Rank-Order Consistency of Personality Traits Over Time

Jeferson Gervásio Pires ⓘ, Carlos Henrique Sancineto da Silva Nunes ⓘ,
Maiana Farias Oliveira Nunes ⓘ, & Cássia Roettgers ⓘ

Universidade Federal de Santa Catarina, Florianópolis, SC, Brasil

ABSTRACT – Research has shown that personality develops over time, generating changes and continuity in the pattern of functioning across the lifespan. We investigated the evidence of consistency in the ranking of personality traits over time. A group of 170 adults between the ages of 51 and 93 participated in the study ($M = 69$, $SD = 9.05$) and retrospectively answered the Big Five Inventory-2 and the Big Five Inventory. We performed test-retest correlation and the ANOVA procedure with repeated measures. We found that personality scores at 30-35 years of age are associated with the scores at age 70-80, indicating stability in the pattern of individual functioning in the long term. This research complements the few studies on personality development in Brazil.

KEYWORDS: personality, aging, human development, personality tests

Consistência no Ranqueamento dos Traços de Personalidade ao Longo do Tempo

RESUMO – Evidências indicam que a personalidade se desenvolve ao longo do tempo, gerando mudanças e continuidade no padrão de funcionamento ao longo da vida. Investigamos a evidência de consistência no ranqueamento dos traços de personalidade ao longo do tempo. Participaram 170 adultos, com idade entre 51 e 93 anos ($M = 69$; $DP = 9,05$), que responderam o *Big Five Inventory-2* e a *Big Five Inventory*, retrospectivamente. Realizamos correlação teste-reteste e o procedimento ANOVA com medidas repetidas. Constatamos que os escores em personalidade aos 30-35 anos de idade estão associados com os escores aos 70-80 anos, indicando estabilidade no padrão de funcionamento em longo prazo. Esta pesquisa complementa os poucos estudos sobre o desenvolvimento da personalidade no Brasil.

PALAVRAS-CHAVE: personalidade, envelhecimento, desenvolvimento humano, testes de personalidade

It has been well documented that personality develops over time (Roberts et al., 2015; Soto & John, 2012; Terracciano et al., 2006) and causes both changes and continuity in the pattern of individual functioning throughout a person's life span (Allemand et al., 2008; Bleidorn et al., 2019; Roberts & Caspi, 2003; Roberts & Wood, 2006). Change and stability in personality are related to how much people maintain their relative score on the distribution of traits over time (McAdams & Olson, 2010). In practical terms, personality changes can be understood by observing the average level of traits (mean level change), while stability can be identified by consistency in the ranking of traits (rank order consistency; Specht et al., 2011). The first case (between subjects) covers the changes of normative order, that is, how much certain groups of people differ in personality traits, for example: adolescents x adults x elderly. The second form (within the subject) includes changes that occur within the same group, over time, concerning themselves, allowing for a study of the way personality traits change over time. Knowing the patterns of the two types of changes is important both for the development of scientific knowledge in the field and for the planning of interventions.

Several studies have compared personality traits between individuals at different stages of development (Cobb-Clark & Schurer, 2012; Costa & McCrae, 1988; Costa et al.,

2000; Damian et al., 2018; Kandler et al., 2015; Lehmann et al., 2013; Lucas & Donnellan, 2011; Marsh et al., 2013; McCrae et al., 1999; Roberts & Mroczek, 2008; Roberts & Wood, 2006; Smits et al., 2011; Soto et al., 2011; Specht et al., 2011; Terracciano et al., 2005, 2006; Wortman et al., 2012). These studies have documented a peak in personality development in adulthood, with the traits presenting a *plateau* or even reduction in subsequent years (Bleidorn et al., 2019). However, the moment of the *plateau* is not a consensus in the literature, with some authors mentioning little change for most traits after 30 years of age (Costa & McCrae, 1988; Terracciano et al., 2005; 2006), while others report the *plateau* at age 50-60 (Roberts & Caspi, 2003; Roberts & Wood, 2006).

Despite the evidence of normative differences in personality, we should keep in mind that even if a population increases in a certain trait, it may continue to present the same order in the ranking of traits over time (Bleidorn et al., 2019; Nye & Roberts, 2019). That is, while differences in personality between normative groups are expected, when the group is under its control (within the subject), these differences in traits can be observed differently. In part, this is possible because, in practice, all individuals will collectively change (Robins et al., 2001). That way, in addition to changing, the personality becomes stable over time, showing consistency in the pattern of functioning throughout the life span.

This continuity pattern in long-term functioning has been corroborated by several studies (Allemand et al., 2008; Ardelt, 2000; Roberts & DelVecchio, 2000; Robins et al., 2001; Stephan et al., 2018; Terracciano et al., 2006; Roberts & Caspi, 2003; Roberts & DelVecchio, 2000), which have concluded that consistency in traits increases with age. For example, in the study by Stephan et al. (2018), those with higher scores in Conscientiousness (C) and Agreeableness (A), at age 16, continued with higher scores in these factors at age 66, indicating stability in the ranking of these traits over 50 years of age.

Continuity in individual personality functioning, known as stability in trait ranking, can be observed using correlations in personality scores between two moments (test-retest) (Roberts & DelVecchio, 2000; Terracciano et al., 2006). The magnitude of these correlations suggests the degree to which the ranking of individuals in a given trait is maintained over time. These correlations have obtained magnitudes between .40 and .60 (Bleidorn et al., 2019; Roberts & DelVecchio, 2000; Terracciano et al., 2006). In this regard, there are indications that the shorter the time interval between collections, the greater the magnitude of the associations tends to be and, therefore, the greater the stability coefficients (Ardelt, 2000). In the study by Robins et al. (2001), for example, after four years the test-retest correlations were moderate: O (Openness; .70), C (.59), E (Extroversion; .63), A (.60), and N (Neuroticism; .53).

Ardelt (2000) even mentions that intervals greater than 20 years between collections will rarely obtain correlations that exceed the magnitude of .50.

Stability in the pattern of individual functioning is explained, in part, by the principle of cumulative continuity, described in the neo-socio-analytical model of Personality Development (Roberts & Caspi, 2003; Roberts & Nickel, 2017; Roberts & Wood, 2006; Soto, 2018). In this principle, we understand that people tend to accumulate stabilizing mechanisms in their functioning over time (Roberts & Nickel, 2017). One of the factors associated with continuity in the pattern of individual functioning in the long term is the development of an identity (Roberts & Caspi, 2003). For these authors, the process of developing an identity, taking responsibility for it, maintaining it socially, and still complying with it are factors that contribute to increasing the consistency of individual functioning (Roberts & Caspi, 2003). Thus, we understand that traits contribute to content for individual identity, causing people to develop dispositional functioning over time (Roberts & Wood, 2006). However, we must remember that, although people have a sense of identity, this identity can change over time, according to the salience of the various roles we play and our maturation concerning life experiences.

Finding one's niche is another factor attributed to the continuity of individual functioning in the long term. In this regard, we could consider that people tend to select social roles that, for them, seem to serve their dispositional functioning. When they make these choices, they can somehow facilitate the continuity of the individual pattern of functioning over time. Additionally, if we consider that many roles will not serve perfectly, it can be expected that people will be able to adjust some characteristics of their roles, with the aim that they can better serve their functioning than before. In doing that, people are seeking an environment that facilitates the continuity of their pattern of functioning over time. Moreover, having clarity in the perception of one's characteristics is another facilitator of the stability of individual functioning. That way, over time, some people would tend to have an increasingly clear perception of their characteristics and interests, which will contribute to an increase in the consistency of their functioning in the long term (Roberts & Nickel, 2017).

In the neo-socio-analytical model, in addition to the transactions of the individual with the environment in explaining the continuity of the individual functioning pattern, genetic factors are also mentioned with some importance in the long-term stability of personality (Roberts & Wood, 2006). In this sense, in the study by McGue et al. (1993), whose data was collected at 20 and 30 years of age, with twins, among the analyzes, they found test-retest correlations between .40 and .70 for the measures of positive and negative emotionality (equivalent to variations of what is called Neuroticism in the Five Factor Model

[FFM]). These correlations were interpreted as a balance between change and consistency in personality over the years (McGue et al., 1993), in which some traits are shown to be more stable than others. The authors concluded that a part of the personality seems to be determined by genetic factors, while the changes reflect the influence of environmental aspects.

Considering the different explanations for stability in personality traits in the long term, there is evidence that this stability in individual functioning can serve as a protective tool in the aging process (Graham & Lachman, 2014). Meta-analytic studies show that N, E, and C traits are excellent predictors of well-being (Anglim et al., 2020). For Graham and Lachman (2014), after a few years, people tend to become comfortable with themselves, in such a way that this familiarity will have an adaptive character in functioning in the face of changes derived from age that affect health and cognition. On the other hand, those who show changes in their functioning over time, for whatever reason, give indications that they had to adjust in different ways to cope with the demands and pressures of the world in which they lived. However, it is worth remembering that significant life events do not influence the pattern of individual functioning in the long term (Specht et al., 2011).

In summary, from the scientific literature, we can say that personality is developed throughout a person's life span (Bleidorn et al., 2019), however, it has also been documented that people in the same group tend to maintain their relative position in the ranking of personality traits over time. Based on this evidence, the present study aims to investigate the consistency in the ranking of traits over time, testing the continuity in the pattern of individual functioning in the long term. This type of study advances this field of knowledge in Brazil, where few publications have explored the theme (Gonzatti et al., 2017), and offers useful information for the process of psychological personality assessment with adults and the elderly, contributing to the planning of interventions related to healthy personality development.

It is important to note that the present study is cross-sectional, and uses retrospective data collection as a method of data collection. Retrospective research studies seek data from the past and relate them to present data. This research method has been used for some time in the investigation of various topics, such as childhood maltreatment (Coolidge et al., 2011) and the association between Alzheimer's and personality traits (Tautvydaitė et al., 2017), and is thus considered valid (Coolidge et al., 2011).

Hardt and Rutter (2004) point out that questions were registered about research involving retrospective memories, considering four aspects: a) memory fantasies are subject to a degree of forgetfulness, so there is the possibility of the recovered memories presenting biases; b) people tend to look for meaning in their memories, c) people can remember only the things they were aware of in the past, d) what people remember may be influenced by their mood at the time of the retrospective report. Because of these issues, for Hardt and Rutter (2004), the quality of retrospective evaluation is linked to the extent to which it will be used to collect memories in the past and present. These authors conclude that, although retrospective psychological evaluations have some inherent bias, their validity is adequate when the retrospective measure does not refer to a very specific period and the evaluated behaviors are specific and adequately operationalized in the instrument.

In line with that, it is important to highlight that, in the present research, we used the retrospective method, even considering its possible limitations. Still, we should consider the fact that the measure used for personality assessment has many studies that indicate its good psychometric quality and feasibility of use for audiences with widely varied profiles (Pires et al., in press, 2023). We nevertheless took care to evaluate the feasibility of using retrospective data by raising information about the accuracy of the measurement (assuming that, if there were difficulties understanding the task or inconsistencies in the way people remember things, it would be reflected in a low accuracy for the study).

METHOD

Data is available upon request to the authors.

Participants

A total of 170 adults aged between 51 and 93 years participated ($M = 69$, $SD = 9.05$, $Md = 69$), the majority of whom were women ($n = 133.78\%$), all of them cisgender. Of the total, 30 participants were between 51 and 59 years old, another 63 were between 60 and 69 years old, 54 were between 70 and 79 years old, and 23 indicated ages between 80 and 93 years old. Most of the participants indicated that they had primary or secondary education as their maximum level of Education ($n = 91$), while another 55 reported they had incomplete or complete higher education, and others indicated they had a master's or doctor's degree ($n = 24$). Those who declared themselves married or in a stable union were the majority ($n = 79$), followed by widowers ($n = 47$) and the separated or divorced ($n = 31$). Most of the sample exercises up to twice a week ($n = 69$), followed by those who exercise three to five days a week ($n = 53$) and those who do not practice physical activities ($n = 36$).

Instruments

Sociodemographic and profile questionnaire. Instrument developed by the authors of this study to verify social, demographic, and profile variables, such as gender, age, marital status, education, and practice of physical activities.

Big Five Inventory (BFI). An inventory with 44 self-report items was published by John and Srivastava (1999) to measure personality traits in the Big Five model. The BFI assesses the respondent's agreement with the items on a five-point scale, 1 being *I do not relate to this* and 5 being *I relate to this a lot*. Participants answered the BFI items retrospectively. For that purpose, the instrument instruction was altered, and the new instruction asked the participants to respond considering the way they thought it was when they were 30-35 years old. The cut-off point of 30 years of age was adopted in compliance with research that has indicated that starting at this age, no changes are observed for most personality traits (Terracciano et al., 2006), suggesting few changes in the pattern of individual functioning after this stage of development. In addition to the instruction, the wording of the BFI items was also modified. The verbs of the 44 BFI affirmatives were put in the past tense. For example, item 1, which was "*I'm talkative*", became "*I was talkative*". And paragraph 31, "*I am shy*", became "*I was shy*". The Five Factors of the BFI showed adequate precision, with Cronbach's Alpha coefficients ranging from .78 to .89.

Big Five Inventory 2 (BFI-2). The Big Five Inventory - 2 refers to a new version of the BFI, containing 60 self-report items. It was published by Soto and John (2012), to measure personality traits using the Five Factor Model (FFM), having received favorable evidence of validity in different countries, including Brazil (Pires et al., 2023). The main difference between the BFI and the BFI-2 is that the latter also assesses personality facets. To answer, one should indicate the agreement concerning the items, on a five-point scale, 1 being *I don't relate to this* and 5 being *I relate to this a lot*. Its factors obtained adequate precision, with Cronbach's Alpha coefficients between .82 and .86.

Data Collection Procedures

After the research was approved by an ethics committee (CAAE 00811018.5.0000.0121), participants were recruited from universities and through the researchers' contact network. We also contacted services (public and private) with groups aimed at people over 60 years old, located in the Metropolitan Region of Florianópolis. Moreover, we invited psychologists and psychology students to collect data from participants over 60 years old who were part of their contact network. Before collecting data with third parties, psychologists and students who acted as research assistants answered the instruments to familiarize themselves with the procedures of data collection. This technique, known as snowball, allowed access to participants over the age of 60 who were not in institutions for this audience.

The collections took place individually and collectively, through self-application of the material or interview, especially for participants who indicated low education or who reported low vision and/or insufficient reading level. Before starting the process of responding to the retrospective version of the BFI, the researcher explained the change in the collection and indicated that, from that point on, the respondents should think about what it was like when they were 30-35 years old. The order of application of the instruments was: sociodemographic questionnaire, BFI-2, and BFI retrospective. The participants took, on average, 1 hour and a half to answer the instruments, and some took a break in the middle of the collection. It is worth noting that the varied forms of application of the instruments and data collection were essential to adapt the collections to the possibilities and needs of the respondents and make this research feasible.

No exclusion criteria were adopted by the researchers and we did not control the basic psychological processes of the elderly participants (thinking, memory, attention), or unfavorable health conditions that may arise as a result of age. However, in the groups aimed at people over 60 years of age, we had previous knowledge of those who could participate with no characteristics that could get in the way of the activity.

Data Analysis

Initially, we conducted exploratory factor analysis in the BFI and the BFI-2, to verify whether the internal structures of the instruments were congruent in the sample. We also considered the number of factors that the parallel analyses suggested for extraction, as indicative of the structural stability of the Five Factors (FFs) in the two instruments used in this research (BFI and BFI-2). The analyses were carried out in the Stata 14 software (Stata Corp, 2013).

After that, we calculated z-scores for each of the personality factors evaluated with the BFI-2, controlling for the effect of acquiescence in the responses, as suggested by Soto (2008). This score was called *Current*. We also calculated the scores of the big five personality factors collected retrospectively, with the BFI, and controlled for the effect of acquiescence. This score was called *Past*. It is important to mention that the retrospective time (that is, subtracting the current age of the respondent, indicated in the sociodemographic questionnaire, from the age of 35, since the participants answered the BFI considering the period in which they were 30-35 years old) ranged from 16 to 58 years ($M = 33$, $Md = 33$, $SD = 9.05$).

Next, we estimate the accuracy of the Five Factors (FFs) of the BFI and the BFI-2, with Cronbach's alpha. With the *Past* and *Current* scores, test-retest correlations were

performed between each of the Five Factors measured in the two instruments, whose magnitude of the correlations was considered indicative of continuity in the ranking of personality traits (Roberts & DelVecchio, 2000; Terracciano et al., 2006). It is worth noting that literature summaries show that correlations in trait ranking have obtained magnitudes between .40 and .60 (Bleidorn et al., 2019; Roberts & DelVecchio, 2000; Robins et al., 2001; Terracciano et al., 2006).

To complement this analysis, we performed ANOVAs with repeated measures (within subjects) for each personality factor, to verify the effect of time on latent variables measured in personality tests. For this analysis, instead of the z-score, we considered the mean values of theta for each of the FFs, which were obtained through the Winsteps software. Before that, however, we equalized the items of each factor of both tests. Equalizing means equating the parameters of the items, making them comparable. For this purpose, initially, the items of each factor of the two instruments were calibrated at the same time. Then we estimated the theta of the retrospective version (BFI) and the current version (BFI-2), and we fixed the parameters of the items of each version, as estimated at the first moment (when the two tests were analyzed jointly).

Considering the repeated measures of the ANOVA, it was possible to verify if there were profiles in the functioning of people over time, in the past and currently, considering the FFs. In the models we tested, the dependent variable is the theta in each of the FFs, and the independent one is the time of collection (past and present). The variable that identifies the participant in the database was allocated as the error between the subject, and the thetas in personality (past [BFI] and current [BFI-2]) were allocated as the error residual within the subject. For this, the data was placed in a long format. The null hypothesis (H0) indicates that there is no difference in personality trait profiles between the *Past* and *Current* scores. Therefore, accepting it means that the profile has been maintained over time.

When performing ANOVAs, it should be ensured that the compared groups are independent; however, when conducting versions with repeated measures, this assumption loses its effect, since the subject is their control. For that reason, in addition to the procedure of comparing means between groups, there should be guarantees that the lack of this premise of independence is corrected, typically in the degrees of freedom. These corrections are presented in Stata 14 through the Huynh-Feldt epsilon and the Greenhouse-Geisser epsilon; in addition to the Mauchly test, which verifies the violation of sphericity. A suggested correction magnitude at the level of 1 is the same as saying that there is no correction to be performed (StataCorp, 2013).

RESULTS

The internal structure of the personality instruments (BFI and BFI-2) was similar in the retrospective and current versions, as five factors were suggested for extraction in both instruments (BFI and BFI-2). This result can be seen in the screeplots of the parallel analyses, in Figure 1.

The descriptive statistics of the scores referring to the FFs of the BFI and the BFI-2 appear in Table 1. These statistics refer to z-scores and Thetas. The product-moment correlations (test-retest) between *Past* and *Current* FFs resulted in moderate magnitudes among them, with a
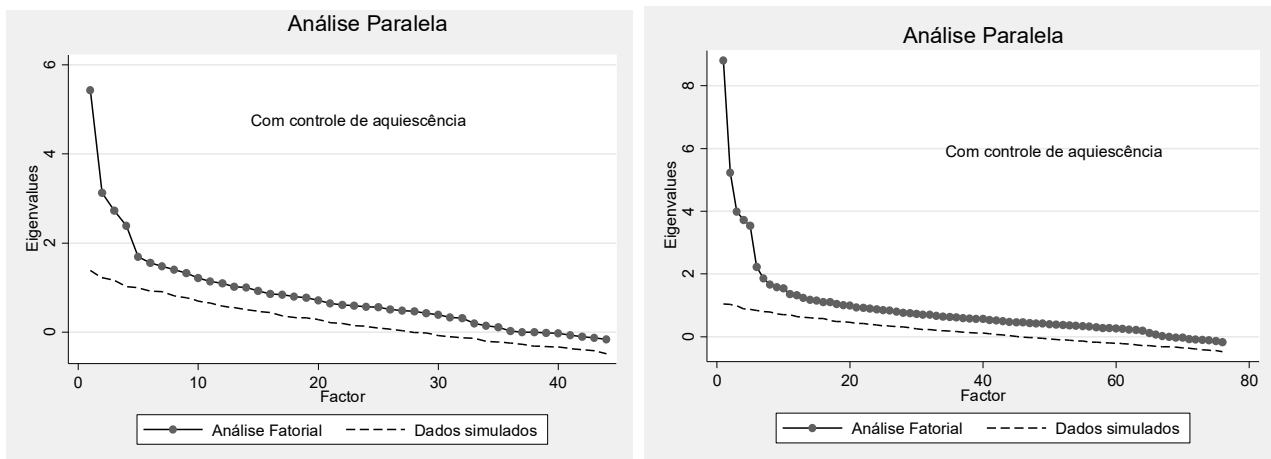
Figure 1. *Screeplot of Parallel Analyses on BFI and BFI-2*
Note. Left image: BFI; right image: BFI-2. *Análise Paralela*: Parallel Analysis. *Análise Fatorial*: Factor Analysis. *Dados simulados*: simulated data. *Com controle de aquiescência*: with aquiescence control.

magnitude between .52 and .65. The traits Openness and Amiability had the highest magnitudes of association, as shown in Table 2.

Regarding ANOVAs with repeated measures, a significant effect of time was observed (within the subject) on the trait O (F [1, 169] = 129.09, $p < .001$), the trait E (F [1, 169] = 55.67, $p < .001$), trait A (F [1, 169] = 24.10, $p < .001$), and the trait N (F [1, 169] = 110.68, $p < .001$). No corrections were suggested in the Huynh-Feldt epsilon ($p = 1.00$) and the Greenhouse-Geisser epsilon ($p = 1.00$) for these four

traits, and Mauchly's test indicated that the assumption of sphericity was not violated in either analysis. In contrast, no significant effect of time was observed (within the subject) regarding trait C (F [1, 169] = 2.68, $p = .10$), nor were corrections suggested in the Huynh-Feldt epsilon ($p = 1.00$) or the Greenhouse-Geisser epsilon ($p = 1.00$). In summary, the ANOVAs indicate that there are no differences in the profiles between *Past* and *Current* scores for the traits O, E, A, and N.

Table 1
Descriptive statistics of thetas and z-scores in BFI and BFI-2 (n = 170)

Variable	Openness		Conscientiousness		Extraversion		Agreeableness		Neuroticism	
	Past BFI	Current BFI-2	Past BFI	Current BFI-2	Past BFI	Current BFI-2	Past BFI	Current BFI-2	Past BFI	Current BFI-2
Mean (Theta)	-.25	.11	.03	-.05	.26	.08	.12	-.05	-.25	-.05
Standard deviation	.30	.31	.41	.32	.39	.26	.35	.32	.30	.32
Minimum	-.95	-.84	-1.17	-.87	-.66	-.66	-.92	-.87	-.95	-.87
Maximum	.59	.88	2.46	2,03	2,63	.80	1.03	2.03	.59	2.03
Z-Score	-.01	.01	.07	.08	-.02	.02	.01	.08	.04	-.04
Standard deviation	.61	.48	.44	.54	.59	.50	.48	.35	.55	.51
Minimum	-1.35	-1.29	-1.18	-1.40	-1.70	-1.35	-1.35	-1.13	-1.07	-.97
Maximum	2.52	1.13	.82	.84	1.33	1.20	.91	.91	.80	1.51

Table 2
Test-retest between the FFs of BFI and BFI-2

BFI	BFI-2				
	O	C	E	A	N
O	**.65***	.20**	.23**	.12	-.08
C	.20	**.63***	.23	.27**	-.15
E	.32*	.23**	**.58***	.14**	-.20
A	.12	.34*	.14	**.61***	-.23**
N	-.32	-.30*	-.23	-.26**	**.52***

*Note. * $p < .01$. ** $p < .05$. BFI = Big Five Inventory. O = Openness; C = Conscientiousness; E = Extraversion; A = Agreeableness; N = Neuroticism.*

DISCUSSION

It was possible to identify that the pattern in individual functioning tends to become stable over time, as hypothesized, corroborating the results reported in the scientific literature (Bleidorn et al., 2019; Nye & Roberts 2019; Roberts & DelVecchio, 2000; Roberts et al., 2008; Terracciano et al., 2006). Contributing to the argument, the internal structure of personality instruments proved to be invariant over time.

The test-retest correlations resulted as expected and support the findings reported in the scientific literature (Costa & McCrae, 1988; Costa et al., 2000; Kandler et al., 2015; Lehmann et al., 2013; Lucas & Donnellan, 2011; Marsh et al.,

2013; McCrae et al., 1999; Roberts & Wood, 2006; Robins et al., 2001; Smits et al., 2011; Soto et al., 2011; Specht et al., 2011; Terracciano et al., 2005; Wortman et al., 2012), both in the direction and magnitude of the associations. Likewise, ANOVAs with repeated measures followed the established hypotheses and indicated that the individual level of O, E, A, and N, at age 30-35, tends to be preserved 40 years later.

Together, these findings corroborate the notion of stability in individual functioning over time (Allemand et al., 2008; McAdams & Olson, 2010; Roberts & Caspi, 2003; Roberts & Wood, 2006; Roberts et al., 2015; Soto & John, 2012;

Specht et al., 2011; Terracciano et al., 2006). That is, although personality traits develop throughout a person's life span and cause differences between people at different stages of development, people in the same group tend to maintain their relative positions in the ranking of personality traits in the long term. Thus, we find that individual functioning becomes relatively stable after several years (Nye & Roberts, 2019; Roberts & Mroczek, 2008), a finding that reiterates the hypothesis that people will tend to accumulate stabilizing mechanisms in their functioning over time (Roberts & Nickel, 2017), preserving, as a consequence, certain attributes of their long-term functioning.

Maintaining stability in the pattern of individual functioning over time is also shown to agree with the arguments that, over the years, people become more comfortable with their way of being (Graham & Lachman, 2014). And not only that, maintaining one's functioning can have an adaptive meaning in life. In this regard, Graham and Lachman (2014) mention that those who remain stable over time, in traits O and N, preserve fundamental cognitive functions, such as inductive reasoning and reaction time at 70-80 years. On the other hand, a shift in the scores for E over time, increasing them, is associated with the risk of developing coronary heart disease and stroke (Jokela et al., 2013). Thus, staying stable in the long term in these personality attributes is a positive sign. In addition to this gain in maintaining the stability of certain personality attributes over time, there is an argument that, when making changes in the pattern of functioning, the individual would indicate that he needed to make adjustments in his functioning to be able to account for the demands and pressures (possibly environmental) experienced throughout his history (Graham & Lachman, 2014).

On the other hand, this hypothesis was not corroborated for trait C and, although not expected, it can be interpreted positively, if we observe the evidence that, of all the FFs, conscientiousness is the only one that increases linearly throughout the life cycle (Costa & McCrae, 1988; Damian et al., 2018; Lehmann et al., 2013; McCrae et al., 1999; Roberts & Wood, 2006; Smits et al., 2011; Terracciano et al., 2006; Wortman et al., 2012). We must remember that trait C concerns an organized unit of characteristics that describe individual differences in terms of a propensity for self-control, responsibility for oneself and others, and organization (Srivastava & Das, 2013). The increase in C levels over time, especially in individuals who, at the beginning of their adult life, had low levels of this personality trait, seems to have an adaptive function which, among other advantages, protects the individual from some comorbidities such as dementia and Alzheimer's disease (Chapman et al., 2011; Tautvydaitė et al., 2017; Terracciano & Sutin, 2019). Thus, we know that it is essential to preserve a certain level of C over time so if an individual had a low level of C in the past, this individual would need to increase the score in this factor a little more,

when compared to those who already had a minimum level in the past, eventually equating this aspect of functioning with the others. By doing so, however, the profiles for this trait could be modified and would lead to readjustment in the positioning of individuals in the ranking of this trait.

Despite these findings, it should be noted that, specifically regarding the response to the BFI in the past, it is possible that a part of the participants did not understand the retrospective exercise of going back to the past, especially if we consider the level of education of the participants in this study, which may have contributed to the fact that the level of C has not changed over time. It is also possible that some participants tried to keep thinking in the past, but did not succeed, for whatever reason. If this was the case, we can consider as a negative effect the participant starting to answer the instrument concerning the present moment. Still, the value obtained in the test-retest between the BFI and the BFI-2 seems to advocate more in favor of the respondents having understood the requested task, than the other way around. Even so, we suggest that future studies repeat these analyses and test the results currently found.

Furthermore, it seems relevant to highlight that the magnitudes of the associations obtained in the test-retest, in addition to endorsing stability, also suggest some change in the profile, in such a way that some people may present differentiated development in some personality traits over time (Cobb-Clark & Schurer, 2012; McAdams & Olson, 2010). In this regard, instead of demonstrating stability in traits, or even an increase in O, C, E, and A, some people could present a reduction over time, which could be seen in some cases as something positive. This would be possible if, in the first collection, the personality levels were very high, then the reduction would theoretically be an indication of adaptability; while the increase would indicate the opposite since it would reach a maladaptive level.

For example, when we consider a certain individual with a high score in E at age 30-35. If, at age 70, this individual demonstrates a reduction in his E score, this could be a positive indication, as further increasing his level of Extraversion could be maladaptive, seeing as in the initial collection the subject had already obtained a high level in this trait, even if this results in some inherent change in his profile. This can be said because, in comparisons in which the subject is under their control, the respondent who has a high score in any of the FFs in the initial collection may present maturity with the reduction in this score, and not with more increase in the trait. Thus, future studies should consider these differences at the individual level when making comparisons of personality over time between groups.

Finally, if we concluded that people do not change much after the age of 30 (Costa & McCrae, 1999) we would be stating that the patterns of functioning would be genetically modeled, and this current of thought can be discarded by

observing the pattern of findings in the literature regarding normative personality comparisons (Bleidorn et al., 2019). Thus, a purely biological explanation for the adjustment of individual functioning in the long term would be contrary to the explanations that highlight the reciprocity between the predispositions of the subject and the environment in the modeling of their functioning, as proposed in the neo-

socio-analytical model, ruling out the possibility of changes in personality in response to significant life events (Specht et al., 2011). That way, although people adopt stabilizing mechanisms in their long-term functioning, they function as open systems (Roberts & Mroczek, 2008), allowing for adjustments in their functioning, whenever necessary, throughout the life cycle.

FINAL REMARKS

In the present research, we were able to identify that individual functioning tends to become relatively stable after the age of 40, as recommended by the scientific literature (Nye & Roberts 2019; Roberts & Mroczek, 2008; Specht et al., 2011) and explained by the principle of cumulative continuity. Such continuity has a protective role in aging (Graham & Lachman, 2014) as it contributes to the adaptation of the individual in responding to the demands of the new stage of development. Moreover, knowing that individual functioning tends to become stable over time brings to psychology professionals the indications that the effects of their interventions, especially those involving the personality, should be seen as systematic since significant changes do not occur immediately. This knowledge, therefore, should also be used to think about ways to evaluate and control even small changes resulting from psychological interventions on individual functioning.

Despite the findings, some limitations regarding the method of this research ought to be highlighted. The first concerns the number of participants, which we consider small for personality research. Likewise, one can mention the low number of male participants, especially at the age of 70 and older. For that reason, we expect that future studies replicate the hypotheses and findings of current research, but with larger samples and a closer number of men and women. We hope that longitudinal studies can be conducted in the future in Brazil, so that we can better understand the development of personality in a group of people over years, performing more than two collections over time, and that this information can contribute to the planning and implementation of psychological interventions with people at different stages of the life cycle.

Another characteristic of this research that should be mentioned is that the retrospective period, that is, the distance between the participant's current age and when he was 35 years old, proved to be quite varied. In this sense, the magnitude of the associations found in the present study is higher than that suggested by Ardelt (2000), considering that the period between ages exceeds 20 years in most cases.

However, it should be noted that the present study collected data relating to the past and present at the same time and, because it is characterized as cross-sectional, the pattern of magnitudes may have been affected by the method currently employed. Despite this possibly limiting characteristic, this study contributes to remedying the scarcity of research verifying the consistency of personality traits throughout several decades (Terracciano et al., 2006), especially in the Brazilian context. Nevertheless, it can't be ignored that the method used in the present study does constitute a limitation since we cannot affirm that the participants answered the BFI as they were 30-35 years old. We strongly suggest that cross-sectional studies be carried out in the future to verify whether the correlation patterns obtained in this research are maintained.

For this reason, we partly agree with Hardt and Rutter (2004) when they mention that many researchers may question the use of retrospective memories in research in Psychology. Considering the challenges of conducting studies to assess personality changes over time in Brazil, controlling and standardizing the data collection method seemed to be a legitimate way to try to reduce possible biases inherent to retrospective research. We are aware that although the retrospective evaluation was relevant to obtaining non-current information (Coolidge et al., 2011) and has proved useful for the present project, the information obtained is influenced by the ability of the participants to recover characteristics presented by them years ago. This aspect of the research may limit the use of the method in people who have a condition that causes memory impairment (perhaps dementia).

On the other hand, we understand that having selected the BFI, an internationally recognized instrument for personality assessment composed of items that indicate highly objective behaviors. The fact that the age the participants should retrospectively recover was not related to such a specific period (30-35 years), are all points that contribute to the validity of the method used to achieve the objectives of this research (Hardt & Rutter, 2004).

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Corresponding author
Jeferson Gervásio Pires
Email: jefersongp@gmail.com