Importance of Support in Weight Management

A Synthesis of the Research Literature

A Synthesis Project

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Accepted by the Department of Kinesiology, Sport Studies, and Physical Education, The College at Brockport, State University of New York, in partial fulfillment of the requirements for the degree Master of Science in Education (Physical Education).

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Abstract

Weight loss and weight management can be difficult for many individuals to achieve or maintain. There are numerous forms of support available to those who wish to lose or manage their body weight. With over two-thirds of U.S. adults classified as overweight (33.0%) or obese (35.9%), effective interventions that help adults achieve and maintain a healthy weight are imperative for the prevention and management of obesity and related diseases. Social relationships and interactions can have positive and negative influences on diet, physical activity, and weight status (Wang, Pbert & Lemon 2014). This synthesis of research literature focuses on mobile apps, family and friends, and personal fitness trainers. By focusing on these three popular categories of support, the literature will show how different forms of support can have different impacts on success with both weight loss and weight management. A comprehensive literature review took place to investigate why these three forms of support may be beneficial to those trying to lose or maintain their body weight.

Chapter 1: Introduction

Support can provide comfort, motivation, assistance, and advice to anybody trying to reach a goal. Support can come from people, places, and things. Weight loss and weight management can come with both physical and mental challenges. These challenges can be anything from lack of motivation to lack of understanding how to exercise and eat healthy. Whether the barrier is physical or mental for an individual, support can positively affect the individual's daily lifestyle choices.

During the past 20 years, there has been a dramatic increase in obesity in the United States and rates remain high. More than one-third of U.S. adults (34.9 %) and approximately 17% (or 12.7 million) of children and adolescents aged 2–19 years are obese (Su, J. G., 2016). Being overweight or obese can have serious immediate health consequences for both the individual and the broader community (Su, 2016). Obesity is prevalent and the popularity of this topic in our country is evident. There has been extensive means of research with causes, problems, and solutions for obesity. We have looked at nutrition, physical activity, and other factors that greatly influence and directly impact our body weight. However, support systems are differentiated and overlooked as a topic of research in regards to overweight and obese children and adults. Within the past few years there has been little research on how support affects an individual struggling with weight loss or weight management. On the flip side, many of these studies done have shown that support can be a topic to focus on, as it has been shown to help many people.

20 years ago our focus was mainly set on adults and obesity, but previous years have shown us a trend of overweight and obesity problems arising in our youth. Prevention is more valuable than treating the problem after it has occurred, although obesity is already a nationwide problem, it remains one, meaning we can prevent overweight and obesity of future adults within

today's youth. A study done on family-based approaches had findings that suggest 11– 15 year olds are happy to attend a weight management group primarily attended by adults. The community weight management organization study takes a family-based approach and successfully supports young members to manage their weight (Avery, Pallister, Allan, Stubbs & Lavin, 2012). Family based support may play a lead role in protecting the youth from chronic disease and the lengthy list of health problems that obesity brings with it.

However the problem still remains with our adults in today's society as well. Support can benefit both children and adults. Support in it of itself does not discriminate who it can be given to or received by. With over two-thirds of U.S. adults classified as overweight (33.0%) or obese (35.9%), effective interventions that help adults achieve and maintain a healthy weight are imperative for the prevention and management of obesity and related diseases. Social relationships and interactions can have positive and negative influences on diet, physical activity, and weight status. Both social undermining and lack of support related to healthy eating and/or physical activity have been shown to be positively associated with weight (Wang, Pbert, Lemon 2014). The social relationships we have with our family and friends has a great impact on us, as many times our family and friends are people we share a majority of our time with as well as value their opinions and concerns.

Social support from family and friends is just one of the many popular ways support is seen in weight loss and weight management. Having support from a trained professional who has knowledge and experience with exercise is another display of support many tend to gravitate towards nowadays. Personal fitness trainers have been increasingly prevalent in today's society. Naturally, as the overweight and obese population remains high, so should the need or desire for personal fitness trainers. Fitness trainers can not only give advice to clients on how to exercise,

but can also physically demonstrate and assist with this as well. In a study done on the effectiveness of personal fitness trainers, results show subjects that worked by the personal trainer method lost more adipose tissue (in all 3 measured parts: belly, triceps, hip) in relation to the subjects who carried out a classical program at the gym (Galea, Andrei, Gorea & Dobrin, 2015).

Nowadays the forms of support have not strayed from social interaction, but has definitely increased in the area of technology, as technology itself has advanced greatly. Most people have access to cellphones with many of these mobile devices granting us direct and instant access to mobile apps. Mobile apps were recently looked at by Maturo & Setiffi (2015) as they found when individuals self-track, they can produce large amounts of data, personal analytics, which can serve as the basis for making decisions. Health apps can foster health literacy and knowledge about health risks by providing users with a large amount of information about their physiology. Because mobile apps are accessed through cell phones, these apps can be easily and efficiently used on a daily basis.

Through these three categories of support, the importance of support will be examined in regards to weight loss and weight management. There are various forms of support with more and more forms of support becoming prevalent today. Support is becoming a solidified factor in weight loss and weight management. Those who are struggling to lose or manage their weight, as well as those who help these individuals overcome the challenges they may face, should utilize various forms of support to achieve their goals.

Statement of the Problem

Support can be the driving force that helps many individual and group efforts find success. Whether the task is big or small, quick or occurring over a long period of time, support

can help people find that big push towards success. Weight loss and weight management will always bring about challenges. Even for individuals who are in excellent shape and have high physical fitness standards they hold themselves accountable to, they may be trying to bulk up and add weight for a sport or cut weight as a personal goal. No matter who you are, losing and maintaining your body weight is a process. Many people can do different things and find new ways to help themselves and others lose or manage their weight, but no matter what, we all are human and the means of losing or maintaining our body weight is almost identical for everybody. Diet and exercise remain the two biggest factors that directly affect our weight and consistency of following through with diet and exercise will always be necessary. Because of this, support will always be able to positively impact anyone who is trying to lose or manage their weight.

Purpose of the Synthesis

The purpose of this synthesis is to identify what makes support so important in weight loss and weight management. By using the three categories of personal fitness trainers, mobile apps, and family or friends, the research will show us what can make support so meaningful through each of these forms of support.

Operational Definitions

1. Support - supplying with things necessary to sustain and endure.
2. Fitness Trainer - Professional individual who is certified with knowledge and experience in order to give exercise prescription and instruction.
3. Mobile Apps - Software application developed for use on a wireless device such as a smartphone or tablet.

4. Self-regulation - When a person or group governs or polices itself without outside assistance or influence.
5. Social support - Having friends and other people, including family, to turn to in times of need or crisis to give you a broader focus and positive self-image.

Assumptions

1. The literature review was exhaustive and comprehensive.
2. It is assumed that all subjects were honest in following necessary protocols.

Delimitations

1. All articles reviews were written within the last 10 years (1998 - 2017).
2. Research articles used in this synthesis were full text in peer reviewed journals.
3. Research articles used in this synthesis were focused on weight loss or weight management in relation to mobile apps, family or friends, personal fitness trainers.

Limitations

1. Sample size of research studies from the literature review might not be large enough to make generalizations.
2. This synthesis does not examine every form of support.
3. Articles may be solely on weight loss rather than weight loss and weight management.

Chapter 2: Methods

The purpose of this chapter is to identify the methods used to find the research based literature on the importance of support in weight loss and weight management. Keywords used for literature searches, search engines, and instruments used are described in this chapter. The SUNY Brockport Drake Memorial Library was used for the primary research. The studies selected for this synthesis were located using the EBSCO Host database. Within the EBSCO Host database, the following databases were searched: CINAHL Plus with full text, CINAHL Complete, MEDLINE with full text, Academic Search Complete. All of the articles were selected from peer reviewed journals and were full text.

The search within the Academic Search Complete database started with "weight loss" drawing 496 results. Then, "Family" and "Support" were added separately resulting in 79 articles. All articles that did not show the three categories of focus (mobile apps, family or friends, personal fitness trainers) to be used as a mean of support throughout the study were eliminated. Many times, one of the three categories focused on would not show any correlation of data analysis or conclusive results, thus eliminating themselves from the search for articles in this synthesis. "Fitness trainer" and "Body fat" collectively searched brought a total of 46 research articles.

Using CINAHL Plus with full text, "weight loss or weight management" brought about 9,716 results. Further narrowing the selection of research articles down to 35 results by using "trainer" as well. Using CINAHL Complete and the term "mobile app", 1,006 results came about. Adding "weight loss or weight loss or weight management" the results dropped to 32 research articles. Using both CINAHL databases, about a list of 30 research articles were presented to me and allowed me to investigate each one with full text by examining the title and then abstract to see if reading the entirety of the article would be of use.

Lastly, MEDLINE with full text was searched with the term “mobile apps” and “weight loss or weight loss or weight management” simultaneously, resulting in 73 research articles. Many of these articles that fit the criteria for the literature search were repeated from the CINAHL databases. Another search was done through MEDLINE with full text using “obesity and overweight” along with “social support” which brought 702 results. The search term “family and friends” brought 702 results down to 29.

The critical mass includes 1,462 total participants within the research studies. Of this critical mass, there was 530 women and 670 men. There were two articles which left the gender ratio unknown, resulting in 262 participants with unknown gender. The youngest age within the critical mass iss 11 years old and the oldest age is 64 years old.

In conclusion, a total of 13 articles were selected, representing the criteria of literature searched for. The 13 selected articles came from the following journals: Journal of Consulting and Clinical Psychology, PLOS One, Patient Preference and Adherence, Health Psychology, CMAJ, International journal of medical informatics, British Journal of Health Psychology, Health, Risk & Society, BMC public health, Obesity, Translational Behavioral Medicine, American Journal of Health Education, Arena: Journal Of Physical Activities, Journal Of Human Nutrition & Dietetics.

Chapter 3: Review of Literature

The purpose of this chapter is to illustrate the purpose and results of findings throughout the critical mass or research articles used. Articles have been arranged into four separate categories; personal fitness trainers, mobile apps, family and friends, other. These four separate categories represent the three main forms of support that help individuals with weight loss and weight management as well as one leftover article which gives this synthesis background information about this topic and helps express the prevalence of the ongoing problem across our nation with overweight and obesity issues.

Personal Fitness Trainers

Galea, Andrei, Gorea & Dobrin (2015) conducted a study to find out if personal fitness trainers were benefitting people in a gym setting. This study required participants to be split into two groups. One group of participants would exercise at the gym with a personal trainer while the other group would workout at the same gym, only without a personal trainer. Each participant completed 30 workouts over an extended period of time. BMI percentages were taken before and after the study, focusing on adipose (fat) tissue in the belly, triceps, and hip areas. The group who worked out with a personal trainer followed the workouts given to them, while the other group was able to workout completely on their own.

The results shown the group working under the personal trainer lost more fat in the hip, belly, and triceps areas, than those who worked out on their own. The professional fitness trainers provided a plan that extended for 30 workouts as well as a daily plan our routine to follow in the gym. The other group that did not use a personal trainer was not limited in any way to what they did to exercise in the same gym. Results show that a trained professional fitness

trainer offering advice, assistance, and planning for your personal weight goals is more successful in reaching those goals than without the help of a personal fitness trainer.

Another study was performed to see the effect of support when it came from a nurse or a trained health and exercise trainer. Kelly et al. (2009) had 200 female participants split into two groups and had each participants receive their form of support for 2 years continuously every 2 weeks. The group with nurse support would meet the nurse for a personal weigh-in to check their weight progress as well as discuss their diet and exercise from the past two weeks. Every other week each participant in this group would receive a phone call from the nurse giving recommendations and support. The other group attended 11 one to one sessions with a nutrition and physical trainer specialist every 2 weeks to discuss and learn good eating habits while also attending physical fitness trainer lead classes two times a week.

The authors found the success from each support intervention to be almost identical. The results show that both the nurse and nutrition/ physical trainer specialist groups found success with all participants. Further interpretation and analysis of each group's results clearly show that the nutritional and physical fitness advice that was given from untrained nurses was just as good of a support to receive as the group receiving nutritional and physical fitness advice from a trained professional. In addition, attendance at circuit classes lead by the personal trainer was poor and declined dramatically in the second year, despite the availability of multiple sessions at minimal cost. In contrast, attendance at the weigh-ins was excellent, and many participants reported that the weigh-ins and the enthusiastic support provided by the nurse on those occasions and on the telephone were key determinants of their success.

Family and Friends

Avery, Pallister, Allan, Stubbs & Lavin's (2012) study done using a family based approach to support weight management and weight loss was completed primarily off of family interventions. The study also used questionnaires and took characteristic and observational notes when meeting with the family together. The weight loss and weight management groups, facilitators, or meetings that the adolescents and their families attended were random and not limited to any in specific. The only mandatory requirement throughout the study was that at least one member of the family be present during the group meeting to attend along with the adolescent.

The authors found that 62% of the parents were already involved in a weight loss intervention/ support group and they attended the same group with their adolescent child. 119 out of the 128 adolescents decreased their BMI by the end of this study. Just over 60% of adolescents were continuously and voluntarily attending the weight loss program or intervention meetings on a weekly basis, even on the final and 20th week of the study. The authors conclude that many adolescents seem to be happy to attend weight management and weight loss interventions when a family based approach is used to take on a challenge with eating habits and increasing physical activity (Avery, A., Pallister, C., Allan, J., Stubbs, J., & Lavin, J., 2012).

Wang, Pbert & Lemon (2014), social support from family, friends and coworkers to determine their impact on weight management. Healthy eating habits and physical activity levels were looked at for increase or lack thereof in 633 full time working adults. Data was collected for a baseline, midway point, and at the end of this 2 year study. All participants would complete surveys that used a ranking scale from 1 (never) to 5 (always) based on comments or phrases that their family, friends, or coworkers could have said.

In this study, family members were recorded to have the most frequent support for healthy eating habits and increasing physical activity levels while also being most frequent to give negative comments towards both the same categories. Although this finding goes against itself in regards to what hurt or helped the participant, family members were said to be the ones who spent the most time with so the frequent numbers would make sense based off of time spent with each other. Because of this, the findings show only conclusive evidence that friend and coworkers support strongly correlated with a slight reduction in weight by the end of the study in each participant while family given support was to erratic and inconclusive.

Lemstra, Bird, Nwankwo, Rogers & Moraros (2016) reviewed the literature articles from 2004 - 2015 that discussed weight loss intervention adherence. This literature review was done to see how often people stayed committed to their weight loss intervention program and what made those that stayed, stay. The overall findings of this study state that about 60% of people stay with their weight loss intervention program from beginning to end. They also found three main variable to give reason to why many stay with the program interventions; supervised attendance programs, implementation or addition of nutritional intervention for their dieting, and social support. The authors found evidence stating that 37% of people would maintain their weight when given guided weight loss support rather than participating in self-directed strategies.

A study similar to the one described above focused on group support among peers and friends in the workplace. The authors (Jamal, Moy, Azmi Mohamed & Mukhtar, 2016) evaluated 194 overweight and obese participants. These participants were randomly assigned to either Group Support Lifestyle Modification (GSLiM) or dietary counseling. The GSLIM activities included self monitoring, cognitive-behaviour sessions, exercise as well as dietary change advocacy, which were conducted through seminars and group sessions. The comparison group

was given dietary counselling once every 12 weeks. The GSLiM programme proved to be more effective in achieving targeted weight loss, improving weight self-efficacy, friend social support, and quality of life compared to dietary counseling. The GSLim group achieved an average of 2% more weight loss for each individual as well as a 3% better attendance and adherence rate than the dietary counseling group alone.

Similarly, Wing & Jeffery (1999) looked to examine the support given by friend(s) or peer(s) to identify the benefits of social support with weight loss. 166 adults participated in this study. About half of the participants were allowed to bring up to 3 friends, family members, or coworkers to attend the support intervention with them. The intervention aimed at behavioral treatment using social support strategies from whoever the participant brought along with them. The other half would sign up by themselves. There was a total of four groups, two of these groups signed up alone. One group recruited alone and one group recruited with up to three other people with them both received social support while the other two groups did not.

The authors found that completion rate was highest, 95%, for the group that was recruited with friends and received social support. Those who joined the program with friends lost an average of 19 lbs per person rather than 11 lbs for those recruited by themselves. No increase of weight loss was found for the groups who received social support versus those who did not receive it, only the recruitment of friends and/ or additional social support lead to a decrease in body weight.

Lemstra, Fox, Klassen and Dodge (2017) looked to determine adherence to weight loss programs, factors affecting adherence, and their impact on various health outcomes. 229 participants started a 6-month Healthy Weights initiative (HWI) program. It was required to have a “buddy” and sign a social support contract with three additional family members or friends to

participate. Then, participants were compared to 100 YMCA members by examining their adherence to their weight loss programs and the results that the 229 HWI participants and 100 YMCA members had. Pre tests and posttests were compared between the HWI participants and YMCA members.

The results of this study show HWI to be more successful at promoting program adherence than the YMCA and its 100 members. Having a "buddy" and 3 additional family or friends as support showed positive impact with the HWI participants showing 79.9% program adherence at 6 months while the YMCA members only had 14% program adherence after 6 months.

Mobile Apps

Another form of support, mobile apps, was studied by Gowin, Cheney, Gwin & Franklin Wann's (2015). The researchers tried to project how college students use health and fitness mobile apps to change their behaviors that were negatively affecting their weight. 27 college students were interviewed on their college campus and asked how they used and implemented their health and fitness mobile app in their everyday lives to change their behaviors. The results of this study found that almost all participants downloaded an app to meet a personal fitness goal and believed that the app helped achieve their goal. About half of the college students interviewed used the mobile health or fitness app to support a previous healthy behavior while the other half downloaded the app to start a new healthy behavior. Almost all participants chose not to link their mobile app to social media accounts.

Maturo and Setiffi (2015) also studied the gamification and quantification of health and fitness apps. The authors examined why these apps help, but also hurt others when these mobile and interactive forms of support are used. In this study, the top 20 free health and fitness apps

were downloaded, used, and analyzed for 3 weeks by the authors themselves. As told by the authors, gamification means to make real life situations/ circumstances/ problems into a game. Ultimately, the authors believe gamification through use of mobile apps, aiming to reduce or manage their weight, makes it seem like more of a game rather than a serious or demanding health concern for users. The authors also used the term quantification to describe what health and fitness mobile apps can do or be be held accountable for. The authors tell us that quantification in an app can allow the users to easily overlook what the data is showing them, they argue that in a world full of numbers where everything is recorded, kept track of, or held to statistics, that a mobile app that shows the severity of obesity and overweight health problems may look like meaningless numbers to its users.

However, the authors did find that by using the apps they see that quantification in keeping track of what you eat and how active you are is numerical data that can be displayed in a simple format for users to self track their own progress while gamification allows for users to gain an emotional support to stay engaged and feel the need to keep up with or use the app on their phone. Findings also show that self-tracking is the most beneficial quality these mobile apps have to help foster weight management or weight loss. Although these apps have shown to benefit users, putting weight loss or weight management into a "game" or taking the reality of the consequences and expressing it with "meaningless" numbers can take away the importance or value of weight loss/ management.

Additionally, Tang, Abraham, Stamp & Greaves (2015) looked to find what young adults valued in a mobile health and fitness app as well as finding out what their experiences with the app was like for them. Interviews were conducted with a sample of 19 young adults via phone or internet (ages 18-40). Participants were recruited if they had used a weight loss or weight

maintenance app or were willing to try one for 3 weeks, then be interviewed about their experience after using it.

Weight loss app users valued structure, ease of use, personalised features and accessibility. Goal setting and feedback on calorie intake were the most widely used behaviour change techniques. Analyses identified four key quality-of-experience factors affecting engagement and satisfaction with use; (1) ease of setup and use; (2) attractiveness of user interface; (3) accessibility; and (4) personal tailoring. In addition, five specific app features were highlighted as helpful; (1) an extensive food database; (2) a food scanner; (3) notifications and reminders; (4) provision of dairies; and (5) online contact and support.

Other

Finally, Su (2016) examined the effectiveness of a family based support intervention, targeting four behaviors: increased consumption of fruits and vegetables; decreased consumption of saturated fat; increased physical activity; and decreased sedentary time. 361 parents fit the requirements of having one child between the age of 10 and 12 to join this year long study with, both parents having health insurance. A google-based online intervention tool assisted obese and overweight participants in finding healthy food and recreational amenities around the area close to their homes and also located optimized routes for exercise as well as activities near those routes which were close to home while fitting the participant's personal fitness preferences. The authors also stressed the importance of making a family based support intervention by use of their knowledge of statistics regarding overweight and obesity in the United States of America.

Findings show that participants did venture to new or different places for physical recreation activities and were more likely to go to the healthy food stores listed in the google-based online intervention. However, results were inconclusive as to if this helped family

members lose weight or manage their weight. The author also found that during the past 20 years, there has been a dramatic increase in obesity in the United States (U.S.) and rates remain high. More than one-third of U.S. adults (34.9 %) and approximately 17 % (or 12.7 million) of children and adolescents aged 2–19 years are obese.

The articles selected for this synthesis focus on and dissect the forms of support for family and friends, personal fitness trainers, and mobile apps. There were only two articles that met the criteria for this synthesis research article selection process, however both articles fit the focus of my research questions. The majority of the critical mass was produced from the category of family friends support. Of the 12 articles, only one article was used that did not fit within the three main research categories.

Chapter 4: Summary and Discussion

This chapter serves as a summary to the findings from the review of literature on forms of weight loss and weight management support within family and friends, personal fitness trainers, and mobile apps. In addition, there will be an attempt to find both the positive and negative findings for weight loss and weight management in the 12 research articles selected. The 12 articles selected show various forms of support. These forms of support have been proven to show increase of motivation, assistance, and encouragement that many individuals, trying to lose or maintain weight, find helpful. These forms of support have been given from people, places, and things, ultimately giving forms of support many different ways to have a positive impact on weight loss and weight maintenance. Due to the three categories for forms of support, there will be three separate categories which summarize the findings for each specific category.

Mobile Apps

Mobile apps were consistently found in each article to have mainly be used for individuals with a fitness goal. Whether it was to start a new healthy behavior or continue one, most users agreed that personal fitness apps did help them achieve their goals. In the study done to show what makes the top 20 free fitness mobile apps so popular, Maturo and Setiffi (2015) found that how the apps are made and what they are designed to do has the biggest impact on an apps success both for itself and for its users. Participants from Maturo and Setiffi's study show mobile apps that allow for users to keep track of what they eat and how many calories they consume on a daily basis, consistently remain popular among the growing masses of users.

Tang, Abraham, Stamp & Greaves (2015) found that users favor certain qualities in the design of their mobile apps for their personal use. The easier the app was for users and the better the app was able to customize its personal preferences, the more popularity the app continued to

have throughout the top 20 free mobile apps that the authors investigated. Many inventions and advances in technology stem from user friendly interfaces and show a continuous effort to make things more personal and adaptable to each individual that use them. The easier, more personal, and better equipped a device or app can be, the more we are likely to use it.

Family and Friends

In a study done examining family based interventions, Avery, Pallister, Allan, Stubbs and Lavin found over 60% of teens who joined the family based weight loss intervention with their mother or other family members, continued with the weight loss intervention program after 20 weeks. Being that 20 weeks is considerably a large chunk of time and may feel even longer for those overcoming the challenge of weight loss, family based support systems are shown to help improve motivation and commitment to maintaining healthy eating habits and increasing physical activity levels within their own family.

Lemstra, Bird, Nwankwo, Rogers and Moraros found over 60% of people finish their weight loss intervention programs and stick it out through the entirety of it (2016). The three reasons found by these authors were supervised attendance programs, implementation or addition of nutritional intervention for their dieting, and social support. The biggest takeaway from this article can be seen in these three factors leading to a majority of people maintaining adherence to their weight loss program, more specifically all three of these factors focus on guidance or assistance from others showing how important support can be to a majority of people in weight loss programs.

Out of 166 adults, Wing & Jeffery (1999) found 95% of them to finish their weight loss program and lose an average of more pounds, only with the help of 1 - 3 friends when compared to people who joined the same weight loss programs alone. A similar study done by Lemstra,

Fox, Klassen and Dodge (2017) compared a six month healthy weight initiative program to a YMCA gym membership, examining the results between participants adhering to each. Again, results shown about 80% of people attending the HWI weight loss program stayed with it for six months while YMCA members had only 14% do the same.

Although many factors lead to weight loss, the category of family and friends show social support to have a steady impact on it and when that social support does not play part, the average weight loss and adherence to weight loss programs decreases. It is popular to have a gym buddy or a walking buddy and many people can see this on a bike trail or track or even at the gym. These forms of support coming from our body can be encouraging words, physical assistance and competition to push ourselves, or even just a companion to take on a challenge with. In whatever the reason a buddy is chosen or given to those struggling with weight loss, the benefits can help them reach their fitness goals.

Personal Fitness Trainers

The simplicity of Galea, Andrei, Gorea & Dobrin's (2015) study shows us how clear of an impact personal fitness trainers can have. In this study, one group of individuals completed 30 workouts with a personal trainer while the other group completed 30 workouts alone. The results clearly show a greater weight loss with those following an exercise routine implemented by the personal trainer rather than a routine created and followed by themselves.

Another study hypothesizing physical fitness trainers to have a positive impact on weight loss goals had 200 women split into two groups. One group would simply receive a phone call from a nurse giving her own personal advice and encouragement with no background or certification in physical fitness and nutrition, along with a face to face weight in every two weeks as well. The other group would have 11 one to one sessions with a personal fitness and nutrition

coach throughout the course of a year while also attending either diet and nutrition based classes or intense physical fitness sessions twice a week. Surprisingly enough, the group receiving an encouraging phone call and friendly weigh in visit was just as, if not more, successful way lose weight than receiving all the information and intense classes from a certified nutrition and physical fitness professional.

Although personal trainers have a definite impact based on the study completed by Galea, Andrei, Gorea & Dobrin, the second study completed by Kelly et al. (2009) showed weight loss and program adherence rates to be almost identical and slightly better than those receiving help from a physical fitness and nutrition specialist. The outcomes from both studies suggest support can help encourage weight loss and weight management, however it does not seem to be a matter of where the support is coming from.

Chapter 5: Future Recommendations

This synthesis provides concrete examples, statistics, and analysis of the three main forms of support for weight loss and weight management. Through the selected articles and thorough presentation of this synthesis, it is to no argument that support in weight loss and weight management can help individuals reach their fitness goals. The various forms of support shown through family and friends, mobile apps, and personal fitness trainers, show us how there are multiple forms of support that can be used and received in multiple ways. The various forms of support are increasing as technology advances and our obesity and overweight rates across the world remain high.

Finding articles on statistics of weight loss or obesity across the United States and the rest of the globe is relatively easy as there are so many found with little research done. Finding forms of support for weight loss brought much more difficulty to the search for research articles, as there are much less existing and many with inconclusive results. Future research should focus on forms of support, as my three categories of support covered many forms of support, there is an increasing amount of them being found and invented. With that being said, the evidence showing a positive relationship between support and weight loss or weight management should open up doors for research to continue in the realm of support.

From tracking calories and fitness levels with use of mobile phone apps to social support and encouragement from those around us, people are finding more and more ways to get an edge in the ongoing battle many people fight across the globe with issues in weight loss and weight management. Further research should be directed towards finding new forms of support, creating new studies to examine current known forms of support to see which works best, while giving reason to what works best and why.

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