

## PERSONALITY STYLES ASSOCIATED TO HEALTH

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*Virginia DRESCH, Violeta CARDENAL-HERNÁEZ,  
Marta APARICIO-GARCÍA*

**Abstract:** *Proposal: the purpose of this paper is to analyze the relationships between personality and health, with the aim of identifying the personality styles that either protect or make individuals' health more vulnerable.*

*Methods: the sample is made up of 300 participants (150 female and 150 male) of the metropolitan area of Porto Alegre-RS. The variables used were: personality, physical health (health complaints and self-perceived health), as well as psychological health (anxiety, self-esteem, and personal satisfaction).*

*Results: both correlational analysis and the analysis of differences of means revealed statistically significant associations between the personality scales of Pleasure-Enhancing, Actively-Modifying, Externally Focused, Conservation-Seeking, Gregarious/Outgoing, Confident/Asserting, and Dominant/Controlling with high health status, whilst the scales of personality: Pain-Avoiding, Passively Accommodating, Internally Focused, Feeling-Guided, Asocial/Withdrawing, Anxious/Hesitating, Unconventional/Dissenting, Submissive/Yielding, and Dissatisfied/Complaining are associated with poor health.*

*Conclusions: a maladapted personality, defined by a tendency to experience negative emotions passively, with a background of emotional instability, as well as a tendency to inhibit these emotions in social interaction (which, in turn, is characterized by isolation, submission, and insecurity), constitutes a fertile field for poor health and, maybe, for the appearance and development of disease. On the other hand, the personalities styles associated with good health are characterized by facing the facts of life with optimism and determination, coping with them actively, resorting to others as a means of information, and maintaining healthy interpersonal relationships, based on self-confidence.*

**Keywords:** *personality, health, Millon.*

## Introduction

Researchers' interest in determining the influence of personality on people's health is not recent; it has been ongoing for 2000 years, starting with the studies of Galeno in ancient Rome. However, the advances in research – supported by the bio-psycho-social model, Health Psychology, and Behavioral Medicine – have provided some evidence about this in the past few years.

First, it does not seem that specific diseases (cardiovascular, cancer, asthma, etc.) are associated with a specific personality trait (Friedman & Booth-Kewley, 1987). Furthermore, although the analyses suggest that personality can play a role in the development or progression of a disease (especially the chronic ones), this evidence is relatively weak. Bruchon-Schweitzer and Quintard (2001) consider that this may be due to the fact that the personality categories analyzed are very global and heterogeneous (Type A behavior, Type C personality, personality factors, etc.). It seems that more specific affective-cognitive characteristics (hostility, anger, optimism, etc) are clearly a risk or a protection factor for health, as I will attempt to show below.

Another explanation for the inconsistency between personality-diseases may consist in the fact of focusing only on one personality variable (as is the case of most of the studies), which means that the configurations of personality variables are not taken into account (Vollrath & Torgensen, 2002). For example, individuals are not just introverted, emotionally stable, or irresponsible, but all of these traits characterize them simultaneously.

In any case, the data seem to indicate that a maladapted personality can actually be particularly vulnerable to the development of illnesses, either cardiovascular or others (Friedman & Booth-Kewley, 1987). This may explain the fact that Neuroticism (and its other denominations, such as negative affect, negative emotional style, etc.) is the star variable in this kind of studies. High scores in Neuroticism present significant correlations with a great variety of sicknesses in most of the previous studies (Christensen et al., 2004; Smith & Zautra, 2002). Even in what could be considered maladaptive personality variables, we find many studies that associate poorer health with Type A behavior (Booth-Kewley & Friedman, 1987) and its facets (e.g., hostility: Neuman, Waldstein, Sollers, Thayer, & Sorkin, 2004; and anger: Bleil, McCaffery, Muldon, Sutton-Tyrrel, & Manuck, 2004), with Type C personality (Termoshok, 1987) and with Type D personality (Denollet, Vaes, & Brutsaert, 2000; Pedersen, Middel, 2001; Pedersen, Van Domburg, Theuns, Jordaens, & Erdman, 2004). On the other hand, the more adaptable personality variables – such as optimism as a trait (Mathews, Raikkonen, Sutton-Tyrrell, & Kuller, 2004) – of the positive emotional style (Cohen, Doyle, Turner, Alper, & Skoner, 2003) or of hardiness (Dolbier et al., 2001) are associated with better health.

Nevertheless, although personality may appear as a directly associated variable or as mediator (Pedersen, Middel, & Larsen, 2002) of illness or of health risk behaviors, a theoretical framework for its interpretation (Friedman & Booth-Kewley, 1987) is still lacking. The most widely used factorial models provide the characterization of subjects, but no theoretical basis with which to interpret this, which means that the data are not very clarifying.

In this context, this study attempts to analyze the relationships between personality and health from a different perspective than the traditional one. We believe that this perspective can contribute to clarify the relations between these two variables, as we are not examining isolated personality variables, but rather, the personality styles proposed by the model of Theodore Millon (Millon, 2003). This model permits making a finer analysis of the personality traits than if great blocks of variables were used, and offers a theoretical framework with which to interpret them.

## Methods

### Participants

The group was made up of 300 subjects (150 female and 150 male), ages ranging from 27 to 65 years ( $M = 39.98$ ,  $SD = 9.32$ ), of various educational levels, from the metropolitan area of Porto Alegre (Federal State of *Rio Grande do Sul*, Brazil), all of middle class zone, according, in order to control the influence of the socio-economic class<sup>1</sup>.

### Instruments

Personality was measured with the Millon Index of Personality Styles – MIPS (Millon, 1994, 2004), translated and adapted for Brazil in a previous study (Dresch, Sánchez-López, & Aparicio-García, 2005).

To measure psychological health, the following variables/instruments were employed: a) anxiety: Brazilian version (Dresch, 2007) of the Inventory of Situations and Responses of Anxiety – ISRA reducido (Miguel-Tobal & Cano-Vindel, 2002); b) self-esteem: Brazilian version (Dresch, 2007) of the Rosenberg’s Self-Esteem Scale – RES (Rosenberg, 1965); and c) personal satisfaction: a 10-point Likert-type scale on which participants rated their degree of personal satisfaction.

To assess physical health, the following variables/instruments were used: a) physical complaints: a 4-point Likert-type scale of the frequency of 16 physical complaints that are fairly common in the general population (e.g., headaches, backaches, nausea, etc.), and b) self-perceived health: a 10-point Likert-type scale on which individuals self-rated their health status.

The variable “Global Health Index” was calculated by adding the scores in physical health and in psychological health. The scores in physical health are the result of the sum of the variables “Physical Complaints,” and “Self-Perceived Health.” The scores in psychological health are the sum of the variables “Anxiety,” “Self-esteem,” and “Personal Satisfaction.” The direction of the items that measure Anxiety (ISRA) and Physical Complaints was changed. As a result, higher scores in the Global Health Index indicate better health.

### Procedure

The instruments were administered in one-hour sessions, to which groups of up to 20 participants were invited to participate, previously giving their written consent. The study was authorized by the Committee of Ethics in Research of the *Centro Universitário Feevale* (Brazil). The data analysis techniques are described in Results.

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<sup>1</sup> The participants indicated in the questionnaire to which socioeconomic class they considered that they belonged.

## Results

To analyze which personality variables are associated with health, we first calculated Pearson's correlation coefficient between the Global Health Index, and the MIPS scales. We only considered correlations with  $p < .0001$ , so that the effect size was established, according to the following correspondence defined by Cohen (1977) for behavior sciences:  $r = .10 \leftrightarrow d = .20$  (low effect size),  $r = .30 \leftrightarrow d = .50$  (moderate effect size),  $r = .50 \leftrightarrow d = .80$  (high effect size). In Table 1 are displayed the correlations between the Global Health Index and the MIPS scales.

MIPS Scales	Global Health Index		
	<i>r</i>	<i>p</i>	Effect size
1A – Pleasure-Enhancing	.54	.000	High
1B – Pain-Avoiding	-.58	.000	High
2A – Actively-Modifying	.33	.000	Moderate
2B – Passively Accommodating	-.46	.000	Moderate
3A – Self-Indulging	.19	.003	-
3B – Other-Nurturing	-.17	.007	-
4A – Externally Focused	.32	.000	Moderate
4B – Internally Focused	-.34	.000	Moderate
5A – Realistic/Sensing	-.02	.697	-
5B – Imaginative/Intuiting	-.16	.012	-
6A – Thought-Guided	.13	.046	-
6B – Feeling-Guided	-.28	.000	Low
7A – Conservation-Seeking	.22	.001	Low
7B – Innovation-Seeking	-.02	.806	-
8A – Asocial/Withdrawing	-.37	.000	Moderate
8B – Gregarious/Outgoing	.36	.000	Moderate
9A – Anxious/Hesitating	-.49	.000	Moderate
9B – Confident/Asserting	.39	.000	Moderate
10A – Unconventional/Dissenting	-.27	.000	Low
10B – Dutiful/Conforming	.10	.119	-
11A – Submissive/Yielding	-.47	.000	Moderate
11B – Dominant/Controlling	.21	.001	Low
12A – Dissatisfied/Complaining	-.38	.000	Moderate
12B – Cooperative/Agreeing	-.13	.037	-

Table 1 – Correlations between the MIPS scales and the Global Health Index

To confirm these results, we compared the personality profile of the extreme groups, according to their health status (high or low). The groups of high and low health status were based on the Anxiety, Self-esteem, Personal Satisfaction, Physical Complaints, and Self-Perceived Health scores. The procedure consisted of recoding the scores, establishing three cut-points for each variable according to the percentile: from percentile 1 to 33 (Group 1), from percentile 34 to 66 (Group 2), and from percentile 65 to 99 (Group 3). The next step was to add the scores of the five recoded variables. From this sum were created the groups of high (0 to 7), moderate (from 8 to 11), and low health status (from 12 to 15).

After the forming the three groups, we analyzed personality differences between the two extreme groups, high and low health status, with Student's *t* statistic, and the  $d^2$  statistic was used to calculate the effect size. The results are presented in Table 2.

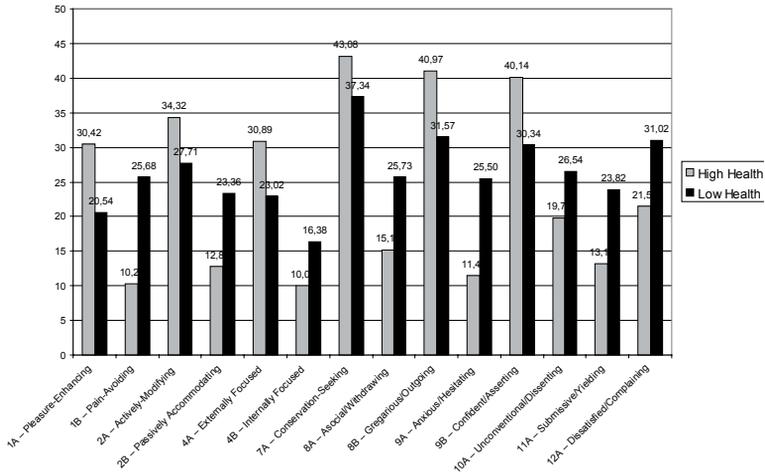
MIPS Scales	High health		Low health		t	p	d	Effect size
	M	SD	M	SD				
1A – Pleasure-Enhancing	30.42	4.29	20.54	8.49	7.90	.000	1.42	High
1B – Pain-Avoiding	10.23	7.72	25.68	8.85	-10.17	.000	-1.57	High
2A – Actively-Modifying	34.32	7.04	27.71	8.02	4.78	.000	0.86	High
2B – Passively Accommodating	12.82	7.12	23.36	8.83	-7.16	.000	-1.47	High
3A – Self-Indulging	22.97	7.54	20.36	6.98	1.98	.050	-	-
3B – Other-Nurturing	33.36	7.41	35.04	6.63	-1.31	.191	-	-
4A – Externally Focused	30.89	7.49	23.02	7.95	5.60	.000	0.96	High
4B – Internally Focused	10.06	7.09	16.38	5.82	-5.31	.000	-0.93	High
5A – Realistic/Sensing	20.59	5.01	20.05	4.59	0.61	.538	-	-
5B – Imaginative/Intuiting	18.98	6.80	22.27	6.11	-2.80	.006	-	-
6A – Thought-Guided	21.27	8.33	20.45	9.26	0.51	.608	-	-
6B – Feeling-Guided	28.71	7.94	32.50	8.10	-2.59	.011	-	-
7A – Conservation-Seeking	43.08	9.85	37.34	9.57	3.25	.001	0.63	Moderate
7B – Innovation-Seeking	24.67	7.80	25.38	6.85	-0.53	.595	-	-
8A – Asocial/Withdrawing	15.14	8.59	25.73	8.39	-6.87	.000	-1.14	High
8B – Gregarious/Outgoing	40.97	10.02	31.57	10.91	4.91	.000	0.92	High
9A – Anxious/Hesitating	11.44	9.19	25.50	11.02	-7.56	.000	-1.32	High
9B – Confident/Asserting	40.14	8.33	30.34	10.58	5.61	.000	1.03	High
10A – Unconventional/Dissenting	19.74	6.48	26.54	6.73	-5.65	.000	0.95	High
10B – Dutiful/Conforming	45.71	9.10	42.89	7.84	1.84	.069	-	-
11A – Submissive/Yielding	13.15	6.73	23.82	7.94	-7.92	.000	-	High
11B – Dominant/Controlling	25.23	8.02	22.50	7.17	1.98	.050	-	-
12A – Dissatisfied/Complaining	21.55	9.55	31.02	6.98	-6.31	.000	-1.08	High
12B – Cooperative/Agreeing	34.09	8.87	35.21	7.96	-0.73	.463	-	-

Table 2 – Personality differences between extreme groups as a function of health status

The data indicate that the high health status group obtained high scores in the scales of **Pleasure-Enhancing (1A)**, **Actively-Modifying (2A)**, **Externally Focused (4A)**, **Conservation-Seeking (7A)**, **Gregarious/Outgoing (8B)**, **Confident/Asserting (9B)**, and **Dominant/Controlling (11B)**. As to the low health group, we found significantly higher scores in **Pain-Avoiding (1B)**, **Passively Accommodating (2B)**, **Internally Focused (4B)**, **Feeling-Guided (6B)**, **Asocial/Withdrawing (8A)**, **Anxious/Hesitating (9A)**, **Unconventional/Dissenting (10A)**, **Submissive/Yielding (11A)**, and **Dissatisfied/Complaining (12A)**.

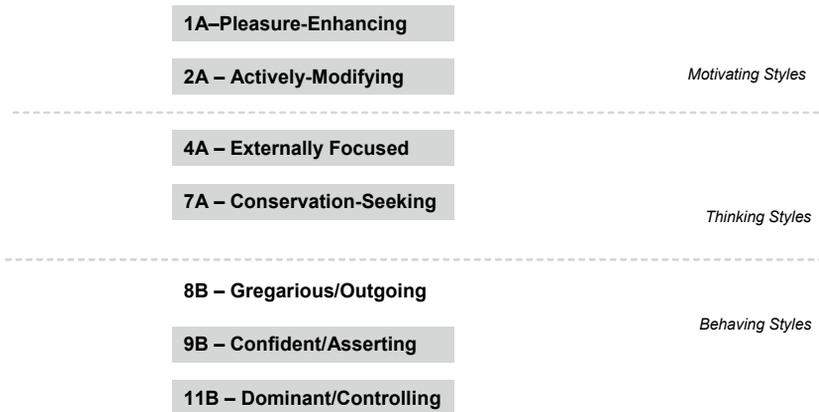
In Graphic 1 are presented the significant personality differences between the two extreme groups, with moderate and high effect sizes.

$$d = \frac{m_A - m_B}{\sigma}$$



Graphic 1 – Personality differences between extreme groups as a function of health status

In Figure 1 are presented the MIPS personality scales that are associated with high health, and in Figure 2, those associated with low health.



	1A	2A	4A	7A	8B	9B	11B
1A							
2A	.53						
4A	.56	.57					
7A	.42	.60	.26				
8B	.54	.77	.78	.43			
9B	.60	.70	.56	.44	.77		
11B	.27	.55	.21	.14	.43	.61	

Note: all correlations were significant at  $p < .01$ , except for the one between 11B and 7A, which was significant at  $p < .05$ .

Figure 1 – Personality scales associated with HIGH health and correlations between scales



	1B	2B	4B	6B	8A	9A	10A	11A	12A
1B									
2B	.64								
4B	.63	.58							
6B	.39	.34	.01						
8A	.58	.54	.79	-.06					
9A	.80	.65	.75	.23	.63				
10A	.48	.43	.49	.05	.46	.44			
11A	.74	.66	.53	.36	.50	.72	.47		
12A	.65	.45	.60	.16	.54	.60	.66	.60	

Note: all correlations were significant at  $p < .01$ , except for the three between 4B and 6B, 6B and 8A, 6B and 10A, which was significant at  $p < .05$ .

Figure 2 – Personality scales associated with LOW health and correlations between scales

## Discussion

The results of this study confirm the opinion of Friedman and Booth-Kewley (Friedman & Booth-Kewley, 1987), that a maladapted personality, defined by a tendency to experience negative emotions passively, with a background of emotional instability, and a tendency to inhibit the expression of these emotions in social interaction (characterized by isolation, submission and insecurity), constitute a favorable condition for poor health and perhaps for the appearance and development of possible diseases. These basic tendencies coincide with the characteristics of Type C pattern or behavior style, which is associated with cancer (Termoshok, 1987), and of Type D personality, which was recently identified and is associated with the worst prognoses and adherence to treatment of individuals diagnosed with cardiovascular disease (Denollet; Pedersen, Middel; Pedersen, Van Domung).

In contrast, the personality style associated with better health is characterized by facing the facts of life with optimism and determination, dealing with them in an active

way, resorting to others as a source of information, and maintaining healthy interpersonal relations, based on self-confidence.

As can be observed in Figures 1 and 2, the scales present significant, positive, and high correlations among each other, confirming the statements of Vollrath and Torgersen (2002) in the sense that people are not either one thing or another, but rather a constellation of personality traits that characterize them simultaneously, in what Millon (1994) called personality styles. From this interpretation and the results of this research, it could be stated that there is a set of personality traits associated with better or poorer health, and which are related to each other.

Finally, based on the results obtained, we consider that the MIPS is an appropriate instrument to analyze the association personality-health, as it provides more details about personality, integrately, in three areas of essential importance in this topic: Motivating Styles (how the individual relates to the environment), Thinking Styles (how people obtain and process information received from the environment), and Behaving Styles (how a person relates to others). Moreover, the theoretical reference on which the model was based offers a series of coherent principles that explain the results clinical findings, and how and why they adopt such forms, and what differentiates them from conceptions based on empirical data.

Lastly, these results can be very useful for the elaboration of public policies of prevention and promotion of health (public health, work health, etc.), as well as for the professional praxis of psychologists and sociologists, in the sense of including personality as one of the important pillars to consider when planning the treatment of disease. Considering that some of the personality styles described at the beginning of this article contributes to decreasing people's health status, perhaps psychologists could intervene so as to favor the expression of emotions in therapeutic groups, for example, to develop active coping strategies, which are essential for dealing with the adversities of the social environment. It is important to stress that the *personological* intervention aimed at improving health status and based on the bio-psycho-social model should be integrated and interdisciplinary; that is, it should include health technicians, psychologists, sociologists, etc., who are crucial for the development of intervention strategies that focus on health, considered from a social perspective.

After describing and discussing the results obtained, we would like to emphasize that this study does not exhaust the topic, and presents some limitations. The first one refers to the sample limitation, taking into account that, in this study, the adult population that participated corresponds to a specific region of Brazil (metropolitan area of Porto Alegre, state of *Rio Grande do Sul*). Another limitation refers to the kind of measurement employed to evaluate predominantly the subjects' physical health (self-reported physical complaints and a Likert-type scale for self-perceived health). In this sense, future studies could include objective measures of physical health (laboratory tests that confirm the diagnosis of health complaints and diseases, indicators of the immunological system, blood pressure, etc.), in addition to the subjective measures in order to verify: first, whether the subjective measures coincide with the objective ones and, second, whether or not the associated personality traits are the same according to the type of health measure applied. In this sense, it would also be helpful to repeat this study including clinical samples (patients diagnosed with

cardiovascular, gastrointestinal, respiratory sicknesses, etc.), measuring in each case and whenever the specific diagnosis is being controlled, the severity and the time of onset of the disease, comparing them with a control group, in order to verify whether there is a different personality profile between the clinical and the control group, according to the Millon model.

## DRUHY OSOBNOSTÍ SPOJOVANÉ SE ZDRAVÍM

**Abstrakt:** Záměr: Cílem této práce je analyzovat vztahy mezi osobností a zdravím společně s cílem identifikování druhu osobností, které buď poskytují ochranu, či způsobují větší náchylnost v oblasti zdraví jednotlivců.

Metody: vzorek výzkumu zahrnuje 300 zúčastněných (150 žen a 150 mužů) pocházejících z městské oblasti Porto Alegre-RS, Brazílie. Ukazatelé, kteří byly v tomto šetření použity: osobnost, tělesné zdraví (zdravotní problémy a vlastní chápání zdraví), psychické zdraví (úzkost, sebeúcta, osobní uspokojování).

Výsledky: obě korelativní analýzy, stejně tak i analýzy odlišných záměrů, odhalily statisticky významné asociace mezi stupni osobnosti spojené s pozitivním vlivem na zdraví jednotlivce: Požitkářský, Aktivně Se Přizpůsobující, Venkovně Zaměřený, Hledající Výzvy, Společenský/Otevřený, Sebejistý/Prosazující Se, a Dominantní/Mající Přehled nad zdravotním stavem, zatímco tyto vlastnosti: Vyhýbání Se Bolesti, Pasivně Úslužný, Vnitřně Soustředěný, Řídíce Se Pocity, Nespolečenský/Ustupující, Stísněný/Váhající, Netradiční/Nekonformistický, Podřizující Se/Poddajný a Nespokojený/Stěžující si jsou spojovány s narušeným zdravím.

Závěr: špatně se přizpůsobující osobnost, definovaná sklony k pasivnímu prožívání negativních pocitů, s nestabilním zázemím a citovou nestabilitou, stejně tak jako sklony k potlačování těchto emocí při společenských interakcích (které jsou vyznačovány izolací, podřizováním a nejistotou), podporují předpoklady pro narušené zdraví a, v některých případech i výskyt a rozvoj nemocí. Na druhé straně, jsou takové osobnostní styly, které jsou spojovány s dobrým zdravím vyznačovány skutečností, ve kterých jsou životní situace čeleny s optimismem a odhodláním, aktivně se řeší, na ostatní se člověk obrací pouze z důvodu informovanosti a udržují se zdravé mezilidské vztahy, a to vše je založeno na sebejistotě.

**Klíčová slova:** osobnost, zdraví, Millon.