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## **Character strengths in weight maintenance: perceptions after a weight loss program**

*Forças de caráter na manutenção do peso: percepções após programa de emagrecimento*

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### Abstract

This study aimed to analyze which factors can favor or hinder healthy habits and the character forces associated with weight maintenance in adults who underwent a weight loss program at a Contemporary Health and Wellness Center. It is a qualitative, cross-sectional, exploratory, and descriptive study. Seven people ( $M = 60.57$  years old;  $SD = 8.9$ ) conducted semi-structured interviews, analyzed using the Thematic Analysis by Braun and Clarke. The results show that learning and discipline are essential for maintaining the habits learned in the program. Situations such as work, family, and aging can generate negative emotions and interfere with life satisfaction, making health habits more difficult. The forces of self-regulation, persistence, love of learning, humor, and appreciation of beauty can present favorable returns to weight maintenance. The development of character strengths can be significant for the maintenance of body weight after carrying out a weight loss program.

**Keywords:** *Eating behavior; Lifestyle; Weight Control; Positive Psychology*

### Resumo

*Este estudo objetivou analisar quais fatores podem favorecer ou dificultar os hábitos saudáveis e as forças de caráter associadas à manutenção do peso, em adultos que realizaram um programa de emagrecimento em um Centro Contemporâneo de Saúde e Bem-Estar. Trata-se de um estudo qualitativo, transversal, exploratório e descritivo. Sete pessoas ( $M = 60.57$  anos;  $SD = 8.9$ ) realizaram entrevistas semiestruturadas, analisadas pela Análise Temática de Braun e Clarke. Os resultados apontam que o aprendizado e a disciplina são de extrema importância para a manutenção dos hábitos aprendidos no programa. Situações como trabalho, família e envelhecimento podem gerar emoções negativas e interferir na satisfação com a vida, dificultando hábitos de saúde. As forças de caráter autorregulação, persistência, amor ao aprendizado, humor e apreciação da beleza podem apresentar retornos favoráveis a manutenção do peso. O desenvolvimento das forças de caráter pode ser de extrema importância para a manutenção do peso corporal após a realização de um programa de emagrecimento.*

**Palavras-chave:** *Comportamento alimentar; Modo de vida; Controle do peso; Psicologia Positiva.*

### Resumen

*Este estudio analizó qué factores pueden favorecer o dificultar los hábitos saludables y las fuerzas de carácter asociadas al mantenimiento del peso, en adultos que se sometieron a un programa de pérdida de peso en un Centro de Salud y Bienestar Contemporáneo. Es un estudio cualitativo, transversal, exploratorio y descriptivo. Siete personas ( $M = 60.57$  años;  $SD = 8.9$ ) realizaron entrevistas semiestructuradas, analizadas mediante el Análisis Temático de Braun y Clarke. Los resultados indican que aprendizaje y disciplina son extremadamente importantes para el mantenimiento de los hábitos aprendidos. Situaciones como trabajo, familia y envejecimiento pueden generar emociones negativas y interferir en satisfacción vital, dificultando hábitos de salud. Fuerzas del carácter como autorregulación, persistencia, amor por el aprendizaje, humor y apreciación de la belleza pueden presentar rendimientos favorables para el mantenimiento del peso. El desarrollo de las fuerzas del carácter puede ser extremadamente importante para el mantenimiento del peso corporal después de un programa de pérdida de peso.*

**Palabras clave:** *Conducta alimentaria; Estilo de vida; Control de peso; Psicología Positiva*

## Introduction

Overweight and obesity rates have increased significantly in recent years (World Health Organization [WHO], 2017). In Brazil, it is estimated that 55.7% of adults are overweight and 19.8% are obese (Vigilância de Fatores de Risco e Proteção para Doenças crônicas por Inquérito Telefônico [Vigitel], 2018). Weight loss, in turn, involves several new habits such as: changes in diet, physical activity, behavioral changes and, in some cases, the use of medication (Associação Brasileira para o Estudo da Obesidade e da Síndrome Metabólica [ABESO], 2016).

Success in weight loss will depend on maintaining healthy behaviors as a new lifestyle (Raynor & Champagne, 2016). In this sense, maintaining weight becomes challenging since most people return to the initial measure (ABESO, 2016). In the literature review proposed by Wing and Phelan (2005), approximately 20% of people with excess weight were successful in the maintenance, which is defined as losing at least 10% of their initial body weight and maintaining it for at least one year.

Some psychological factors explain this difficulty, including excessive importance to weight, self-assessment, lack of vigilance in weight control, and the dichotomous thinking style. This thinking relates to total failure when a goal is not reached, making it difficult to continue the treatment (Byrne, Cooper, & Fairburn, 2003). Other related aspects are previous weight history, and body dissatisfaction since those who do not sustain the weight tend to be more dissatisfied with their weight and less likely to notice when they reach their goals (Byrne, Cooper, & Fairburn, 2004).

Emotional regulation is also essential in maintaining weight, as it is common to observe eating behavior to relieve negative emotions and stress (Cappelleri et al., 2009; Altheimer & Urry, 2019). Emotional regulation is understood as the psychological process developed by each person to deal with their emotions and achieve their goals in the face of the environment's demands (Aldao, 2013). Emotions can be regulated to avoid suffering, adapt to rules and social expectations, qualify their relationships with others, and become essential in individuals' lives (Gondim & Borges-Andrade, 2009).

Given the challenges of maintaining weight, the resources and characteristics investigation used by subjects who can manage their weight loss can provide essential data on how some people modify their eating behavior, and others do not (Rafiei & Gill, 2017). In this sense, Positive Psychology (PP) can offer essential resources in eating behavior management.

PP is dedicated to studying people's positive characteristics and conditions. It seeks to understand personal strengths and virtues, skills, experiences, and positive relationships to promote physical health, subjective well-being, group relationships, and the flourishing of organizations (Rashid & Seligman, 2019). It is understood from this that health is not just the absence of disease but a decrease in frequency, time, and ability to recover (Park et al., 2016).

One of the PP's studies focuses on character strengths and virtues, defined as positive characteristics shown in thoughts, emotions, and behaviors (Park, Peterson, & Seligman, 2004). Strengths and virtues can increase the frequency of positive emotions (Park et al., 2004), promote self-development, favor managing and overcoming of problems, qualifying relationships, health, and well-being (Niemi, 2019). Peterson and Seligman (2004) identified 24 different character strengths called the Values in Action (VIA) classification, divided into subgroups of six virtues (Table 1).

Table 1

*Character strengths classification*

Virtue (description)	Character strength
Wisdom and Knowledge (strengths involving knowledge usage or acquisition)	Creativity Curiosity Judgment Love of Learning Perspective
Courage (emotional strengths involving the exercise of will to achieve goals when facing opposition, external or internal)	Bravery Perseverance Honesty Zest
Humanity (interpersonal strengths involving caring and being cared for by others)	Love Kindness Social Intelligence

Justice (strengths underlying healthy community life)	Teamwork Fairness Leadership
Temperance (strengths protecting against excess)	Forgiveness Humility Prudence Self-Regulation
Transcendence (strengths forging connections with the larger universe and offering a purpose)	Appreciation of Beauty and Excellence Gratitude Hope Humor Spirituality

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*Note.* Adapted from Rashid and Seligman (2019).

Some strengths have been studied in the weight loss and weight maintenance contexts, such as Hope (Robertson, Davies, & Winefield, 2017), Prudence (Jaworski & Owczarek, 2019), Self-Regulation (Kalavana, Maes, & De Gucht, 2015) and Spirituality (Pereira, Faria, & Lopes, 2019). However, there is also a need for qualitative research with a straightforward theoretical approach and to explore the overweight obese people's perception of the weight maintenance process (Elsborg, 2019).

Parallel to this, many spaces such as clinics and health centers offer services to assist in their customers' well-being development and, among their activities, are weight loss and maintenance programs. The proposal is characterized by clinical treatments such as nutritional, physical, psychological support, relaxation, and aesthetic approaches to improve people's quality of life (Cristiane et al., 2015).

### **Objective**

In this sense, this study aimed to investigate which factors favor or hinder healthy lifestyle habits. In addition, it sought to analyze the character strengths associated with weight maintenance in adults who underwent a weight loss program at a Contemporary Health and Wellness Center.

### **Method**

## Participants

Seven adults participated in this study according to the following inclusion criteria: over 18 years old, Brazilian nationality, having carried out a weight loss program at a Contemporary Health and Wellness Center in a city in the countryside of Rio Grande do Sul. As an excluding factor, participants could not be under 18, pregnant women, and people who carried out another type of program on the local, but none of the participants met the exclusion criteria.

Most participants were female ( $n = 6$ ) with an average age of 60.57 ( $SD = 8.9$ ). These are people with a high level of education, most of whom are retired and married, as shown in Table 2.

Table 2

### *Participant's characterization*

Participant	Sex	Age	Marital Status	Education	Profession-Occupation	Children
Eliana	F	60	Widow	Postgraduate	Retired	Yes
Mariana	F	75	Married	Postgraduate	Retired	No
Lurdes	F	56	Married	Postgraduate	Business Manager	Yes
Magda	F	57	Married	Higher education incomplete	Retired	No
Iracema	F	72	Married	Higher education	Retired	Yes
Marcos	M	56	Married	Postgraduate	Journalist	Yes
Simone	F	48	Married	Higher education	Psychologist	Yes

*Note.* Names were changed in order to keep participants confidentiality.

## Procedures

This study followed the Regulatory Guidelines and Norms for Research involving Human Beings proposed by the following regulations: 466/2012 (Conselho Nacional de Saúde [CNS], 2012) and 510/2016 (CNS, 2016) being approved by the university's Ethics Committee registered under number 3.079.508. The place where the research was carried

out previously agreed to the study by signing a Term of Consent, which contained the research objectives and methodology.

The research space was chosen for convenience. It is a Contemporary Health and Wellness Center in the countryside of the State of Rio Grande do Sul, which offers several health programs. People go to space and choose the program best adapted to their needs with professional guidance.

Participants of this research carried out a program aimed at weight loss, characterized by interdisciplinary work, with the accompaniment of doctors, physiotherapists, psychologists, nutritionists, nurses, and physical education professionals. The person can choose how long the stay will be, between four to 21 days; within this period, the person receives a personalized approach to food, physical activity, side dishes, other aesthetic activities, relaxation, and formative lectures. The more extended the stay, the more they can deepen their knowledge and practice the proposed activities and therapies.

This study refers to a qualitative step of a quantitative study involving 50 individuals (Pizetta et al., in press), in which the participants answered online questionnaires about eating behavior, character strengths, and positive and negative affects. Those interested in obtaining a return from the survey left a reference email, through which they were contacted and invited to participate in a qualitative stage of the survey. When accepted, the participants were invited to an interview.

This stage consisted of semi-structured interviews carried out online by the researcher herself through a program that allows online meetings (Zoom). The interviews were scheduled according to the interviewee's availability and were recorded and later transcribed. All participants signed the Free and Informed Consent Form.

The questions used in the interviews were organized based on the study's proposed objectives. The following questions were built for the factors that favor or hinder healthy habits: 1) What do you consider essential to maintaining the habits learned in the weight loss program?; 2) Do you think your emotions interfere with your eating behavior? How?; 3) What aspects of your life do you think have interfered with or interfered with your relationship with food?. It was asked to analyze the character strengths associated with maintaining weight: 4) Are you satisfied with your current life?;

5) Do you think it interferes with your relationship with food?; and 6) What are your positive characteristics related to weight loss?

There was only one meeting with each participant, lasting from 15 to 30 minutes. Most spoke openly about their experiences; in some cases, complementary questions were needed to encourage reflection and explanation of the information. All participants were solicitous and open to the research proposal.

### **Data analysis**

Thematic Analysis was used for data analysis, a tool with easy access and a flexible theoretical approach to analyzing qualitative data. Thematic Analysis includes six steps: data transcription, interesting aspects codification, the union of codes on themes, themes review, themes refinement, and report production describing each theme based on the literature (Braun & Clarke, 2006). Data analysis was inductive; the themes were created *a posteriori*, based on the data collected. The researcher performed the analysis manually, and, in the transcription, reading, coding, and organization stages of the themes, she counted on a judge, guaranteeing more excellent reliability in the data interpretation. This process gave rise to the following themes (Table 3).

Table 3

*Thematic and sub-thematic*

Theme	Sub-theme
1) Healthy habits maintenance	
2) Factors that interfere with eating behavior	2.1) Situations 2.2) Emotions 2.3) Life satisfaction
3) Character strengths in weight maintenance	

Theme “1) Healthy habits maintenance” involves the aspects mentioned by the participants that favor the healthy habits maintenance learned in the Weight Loss Program after its end. Theme “2) Factors that interfere with eating behavior” refer to the sub-themes situations, emotions, and satisfaction with life, elements strongly related to healthy eating behavior, and the theme “3) Character strengths in weight maintenance”



refers to the positive characteristics reported by the participants as weight maintenance facilitators.

## **Results**

### **Healthy habits maintenance**

In this theme, two predominant aspects were observed: learning and discipline. Learning refers to the knowledge acquired through the program, unknown until then, which can be implemented in the participants' routine, including meal planning, which involves taking care of food quantity and quality, as suggested by the report de Marcos (56 years old):

(...) I found the experience that you need to eat small portions of food exciting, right, and that will be enough, and also to eat slowly in a concentrated way so that the brain receives the information that you are eating and that this causes a feeling of satiety... I watch a lot more I plan my meal if I arrive at the self-service before I went outputting everything I found on the plate, today I look at what are the things I am going to eat you know.

Parallel to this, the learning process raises the importance of continuing to seek and renew knowledge, whether through individual effort or maintaining professional monitoring. As Lurdes (56 years old) pointed out: "(...) we are not always able to maintain such a healthy diet, but I continue with professionals in the area to guide me and help me with the continuation of the process".

Regarding discipline, most participants reported the importance of expending efforts to maintain a routine of healthy habits and self-control in food choices and physical activity. As an example, note the statement below:

I think the final result always comes from collecting small results, you know. And there are days when we are more discouraged (...) so to maintain these healthy habits I have to watch myself to have a permanent physical activity, you know, watch me take care of my food, right, this daily. (Simone, 48 years old).

### **Factors that interfere with eating behavior**

#### ***Situations***

Work and family are the most reported situations that could influence eating behavior. As can be seen in Lurdes' (56 years old) report:

Work sometimes (...) health problems interfere, family problems (...) when I can't master a situation like this, you know, it bothers me, it bothers me a lot, then it consumes me and then it gives me this anxiety, this desire to eat.

Another situation refers to the aging process:

Ah, so to speak, I change my life, I stopped working, uh, I retired, so these are things that change your daily life, then you get a little lost (...) even the age factor, right, the husband is older, starts to get sick, you have more things like that bother you (...) Ah, sleep becomes more disturbed. (Mariana, 75 years old).

Thus, it is observed that the age factor can also interfere in eating behavior. On the other hand, one participant reported that age helped in the management of eating behavior, providing more maturity:

(...) I think we mature for many things, you know, and you also become a little less critical with yourself, so you have a more realistic view of things, and you don't idealize a body, idealizing a weight. (Simone, 48 years old).

One participant did not report life situations as influencers, for his vacation moments and social events would favor consumption increase. His speech follows as an example:

(...) so what interferes for me is the vacation period question, food, I don't see a direct relationship between emotional problems, I see more, for example, the pleasures' question of the table, the foods you like, a vacation period, for example, these things end up putting on more weight. (Marcos, 56 years old).

### ***Emotions***

Most participants mentioned anxiety, nervousness, and sadness emotions as the increase in food consumption main drivers:

(...) being deeply happy, even lovingly involved, man I forget, I can't even stop to eat, as this is an exceptional situation in terms of food, the other 98% of my time, it's anxiety, frustration, everything that we know, identify, the lack of pleasure in other circumstances of life. I am the cliché, oh I will eat because it is an only

pleasure I have in life, at that moment, right, so it is exactly dominated by emotion. (Eliana, 60 years old).

On the other hand, we have the participant's report who shows difficulties to feed facing negative emotions:

(...) it doesn't go down, it's a knot that stays here, it's a malaise that (...) sometimes I have to take medicine, something, I take a saucer and put a spoon of rice, whatever is there in front of me and eat like that, just so I do not get sick in the afternoon with a headache. (Magda, 57 years old).

In the same sense, Marcos pointed out that he does not perceive his emotions interfere with eating behavior, but realizes that it can increase his consumption of alcoholic beverages:

I think that if you are sad or with some emotional discomfort in "n" ways (...) I think that drinking, for example, is much more appropriate even for you to have an escape there at the moment, than the people who unload on the plate, for me it doesn't interfere with practically anything I think, minimal, if it's not me, I never have it. (Marcos, 56 years old).

It is essential to highlight the report of two other participants pointing idleness and happiness to the increase in food consumption, Iracema (72 years old) talks about idleness "(...) if I am involved in the street like this, talking, I don't have this food fixation, it's when I get home like that, it's amazing, a total imbalance". And in Eliana's (60 years old) account, the happiness associated with the pleasure of eating is observed:

Oh, if I'm sad, I'm drowning in food, if I'm happy I'll go and eat a risole, it gets even better, so the food is there all the time, so it's already a marriage, whether in health or sickness, joy or sadness (laughs).

### ***Life satisfaction***

Most participants realize that when they feel more satisfied with life, they maintain a good eating behavior. In contrast, in dissatisfaction, they increase their behavior,

(...) I think I have a slightly more balanced life (...) so I can maintain my food diet much better now, you know, I have a much greater and more motivated discipline, so I believe that it all interferes a lot for me. (Simone, 48 years old).

It becomes essential to note that the same participant who reported not perceiving emotional issues and situations related to eating behavior also does not perceive associations between eating and being or not satisfied with life. He was also the only male representative; the remaining cases were female.

### *Character strengths in weight maintenance*

This theme addresses the positive characteristics reported by the participants as favorable to healthier eating behavior. These characteristics can be understood as the participants' Character Strengths necessary for healthy habits maintenance. The main strengths mentioned were: self-regulation, perseverance, love of learning, appreciation of beauty and excellence, and humor.

Most participants mentioned characteristics related to self-control and handling emotions to deal with eating behavior, highlighted in the strength of self-regulation. As reported by Simone (48 years old):

(...) I understand that there is no point in being something that you do not maintain discipline in, you know. I think the final result always comes from the collection of small results, right, and there are days when we are more discouraged, and we have to make ourselves maintain discipline, right, and I think that goes for everything, right, so to maintain these healthy habits I have to watch myself to have a permanent physical activity, you know, watch me take care of my food, right this daily.

Parallel to self-regulation, it is vital to use the strength of persistence as emphasized by Marcos (56 years old): "(...) the first thing would be the question of rationality and knowledge, the second is that there must be persistence in things, in life and I think this is a characteristic of mine too". Simone (48 years old) complements the relevance of the search for knowledge, through the use of the strength of the love of learning: "(...) I think that I always try to be very up to date... I see a lot about it too, that also helps me because I often end up discovering new things, sometimes a supplement...".

Some participants mentioned issues related to the aesthetic concern. Self-esteem, good humor, and joy can be understood in the strengths of appreciation of beauty and humor, respectively, as can be seen in Iracema's report (72 years old) "(...) it is a quality I have to be cool, I like to dress well so this is very important for me, okay, I think it's a quality, right, it's not an issue, right?" and also from Lurdes (56 years old):

Because if I were not a good person with a life and with the people around me ... I think it would generate anxiety, a bad thing, a bad feeling like that, so this behavior of mine and the way I deal with people and things, makes me more zen-like that, more peaceful and that gives me well-being, right, and with food for sure too, I don't know if I'm managing to help you with what you need, but that's kind of how it goes.

Other characteristics were mentioned less frequently but demonstrated great importance in the individual process of some participants. Participant Lurdes refers to the strengths of kindness and love, given her tendency to help others and be accessible, which would favor satisfaction with life, allowing for healthier eating habits:

(...) I am a person who accepts and understands things quickly; I like to donate myself to help in some way the people who are around me. I don't know what I think. I am an easily accessible person, so it hasn't the characteristic of being bossy, I don't know, I don't know how to tell you. (Lourdes, 56 years old).

One participant mentioned her ease in building goals and looking for ways to achieve them; in this sense, health habits improvement and weight loss have also become an objective. This fact could be identified in the strength of bravery, as we can see in the following statement:

(...) I am a person who sets goals and fulfills them; I am obstinate, so I really play with my son: do you want a problem? Great, I saw. The next second, I ask, what is the solution? The problem for me is a quick thing, what is the solution? (Eliana, 60 years old).

In the report of another participant, characteristics of optimism stand out, prioritizing a positive look at the facts and the search for meaning, present in the strength of hope:

I think I have this thing to be positive. That is why I'm always trying to find a way to get something that I think is difficult, but trying to find a motivation for it (...) I have control over situations, you know. I think I recognize myself as a resilient person, that I can, in the face of more complex situations, be able to visualize some meaning for them and make sense out of it, right, so I think they are qualities there are characteristics, right, that I have and help me, right. (Simone, 48 years old).

Lastly, there is a reported quality related to the food, flavors, and appearance appreciation used in curiosity strength:

(...) I think that colorful dish is beautiful, with salad, vegetables, fruit, meat or whatever, I think it is beautiful, super enough, I don't have these thoughts of "I wanted to eat something else now" I like it to eat what is beautiful, what is colorful. (Magda, 57 years old).

## Discussion

This study analyzed what factors favor or hinder healthy lifestyle habits and the character strengths associated with weight maintenance. The research was applied to adults who underwent a weight loss program at a Contemporary Health and Wellness Center.

To maintain healthy habits, the participants emphasized the importance of seeking learning and maintaining discipline. The accompaniment with a specialized professional and the constant search for new knowledge is included in the apprenticeship. This process usually depends on each participant's perceptions and very particular organizations, corroborating the data pointed out by Rafiei and Gill (2017) in which the ability to learn from previous experiences and the use of unique resources are crucial to obtain success in weight loss and maintenance.

In discipline, the data collected in this study emphasize meal planning in terms of the quality and quantity of food and the self-control of emotions and behaviors. This data converges with the study by Pedersen et al. (2018), in which results reinforced the importance of organization in food purchase and preparation, as well as in control over portion sizes. Parallel to this, self-control was essential for weight maintenance.

Both learning and discipline can be based on the participants' particular strategies. The importance of considering individuality can be seen in Elsborg (2019), a qualitative study that explored the successful experiences and challenges of people with obesity after an intensive lifestyle intervention. In the results, the importance of using creative and personal solutions to maintain the habits learned after the intervention was observed, such as associating physical activity with something pleasurable: riding a stationary bike while watching television, for example.

Regarding the difficulties in maintaining healthy habits, the participants pointed out some situations and emotions that directly interfere with this process. Situations such as family conflicts, difficulties at work, and changes caused by aging would be responsible for generating various emotions, such as anxiety, worry, and nervousness. Emotions, in turn, interfere with life satisfaction, affecting eating behavior, as they increase consumption as a form of relief and compensation.

On the other hand, more peaceful moments of life and the emotions of joy and contentment increase the levels of satisfaction with life, favoring a more balanced eating behavior. Corroborating this information, Braden, Musher-Eizenman, Watford, & Emley (2018) point out that food can be associated with several emotions; however, when associated with depression, anxiety, and anger, it can present more losses than when associated with joy or boredom. Among the losses, there are worse psychological well-being, higher food consumption, symptoms of the disorder, and more difficulties in emotional regulation.

For the participants in this study, emotional awareness and regulation seem to be extremely important in weight control. Ingels and Zizzi (2018) also observed that recognizing emotions allows the identification of other self-regulatory strategies necessary for weight maintenance. The lack of understanding of emotional impacts can interfere with food choices and physical exercise, blocking the construction of new essential skills to regulate emotions.

The connection pointed out by the participants between situations, emotions, and satisfaction with life can be explained through some constructs developed by Positive Psychology. Positive and negative affects together are seen with satisfaction as constituent factors in subjective well-being development.

Life satisfaction is defined as the contentment level that a person perceives (Hutz et al., 2014), and subjective well-being can be understood by how people feel and evaluate themselves (Oliveira, Nunes, Legal, & Noronha, 2016). Therefore, an individual with high well-being has high levels of positive and negative affects, and high satisfaction with life (Zanon, Dellazzana-Zanon, L., & Hutz, 2014). Higher levels of well-being are associated with lower weight (Robertson, Davies, & Winefield, 2015).

The cultivation of character strengths, in turn, also favors a higher level of satisfaction with life and happiness (Harzer & Ruch, 2015). By developing his strengths, the individual can improve his self-efficacy, confidence, and self-esteem, preventing several mental illnesses (Rashid & Seligman, 2019). In this study, the character strengths associated with weight maintenance by the participants were: self-regulation, perseverance, love of learning, humor, and appreciation of beauty and excellence.

Self-regulation strength can be defined as a discipline, self-control, appetite, and emotional control (Niemiec, 2019), aspects often cited by the participants in this research in eating behavior management. These data were also observed in Pedersen et al. (2018), in which action planning, the ability to cope with situations, handling challenges, and relapses, together with self-efficacy construction, were critical self-regulatory strategies and are associated with weight maintenance for a more extended period.

On the other hand, the little use of this force can hinder focus and discipline (Niemiec, 2019) and, consequently, the continuity in the process. This issue was also reported by the research's participants, who reported the importance of strength and persistence in maintaining habits, that is, the ability to complete the started tasks, to continue despite the difficulties (Niemiec, 2019).

In this sense, the participants who maintained the changes learned after completing the weight loss program reported maintaining the weight loss obtained during the program for longer. The literature review proposed by Leung, Chan, Sea, and Woo (2017), also pointed to the abandonment of healthy habits as a vital failure indicator in weight loss. The authors suggested that depression, stress, and intense concerns about the body shape added to previous attempts at weight loss, and unemployment may justify low adherence.



To encourage persistence in maintaining learned habits, some participants in this study cited the importance of the love of learning strength, that is, the importance of seeking information and maintaining professional monitoring. This strength refers precisely to this search for new knowledge and skills by oneself or with the help of others (Niemic, 2019). According to the same author, when developing this strength, an increase in the sensations of effectiveness and competence is feasible, and when living their experiences positively, it becomes possible to raise the levels of well-being.

Thus, it is observed that deepening the knowledge about nutrition and exercise can favor its application in the daily routine. These data are similar to those pointed out by Elsborg (2019), in which participants who did not maintain their weight reported difficulty replicating the habits learned in an intervention for weight loss outside this context. In addition, they presented limitations in the search for social and professional support and their behavior self-monitoring.

The use of humor strength was also relevant to maintaining healthy lifestyle habits. Participants note that using humor, can increase positive affects and facilitate the management of situations and negative affects. This strength is characterized by satisfaction in offering pleasure to others, laughing, and making others laugh as well. This strength would be associated with higher life satisfaction levels and positive emotions, promoting several health benefits (Niemic, 2019).

Other studies have also pointed out that humor styles can contribute to well-being development. The self-improving humor style (used under stressful situations) and self-destructive (used in a self-deprecating way) are the styles most consistently linked (one positively and the other negatively) to emotional well-being (Edwards & Martin, 2014). In addition, the self-improving humor style, and gratitude can predict higher subjective happiness, life satisfaction, and positive affection levels (Maiolino & Kuiper, 2014).

Among the participants, aesthetic appreciation and concern were shown as essential characteristics to engage in healthy eating behaviors, aspects understood appreciating of beauty strength. This strength relates precisely to admiration for the beauty, skills, or moral greatness (Niemic, 2019). The appreciation of beauty seems to be associated with the strength of hope (Diessner, Rust, Solom, Frost, & Parsons, 2006) since involvement with activities that develop beauty can lead to higher levels of hope

and other positive characteristics. Hope, in turn, has shown essential associations with maintaining healthier eating habits (Ait-hadad et al., 2020; Robertson et al., 2017).

Noting that some other character strengths were also analyzed individually is essential. Among them are kindness, love, bravery, hope, and curiosity. According to the participants, the identification and good use of these strengths in other areas of life were also used in changing health habits, showing positive returns in maintaining weight.

Through the exercise of kindness and love, a participant reported feeling more satisfied, reducing negative emotions and promoting healthier eating behavior. According to Niemiec (2019), this strength is strongly associated with life satisfaction since it can be defined by the value of relationships with close people, loving, and being loved.

Another person cited as indispensable in his process, considering weight loss and maintenance as a challenge and an objective to be achieved, showing a higher level of bravery. That is, the ability to act according to convictions and not back down in the face of difficulties or challenges (Niemiec, 2019). In this sense the participant managed to remain firm in his purpose.

Curiosity was mentioned as the ability to enjoy food, considering visual, texture, aroma, and flavor aspects. This strength can be understood as exploration and openness to continuous experiences on their own (Niemiec, 2019). In this sense, the participant enjoys each meal as a new experience.

Lastly, the strength of hope was mentioned and understood by the participant as a positive look at life's challenges, which ends up bringing positive consequences on eating behavior. It is observed that optimists tend to present healthier food choices and less consumption of snacks (Ait-hadad et al., 2020), are more involved in diets, and physical activities, and have higher levels of forethought (Robertson et al., 2017).

## **Conclusion**

This study enabled a more individualized and in-depth understanding of the factors that can facilitate or hinder healthy habits after carrying out a weight loss program and the character strengths associated with weight maintenance. The constant search for knowledge and specialized professional accompaniment associated with emotions and

behavioral control can favor healthy habits. Respect for capacities and individualities is essential in this process, as well as the development of personal emotional regulation strategies to deal with situations and emotions that interfere with life satisfaction and hamper healthy eating behavior.

Some character strengths development could be a resource to regulate unpleasant emotions and, thus, favor the maintenance of body weight since the subject can take advantage of some positive characteristics proper to face the challenges of eating, physical activity, and handling emotions and behaviors. Strengths cited most strongly by the participants were self-regulation, perseverance, love of learning, humor, and appreciation of beauty, and in less intensity, the relevance of the strengths of kindness, love, bravery, hope, and curiosity was observed.

Among some study limitations, the cross-sectional approach, the absence of anthropometric measures, and other instruments that better assess the weight, habits, and psychological resources used are observed. In addition, there was no standardization in the number of days that the program was carried out so that everyone received the same treatment; thus, it would be possible to monitor weight maintenance more reliably.

Other studies may investigate issues related to the participants' gender, given some critical considerations pointed out by the only male participant. Not going deeper into this information was a decision, considering that it did not fit the objectives proposed in the study.

Lastly, future studies may consider other socio-demographic profiles and the application of interventions that develop self-regulation, perseverance, love of learning, humor, and appreciation of beauty to analyze its repercussions in maintaining healthy habits, assessing in-depth how these strengths act and if they favor weight maintenance in other contexts.

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