Self-compassion, Well-being and Chocolate Addiction

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Abstract

Self-compassion may represent a useful approach to promoting a healthier body image and a more balanced diet. The need to consume chocolate comes from alimentary deficits such as the necessity to increase magnesium levels or in order to balance levels of neurotransmitters involved in regulating disposition, alimentary indigestion and compulsive behaviors (increase of levels of serotonin and dopamine). There is also a connection regarding the increase of desire to consume chocolate and the hormonal level.

The research assumptions in this study are pointed out by the following questions: what is the association between chocolate addiction and self-compassion? What is the association between chocolate addiction and well-being?

Keywords: self-compassion, well-being, self-kindness, chocolate addiction, mindfulness, eating behavior

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I. SELF-COMPASION AND CHOCOLATE ADDICTION

Self-compassion is a multidimensional construct based on the fact that suffering, failure, inadequacy are part of the human condition.

Self-compassion may represent a useful approach to promoting a healthier body image and a more balanced diet, implying an attitude of acceptance and understanding to personal mistakes and deficiencies, replacing harsh self-criticism (Neff, 2003a).

The way a person reports to one's self in situations of failure may reveal diverse aspects of their inner state (Neff, 2007). Happiness and optimism decrease symptoms of depression and anxiety (Neff, 2003b), increase motivation for personal development (Breines & Chen, 2012) and human relations relationships (Baker & McNulty, 2011).

Compared to self-esteem, another similar construct, self-compassion may better indicate aspects of adaptive functioning, including realistic self-evaluation, a more balanced reaction to stressful events, higher stability in perceiving one's value, a low need of comparing one's self to others and a decreased level of narcissism (Leary, Tate, Adams, Allen & Hancok, 2007; Neff, 2003b; Neff et al., 2007; Neff & Vonk, 2009).

Previous research includes studies that try to verify the hypothesis according to which there is an association in the way we report to our own person in conditions of life situations, the degree in which we judge our actions and we are or are not content with decisions we take and inner balance. When the ideal self-image we have constructed does not match reality, disorders of the inner feelings occur.

In a recent research by Ferreira, Pinto-Gouveia and Duarte (2013) it is revealed that there is an evident connection between lack of self-compassion and triggering dysfunctionalities at the level of alimentary behavior, as in the area of such disorders we may mention besides overeating, under eating, other aspects of addiction to a certain type of food such as chocolate.

II. CHOCOLATE CONSUMTION AND PHYSICAL WELL-BEING

The need to consume chocolate comes from alimentary deficits such as the necessity to increase magnesium levels or in order to balance levels of neurotransmitters involved in regulating disposition, alimentary indigestion and compulsive behaviors (increase of levels of serotonin and dopamine). There is also a connection regarding the increase of desire to consume chocolate and the hormonal level; also chocolate contains more several bio-active elements such as methylxanthine, biogenic amines and fat acids such as cannabinoid, all which could cause an abnormal behavior and psychological sensations similar to substances which cause addiction. The action of such psychoactive properties explains the temporary emergence of well-being

(Parker, Parker, & Brotchie, 2006), and also the reason why chocolate is perceived as one of the most consumed and craved foodstuffs (Benton, 1999).

However, it is less likely to be present in quantities large enough to produce a physiological effect. Michener and Rozin (1994) demonstrate that although dark chocolate contains the highest number of psychoactive substances, milk chocolate is the most appreciated, hence the conclusion that a psychological motivation be predominant in chocolate consumption.

A series of studies have sparked a strong controversy regarding the connection between chocolate and the emergence of migraines, based on addiction. Although chocolate is identified as a trigger of migraines, Moffett et al. (1974) and Marcus et al. (1997) found no difference between these two variables, while Gibb et al. (1991) have shown no difference between these two variables, while Gibb et al. (1991) have shown the existence of a causal relationship. It should be mentioned on the other hand that these studies present a series of limitations: the study conducted by Moffett et al. (1974) was entirely processed via e-mail, with no direct contact with participants; participants of Marcus et al. (1997) study were only female; in the studies of Marcus et al. (1974) and Gibb et al. (1991), participants represented population generally suffering from migraines, and not in a clinical sense. In order to clarify the causal relation between migraine attacks and chocolate abuse, supplementary studies are necessary, which might consider other important aspects which have not been analyzed so far.

III. CHOCOLATE USE AND PSYCOLOGICAL WELL-BEING

It is well known that chocolate is associated with pleasure, along with the positive cultural connotation developed from childhood. Although in existing literature there is a relatively low number of studies which describe a causal relationship between chocolate and well-being, chocolate consumption is frequently associated with a way of coping with emotional stress (Benton, 2004; Parker et al., 2006; March et al., 2007). They demonstrated that when consumed in small quantities, negative disposition experimentally induced by video clips is also significantly improved, immediately and selectively, but this improvement does not last more than three minutes.

Rose et al. (2010) show that depressive disposition both in the case of women and men significantly correlates with a higher use of chocolate, which is explained by the fact that people, ever since they are born, have a tendency of preferring the sweet taste associated with mother milk along with the fact that the sweet taste has a calming effect on newborns (Smith et al., 1990).

From the study of Small et al. (2001) it can be concluded that human brain includes several regions involved in motivational systems of reward and punishment. Benton (2004) and

Creswell (2011) show that eating disorders along with avoiding behavior and with chocolate consumption, lead to feelings of guilt and self-criticism relating to body image.

IV. CONTENT RESEARCH PROPOSE AND OBJECTIVES

The research assumptions are pointed out by the following questions: what is the association between chocolate addiction and self-compassion? What is the association between chocolate addiction and well-being?

Research hypothesis:

- There is an association between chocolate addiction and self-compassion
- There is an association between chocolate and well-being

In order to reach the above mentioned objectives, we propose the following working hypotheses:

Hypothesis 1. Chocolate addicts have a higher level of self-compassion, compared to non-addicts.

Hypothesis 2. Chocolate addicts have a lower level of wellbeing, compared to non-addicts.

Hypothesis 3. There is a negative correlation between self-compassion and chocolate addiction, along with chocolate addiction and components of self-compassion (self-kindness, humanity, mindfulness).

Hypothesis 4. There is a negative correlation between wellbeing and chocolate addiction symptoms, along with chocolate addiction and components of well-being.

4.1. Research participants

The research included a number of 50 participants women and men aged between 21 and 59, randomly selected, divided into two equal groups: the group of chocolate addicts – the workgroup and the group of non-addicts, or the control group. The workgroup is formed by 25 subjects, out of which 19 women and 6 men. Also, the control group is formed by 25 subjects, out of which 19 female and 6 male.

Data was collected between November 2016 – January 2017, in a sample of 50 subjects from Romania, respectively Argeş, Ilfov, Prahova, Vâlcea and Sibiu counties.

Subjects were voluntarily recruited; tests were individually applied, with no time limit and assuring confidentiality of all participants to the study.

The subject's selection was conducted in two stages: a first applied filter was their self-description of being chocolate addicts or not, following by the application of the Yale 2.0 scale. There were situations when the subjects declared to be addicts, but after applying the Yale 2.0.

Questionnaire, subjects obtained results of being non-addicts or only obtained this result on one scale of the questionnaire. These subjects were not included in the research, summing up 10% of their total. As a result, chocolate addict subjects were selected for the study based on their own declaration of being chocolate addicts and results of the Yale 2.0. addiction questionnaire, for minimum two subscales. There were no cases where the subjects declared to be non-addicts and as a result of applying the Yale 2.0. to show chocolate addiction on minimum two subscales.

Participants completed only once the questionnaires and the ones who needed additional details were guided at the point of questionnaire completion. However, 5% of the questionnaires were not fully completed, hence they were rejected and the respective subjects were not included in the data analysis.

In order to collect data the following instruments were utilized: the Neff Self-Compassion Scale, the Ryff Wellbeing Scale and Yale 2.0. Scale for food addiction.

4.2. Instruments analyzed for collecting data

4.2.1.   Self-Compassion Scale (SCS, Neff, 2003)

In 2003, Kristin Neff defined the scale which measures self-compassion. The scale includes 26 items with an Alfa coefficient of .92, which measures self-compassion for 6 subscales: Self-kindness, α = .78; Self-judging, α = .77; Humanity, α = .80; Isolation, α = .79; Mindfulness, α = .75; Over-identification, α = .81.

Items are not repeated, each subscale including exclusive items.

4.2.2.   Ryff's Scales of Psychological Wellbeing

Carol Ryff defined the scale which measures Wellbeing in 1989 (Ryff, 1989b). Initially the scale included 6 subscales with 20 items each. Later, in 1995, the author defined the scale in three versions to measure well-being: the long version containing six subscales including 14 unique items each, the medium version containing six subscales with 9 items each and the short version, including 6 subscales with three items each (Ryff, & Keyes, 1995; Ryff, & Singer, 2006).

4.2.3.   The Yale Food Addiction Scale Version 2.0 (YFAS 2.0; Gearhardt, Corbin, & Brownell, 2016)

Gearhardt, Corbin and Brownell defined in 2009 the Yale Scale for food addiction (YFAS) in order to identify the ones who are mostly likely exposed to markers of food addiction regarding foods reach in fats/sugar. This scale originally presented 25 items with mixed answer options. The scale was similar to criteria of addiction based on DSM-IV-TR (American Psychiatric Association, 2000). Gearhardt, Corbin and Brownell returned in 2016, with a new version, namely YFAS 2.0, destined to keep up with DSM-5 for the diagnosis of addiction and in order o improve psychometric properties of the original Yale scale. As a result of the research to

design YFAS 2.0., the second study concluded that YFAS 2.0 presents better internal consistency reliability (Kuder-Richardson .92) compared to the initial YFAS version (Kuder-Richardson .74). The scale interprets the eating habits of the past 12 months.

In the present research, the last published version was utilized, Yale 2.0. The scale includes 35 items and includes the following 12 subscales: Chocolate consumed in larger quantities and for longer periods of time than intended; The persistent wish or repeated attempts to give up on chocolate; Effortful time and activities in order to obtain/utilize/recover chocolate; Giving up or reducing social, professional and recreational activities which are important for the person; Continuous consumption despite knowledge of negative consequences (for instance: emotional issues, physical problems); Tolerance (increase of quantity, decrease of vigor); Characteristic withdrawal symptoms; Continuing consumption despite social or interpersonal problems; Failure to commit to responsibility (at work/school/home); Consuming in situations of physical risk; Craving or a strong desire to consume chocolate; Consuming causes significant clinical aggravation or suffering (Gearhardt, Corbin, & Brownell, 2016).

V. RESULTS

In order to confirm differences regarding self-compassion and well-being among addicts and non-addicts t-test was applied and the Pearson correlation coefficient was used to assess the association between chocolate addiction and self-compassion, respectively well-being.

The results allow us to observe that chocolate addicts present a lower level of self-compassion, compared to non-addicts. Applying the t-test (t=-3,054, p<0,05) indicates a statistically significant difference between the two groups, form a point of view of compassion.

Table 1. T –test for Self-Compassion Scale (SCS, Neff, 2003)

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig	T	Df	
SCS	1,137	,011	-3,054	38	
Dif Equal variances assumed					
Equal variances not assumed			-3,054	36,557	

	N	Mean	Std. Deviation	Std. Error Mean
Work group	25	3,0344	,43254	,08651
Control group	25	3,7784	,58425	,11685

In the table below, considering the presented means, we may notice that chocolate addicts present a lower level of well-being, compared to non-addicts. Applying the t-test (t = -1,670, p > 0,05) shows, however, a statistically non-significant difference between the two groups from a point of view of well-being, which implies that the hypothesis is not supported. Thus, according to the obtained results, chocolate addicts have relatively the same level of well-being as non-addicts.

Table 2. T –test for Ryff's Scales of Psychological Wellbeing

t-test for Equality of Means	-1,670	p > 0,05		
	N	Mean	Std. Deviation	Std. Error Mean
Work group	25	233,8800	35,11567	7,02313
Control group	25	248,1200	24,19938	4,83988

The results obtained by applying the Pearson correlation illustrate a moderate negative correlation between chocolate addiction and the level of self-compassion (r = -0,435, p < 0,01) and a negative correlation between chocolate addiction and the level of well-being (r = -0,245).

VI. DISCUSSIONS

The present research was conducted with the purpose of exploring the relationship between chocolate addiction and self-compassion, respectively well-being. The following three instruments were applied: the Self-Compassion Scale (SCS, Neff, 2003), the Ryff's Scales of Psychological Wellbeing and the Yale 2.0. Scale for food addiction. The study included 50 participants (76% women and 24% men), aged between 21 and 59 years old, randomly selected: 25 chocolate addicts and 25 non-addicts.

The study confirmed the assumption stating that chocolate addicts have a lower level of self-compassion, compared to non-addicts. This result is consistent with previous research studies. Thus, as a result of a meta-analysis including 28 articles from 2003 (the year Neff first operated the self-compassion concept) up to 2015 (Braun et al., 2016), concluded that people suffering from eating disorders and implicitly who excessively eat chocolate) present a lower level of self-compassion compared to those who do not present such disorders. Neff offered a simple explanation for this process, stating that people with self-compassion want to be happy and healthy on the long term (2007). Thus, they will not present behaviors that can harm them such as excessive consumption of chocolate.

Also, no significant differences were found regarding well-being between chocolate addicts and non-addicts. The current literature includes studies that confirm the correlation between disposition and chocolate use. Gardner et al. (2014) reached the conclusion that a better

disposition leads to a preference for healthy foods, while an unpleasant disposition accentuates the preference for unhealthy foods. Also, Rose, Koperski and Golomb in 2010 have shown that a high level of depression is associated with a higher chocolate intake. However, well-being is not reduced to disposition as it describes a more complex concept which considers several areas such as autonomy, managing the social environment, positive relations, purpose of life and self-acceptance. Consequently, even if there is a difference between chocolate addicts and non-addicts, from the point of view of disposition, on a global level of well-being, differences are not significant. Also, the low level of participants should be considered in explaining the current results.

Also it has been confirmed that there is a negative correlation between self-compassion and symptoms and chocolate addiction, respectively between chocolate addiction and self-compassion behavior (self-kindness, humanity, mindfulness). Results obtained by Braun, Park and Gorin (2016) confirmed the fact that a high level of self-compassion is associated with a low level of eating disorders (and, implicitly, of excessive chocolate consumption), being a good predictor for disorganized eating behavior. Our study has shown a moderate negative correlation between chocolate addiction and level of self-compassion (r = -0,435).

Moderate negative correlations were obtained between self-compassion and chocolate consumption, despite social and interpersonal issues (r = -0,424), respectively between self-compassion and cancelling or reducing socially, occupationally or recreationally important activities (r = -0,402). Also, weak to moderate negative correlations were found between self-compassion and the extent to which chocolate consumption causes clinically significant affections and distress (r = -0,397), symptoms of renouncement (r = -0,380), tolerance (r = -0,373), use of chocolate in larger quantities and for longer periods than intended (r = -0,370).

These results could be explained by the fact that people with a lower level of self-compassion and uncaring to their own prejudice, whether on a physical, emotional or social level. Because of the lack of care to one's own being, they are not motivated to reduce chocolate consumption and it can even lead to eating more the initially intended. Also, we can speak of compensation. Thus, people who do not manifest self-compassion on an inner level, try to find themselves in external elements and use chocolate in order to provide the help, care and understanding they need.

For a better understanding of the relationship between self-compassion and chocolate addiction, correlations were calculated between chocolate addiction and subscales of self-compassion and the following results were obtained: weak to moderate negative correlation between the level of chocolate and self-compassion (r = -0,348), weak negative correlation between addiction and mindfulness (r = -0,217), positive moderate correlation between addiction and self-judging (r = 0,445), weak to moderate correlations between addiction and isolation (r =

0,338), respectively between addiction and over-identification (r = 0,330) and between addiction and humanity no significantly statistic correlation was found (r = -0,006).

It can be seen that the strongest correlations are between chocolate addiction and self-kindness/self-judging dimension, followed by mindfulness/over-identification dimensions, respectively humanity/isolation. Therefore, the ones who manifest kindness towards their own self, who have an attitude of observing their own thoughts and feelings more than identifying with them, respectively those who consider that feelings and behaviors they have are common to most people and they do not represent isolated experiences that only they have, will consume a lower quantity of chocolate.

These results are supported by other studies, like the ones conducted by Lacaille, Ly, Zacchia, Bourkas, Glaser, & Knäuper in 2014 who mention, for instance, the mindfulness technique of non-identification as one of the methods which reduce chocolate cravings and consumption.

Next, it has been confirmed that there is a negative correlation between well-being and chocolate addiction symptoms, respectively between chocolate addiction and well-being components. Globally, a weak negative correlation between well-being and chocolate addiction was obtained (r = -0,245), while on the subscale level weak to moderate correlations were obtained between wellbeing and continuing to consume despite awareness of secondary effects such as physical or emotional issues (r = -0,343), cancelling or reducing socially, occupationally or recreationally important activities (r = -0,324). These results could be explained by the fact that low levels of well-being induce a lack of interest for one's own habits, while on a higher level of well-being we assume more attention given to healthy habits. (Grant et al., 2009) researched the relationship between well-being and seven healthy habits and came to the conclusion that there is a positive correlation between life satisfaction and healthy habits, including choosing healthy food.

Also, the correlation between chocolate addiction and well-being subscales were calculated and a weak to moderate correlation was identified between chocolate addiction and personal development (r = -0,317), respectively a weak correlation between addiction and managing the social environment (r = -0,276). For the other four subscales, weak correlations were obtained for chocolate addiction.

For the other four subscales, weak correlations were found to chocolate addiction. These results could be explained by the fact that people interested in personal development are preoccupied by all aspects of their existence, including the choice of healthy food. Also, the people who manage their social environment are also capable to chose or build suitable context in order to meet personal needs and values, therefore it is not necessary for them to compensate through ways such as excessive chocolate consumption.

The results of the present study can be used in several ways. First, it reunites three concepts which are apparently part of different areas, thus illustrating the intensity of correlations between chocolate addiction and self-compassion, respectively well-being. Secondly, in order to better understand the associations between these elements the subscale correlations need detailing. It also offers important clues regarding the prevention and treatment of chocolate addiction. Thus, knowing there is a connection between chocolate addiction and self-compassion, new methods of rebalancing eating habits, by development self-compassion can be found. Last but not least, the study may be utilized as a basis for future research.

However the study has several limitations, therefore caution is recommended. The number of participants is not large enough for results to be generalized for the entire population. Also, because of the sampling modality, samples were not representative for the entire population. Also, the self-compassion level, of well-being and chocolate addiction is based on the participant's self-assessment, implying that differences might interfere compared to results of a clinical assessment (which includes the interview and the observation). Also, the Yale scale for food addiction was not standardized for the Romanian population, limit which was approached in the present study, considering the general addiction criteria (implied by the existence of at least two symptoms) and not clinical addiction.

For future studies, it could be interesting to investigate whether similar results are obtained for a wider number of participants. Also, the study could be repeated on participants with different ages, thus allowing a comparison between results obtained in the case of teenagers and those obtained by adults. Besides, the study could be repeated considering the addiction criteria proposed by the Yale scales author (the existence both of the general addiction, given by minimum two symptoms, and the presence of clinical addiction). Future studies could be focused on causality, investigating if chocolate addiction affects self-compassion and well-being or it is more likely to be the other way around.

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