national, multi-centre study embedded in pediatric clinical practice. *BMC Pediatrics*, *18*(1), 1–7. https://doi.org/10.1186/s12887-018-1208-6

Nader, P. A., Ward, S., Eltonsy, S., & Bélanger, M. (2018). The impact of life stresses on physical activity participation during adolescence: A 5-year longitudinal study. *Preventive Medicine*, *116*(February), 6–12. https://doi.org/10.1016/J.YPMED.2018.08.030

Neumark-Sztainer, D., Larson, N. I., Fulkerson, J. A., Eisenberg, M. E., & Story, M. (2010). Family meals and adolescents: What have we learned from Project EAT (Eating Among Teens)? *Public Health Nutrition*, *13*(7), 1113–1121. https://doi.org/10.1017/S1368980010000169

Neumark-Sztainer, D., Story, M., Perry, C., & Casey, M. A. (1999). Factors Influencing Food Choices of Adolescents: Findings from Focus-Group Discussions with Adolescents. *Journal of the American Dietetic Association*. https://doi.org/10.1016/S0002-8223(99)00222-9

Newton, J. D., Newton, F. J., & Rep, S. (2016). Evaluating social marketing's upstream metaphor: does it capture the flows of behavioural influence between 'upstream' and 'downstream' actors? *Journal of Marketing Management*, *32*(11–12), 1103–1122. https://doi.org/10.1080/0267257X.2016.1186105

Ng, M., Fleming, T., Robinson, M., Thomson, B., & Graetz, N. (2014). Global, regional and national prevalence of overweight and obesity in children and adults 1980-2013: A systematic analysis. *Lancet*, *384*(9945), 766–781. https://doi.org/10.1016/S0140-6736(14)60460-8.Global

Peterson-Sweeney, K. (2005). The use of focus groups in pediatric and adolescent research. *Journal of Pediatric Health Care*, *19*(2), 104–110. https://doi.org/10.1016/j.pedhc.2004.08.006

Pope, L., & Harvey, J. (2015). The impact of incentives on intrinsic and extrinsic motives for fitness-center attendance in college first-year students. *American Journal of Health Promotion*, *29*(3), 192–199. https://doi.org/10.4278/ajhp.140408-QUAN-135

Potter, L. D., Judkins, D. R., Piesse, A., Nolin, M. J., & Huhman, M. (2008). Methodology of the Outcome Evaluation of the VERB™ Campaign. *American Journal of Preventive Medicine*, *34*(6S), S230–S240. https://doi.org/10.1016/j.amepre.2008.03.007

Ramanathan, S., Faulkner, G., Berry, T., Deshpande, S., Latimer-Cheung, A. E. L.-C., Rhodes, R. E., … Tremblay, M. S. (2018). Perceptions of organizational capacity to promote physical activity in Canada and ParticipACTION's influence five years after its relaunch: a qualitative study. *Health Promotion and Chronic Disease Prevention in Canada*, *38*(4), 170–178. https://doi.org/10.24095/hpcdp.38.4.03

Rao, D. P., Kropac, E., Do, M. T., Roberts, K. C., & Jayaraman, G. C. (2016). Childhood overweight and obesity trends in Canada. *Health Promotion and Chronic Disease*

Prevention in Canada : Research, Policy and Practice, *36*(9), 194–8. https://doi.org/10.24095/hpcdp.36.9.03

Reece, L. J., Bissell, P., & Copeland, R. J. (2016). 'I just don't want to get bullied anymore, then I can lead a normal life'; Insights into life as an obese adolescent and their views on obesity treatment. *Health Expectations*, *19*(4), 897–907. https://doi.org/10.1111/hex.12385

Rice, J., Thombs, D., Leach, R., & Rehm, R. (2008). Successes and barriers for a youth weight-management program. *Clinical Pediatrics*, *47*(2), 143–147. https://doi.org/10.1177/0009922807306168

Ridder, M. A. M., Heuvelmans, M. A., Visscher, T. L. S., Seidell, J. C., & Renders, C. M. (2009). We are healthy so we can behave unhealthily A qualitative study of the health behaviour of Dutch lower vocational students Monica. *Health Education*, *110*(1), 30–42. https://doi.org/10.1108/IntR-08-2012-0154

Riiser, K., Løndal, K., Ommundsen, Y., Småstuen, M. C., Misvær, N., & Helseth, S. (2014). The outcomes of a 12-week internet intervention aimed at improving fitness and health-related quality of life in overweight adolescents: The young & active controlled trial. *PLoS ONE*, *9*(12), 1–22. https://doi.org/10.1371/journal.pone.0114732

Sallinen, B. J., Schaffer, S., & Woolford, S. J. (2013). In Their Own Words: Learning from Families Attending a Multidisciplinary Pediatric Weight Management Program at the YMCA. *Childhood Obesity*, *9*(3), 200–207. https://doi.org/10.1089/chi.2012.0106

Sallinen Gaffka, B. J., Frank, M., Rhodes, E. T., Santos, M., & Hampl, S. (2013). Parents and Pediatric Weight Management Attrition: Experiences and Recommendations. *Childhood Obesity*, *9*(5), 409–417. https://doi.org/10.1089/chi.2013.0069

Salvy, S. J., de la Haye, K., Bowker, J. C., & Hermans, R. C. J. (2012). Influence of peers and friends on children's and adolescents' eating and activity behaviors. *Physiology and*

Behavior, *106*(3), 369–378. https://doi.org/10.1016/j.physbeh.2012.03.022

Scott, J. E., & Higgins, J. W. (2012). Upstream social marketing: Exploring the experiences of recreation professionals in delivering physical activity to low-income citizens. *Social Marketing Quarterly*, *18*(2), 112–123. https://doi.org/10.1177/1524500412450488

Silva, D. F. O., Sena-Evangelista, K. C. M., Lyra, C. O., Pedrosa, L. F. C., Arrais, R. F., & Lima, S. C. V. C. (2018). Motivations for weight loss in adolescents with overweight and obesity: a systematic review. *BMC Pediatrics*, *18*(1), 364. https://doi.org/10.1186/s12887-018-1333-2

Skelton, J. A., Goff, D. C., Ip, E., & Beech, B. M. (2011). Attrition in a Multidisciplinary Pediatric Weight Management Clinic. *Childhood Obesity*, *7*(3), 185–193. https://doi.org/10.1089/chi.2011.0010

Smith, K. L., Kerr, D. A., Fenner, A. A., & Straker, L. M. (2014). Adolescents just do not know what they want: A qualitative study to describe obese adolescents' experiences of text messaging to support behavior change maintenance post intervention. *Journal of Medical Internet Research*, *16*(4). https://doi.org/10.2196/jmir.3113

Smith, K. L., Straker, L. M., McManus, A., & Fenner, A. A. (2014). Barriers and enablers for participation in healthy lifestyle programs by adolescents who are overweight: A qualitative study of the opinions of adolescents, their parents and community stakeholders. *BMC Pediatrics*, *14*(1), 1–14. https://doi.org/10.1186/1471-2431-14-53

Steinberg, L., & Sheffield Morris, A. (2001). *Adolescent Development*. Retrieved from www.annualreviews.org

Sundar, T. K. B., Løndal, K., Lagerløv, P., Galvin, K., & Helseth, S. (2018). Overweight adolescents' views on physical activity - Experiences of participants in an internet-based intervention: A qualitative study. *BMC Public Health*, *18*(1).

https://doi.org/10.1186/s12889-018-5324-x

Thornley, L., & Marsh, K. (2010a). *What Works in Social Marketing to Young People? Systematic Review for the Health Research Council of New Zealand and the Ministry of Youth Development Final Report*. Retrieved from http://www.myd.govt.nz/documents/policy-and-research/social-marketing-syst-rev-final.pdf

Thornley, L., & Marsh, K. (2010b). What Works in Social Marketing to Young People. *Systematic Review for the Health Research …*, (July).

Thunfors, P., Collins, B. N., & Hanlon, A. L. (2009). Health behavior interests of adolescents with unhealthy diet and exercise: Implications for weight management. *Health Education Research*, *24*(4), 634–645. https://doi.org/10.1093/her/cyn064

Tremblay, M. S., LeBlanc, A. G., Larouche, R., Kho, M. E., Colley, R. C., Gorber, S., … Goldfield, G. (2011). Systematic review of sedentary behaviour and health indicators in school-aged children and youth. *International Journal of Behavioral Nutrition and Physical Activity*, *8*(98), 1–22. https://doi.org/10.1186/1479-5868-8-98

Tripicchio, G. L., Ammerman, A. S., Neshteruk, C., Faith, M. S., Dean, K., Befort, C., … Davis, A. (2017). Technology Components as Adjuncts to Family-Based Pediatric Obesity Treatment in Low-Income Minority Youth. *Childhood Obesity*, *13*(6), chi.2017.0021. https://doi.org/10.1089/chi.2017.0021

van der Heijden, L. B., Feskens, E. J. M., & Janse, A. J. (2018). Maintenance interventions for overweight or obesity in children: a systematic review and meta-analysis. *Obesity Reviews*, *19*(6), 798–809. https://doi.org/10.1111/obr.12664

Van Kessel, G., Kavanagh, M., & Maher, C. (2016). A qualitative study to examine feasibility and design of an online social networking intervention to increase physical activity in teenage girls. *PLoS ONE*, *11*(3), 1–11. https://doi.org/10.1371/journal.pone.0150817

Vangeepuram, N., Carmona, J., Arniella, G., Horowitz, C. R., & Burnet, D. (2015). Use of Focus Groups to Inform a Youth Diabetes Prevention Model. *Journal of Nutrition Education and Behavior*, *47*(6), 532–539.e1. https://doi.org/10.1016/j.jneb.2015.08.006

Vangeepuram, N., Townsend, K., Arniella, G., Goytia, C., & Horowitz, C. R. (2016). Recruitment in Clinical Versus Community-Based Sites for a Pilot Youth Diabetes Prevention Program, East Harlem, New York, 2011–2012. *Preventing Chronic Disease*, *13*, 150449. https://doi.org/10.5888/pcd13.150449

Webber, L. S., Catellier, D. J., Lytle, L. A., Murray, D. M., Pratt, C. A., Young, D. R., … Pate, R. R. (2008). Promoting Physical Activity in Middle School Girls. Trial of Activity for Adolescent Girls. *American Journal of Preventive Medicine*, *34*(3), 173–184. https://doi.org/10.1016/j.amepre.2007.11.018

Wilson, L. F. (2007). Adolescents' Attitudes About Obesity and What They Want in Obesity Prevention Programs. *The Journal of School Nursing*, *23*(4), 229–238. https://doi.org/10.1177/10598405070230040801

Young, D. R., Johnson, C. C., Steckler, A., Gittelsohn, J., Saunders, R. P., Saksvig, B. I., … McKenzie, T. L. (2006). Data to action: Using formative research to develop intervention programs to increase physical activity in adolescent girls. *Health Education and Behavior*, *33*(1), 97–111. https://doi.org/10.1177/1090198105282444

Appendices

Appendix A
Certificate for Ethical Approval of Study

University of Victoria | Office of Research Services | Human Research Ethics Board
Administrative Services Building Rm B202 PO Box 1700 STN CSC Victoria BC V8W 2Y2 Canada
T 250-472-4545 | F 250-721-8960 | uvic.ca/research | ethics@uvic.ca

Certificate of Approval

PRINCIPAL INVESTIGATOR:	**Tiffany Patterson**	**ETHICS PROTOCOL NUMBER:** Minimal Risk Review - Board members	**18-259**
UVic STATUS:	**Master's Student**	ORIGINAL APPROVAL DATE:	04-Sep-18
UVic DEPARTMENT:	**EPHE**	APPROVED ON:	04-Sep-18
SUPERVISOR:	**Dr. Patti-Jean Naylor**	APPROVAL EXPIRY DATE:	03-Sep-19

PROJECT TITLE: **Adolescent Healthy Weights Study Focus Group**

RESEARCH TEAM MEMBER Co-Investigators (UVic): Sam Liu, Patti-Jean Naylor;
Partner: Karen Strange (Victoria Childhood Obesity Foundation);
Evaluation Consultant: Joy Weismiller (Juniper Consulting)

DECLARED PROJECT FUNDING: None

CONDITIONS OF APPROVAL

This Certificate of Approval is valid for the above term provided there is no change in the protocol.

Modifications
To make any changes to the approved research procedures in your study, please submit a "Request for Modification" form. You must receive ethics approval before proceeding with your modified protocol.

Renewals
Your ethics approval must be current for the period during which you are recruiting participants or collecting data. To renew your protocol, please submit a "Request for Renewal" form before the expiry date on your certificate. You will be sent an emailed reminder prompting you to renew your protocol about six weeks before your expiry date.

Project Closures
When you have completed all data collection activities and will have no further contact with participants, please notify the Human Research Ethics Board by submitting a "Notice of Project Completion" form.

Certification

This certifies that the UVic Human Research Ethics Board has examined this research protocol and concluded that, in all respects, the proposed research meets the appropriate standards of ethics as outlined by the University of Victoria Research Regulations Involving Human Participants.

Rachael Scarth

Dr. Rachael Scarth
Associate Vice-President Research Operations

Certificate Issued On: 04-Sep-18

18-259 Patterson, Tiffany

Appendix B
SDBC Youth Survey with open-ended and closed-ended questions and answer options

	Question	Answer Options
1.	When you hear the term "healthy lifestyle program" what thoughts or feelings come to mind? (ex: fun, boring, physical activity-based, anxiety, time with friends, etc.)	Open-ended answer
2.	What topics, skills, and/or resources would be helpful in meeting your needs? **Tick all that apply:**	• Sleep information • Recipes • Cooking information • Cooking classes • Stress management techniques • Individual coaching • Other
3.	What are some of the positive outcomes or benefits that you think youth would like to experience in a healthy lifestyle intervention program? **Tick all that apply:**	• Feeling better physically • Feeling better about themselves • Having more energy • Meeting new people • Learning new information • Improve physical health and/or reduce of disease • Other
4.	What might be some of the negative things youth might experience participating in a healthy lifestyle intervention? **Tick all that apply:**	• Feeling embarrassed • Physical discomfort • Time away from friends, family, and school work • Being bored • Other
5.	What might make it easier for youth to participate? What would make healthy lifestyle programs more fun and/or engaging? **Tick all that apply:**	• No or low cost • In a convenient time and place • Having fun • Doing it with friends • No parents • Cool gadgets • Other:
6.	What kinds of supportive features do you think youth would want in such a program? **Tick all that apply:**	• Phone app • Videos • Face-to-face instruction • Peer support • Other
7.	How can parents best support youth like you in healthy lifestyle programs? **Tick all that apply:**	• Buy healthy food for home • Transportation to and from program • Participate in activities with their youth • Talk to their youth about healthy lifestyle behaviours • Other:

Appendix C
SDBC parent survey with open-ended and closed-ended questions and answer options

	Question	Answer Options
1.	When you hear the term "healthy lifestyle program" what thoughts or feelings come to mind? Please explain (ex: fun, boring, physical activity-based, anxiety, time with friends, etc.)	Open-ended answer
2.	What topics, skills, and/or resources do you need to support your teen in making healthy lifestyle changes? **Tick all that apply:**	• Information on sleep • Recipes • Nutrition information • Cooking classes • Stress management techniques • Individual coaching • Activity passes/memberships • Parenting tips • Family communication • Other
3.	What are some positive outcomes or benefits that you would like to experience while supporting your teen in a program? **Tick all that apply:**	• Having more energy • Meeting new people • Learning new information • Increased family communication • Improve physical health and/or reduce of disease • Other
4.	What are some negative things you might experience while supporting your teen? **Tick all that apply:**	• Decreased family communication • Loss of time due to program duration and transportation • Information overload • Incorporating new behaviours that are challenging • Other
5.	What would make it easier for you to support your teen in a healthy lifestyle program? **Tick all that apply:**	• No or low cost • In a convenient time and place • Having fun • Able to bring siblings/childcare • Participating with other parents/families that you know • Technology gadgets • Other:
6.	What kinds of extras features would you find helpful in supporting your teen during a program? **Tick all that apply:**	• Phone app • Online videos • Face-to-face instruction • In-person or phone support • Other

Appendix D
BCRPA Empower Youth and HYPE Conference youth workers survey with open-ended and closed-ended questions and answer options

	Question	Answer Options
1.	When you think about your recreation centre offering a youths' healthy weight program, what do you see as the importance and merit of doing so?	Open-ended question
2.	What key components of a healthy weight program might be important to include (e.g. activities, curriculum, duration, structure, etc.)?	Open-ended question
3.	What positive and possibly negative outcomes would you anticipate from delivering such a program?	Open-ended question
4.	What have you tried that has worked to attract and retain youth? What has failed? Why do you think that is?	Open-ended question
5.	In your experience, what might make it easier for youth to participate in healthy weight programs? What would make these programs fun and engaging? Tick all that apply:	• No or low cost • Convenient time and place • Having fun • Participating with friends • No parents • Cool gadgets • Other
6.	What could someone: Say: Show: Give: Do: That would make the program seem interesting and important to youth?	Open ended question
7.	In your opinion, what else might be going on in youths' lives that might make it difficult or less appealing to participate in such a program? Tick all that apply:	• Playing video games • Using social media • Homework • Paid work/employment • Extra-curricular activities (e.g. music lessons, sports, etc.) • Other
8.	What kinds of supportive features do you think youth would want in such a program? Tick all that apply:	• Phone app • Videos • Face-to-face instruction • Other
9.	Who in youths' circle of friends or family do you think would support their participation in a program? Who might not support it?	Open-ended question
10.	Is there anything else you would like to add?	Open-ended question