Experimental Appraisal of Obsessive-Compulsive Traits: an Evolutionary Inquiry in the Ground of Social Darwinism

Saeed Shoja Shafti (M.D)
Associate Professor of Psychiatry
University of Social Welfare and Rehabilitation Sciences (USWR)
Razi Psychiatric Hospital
Tehran – Iran
Postal code: 18669-58891
Po Box: 18735-569
Tel: 0098-21-33401220
Fax: 0098-21-33401604
ssshafti@gmail.com

Abstract:

Introduction: While evolutionary psychologists are trying to explain personality and individual differences by a number of theories, there has been very little research done on personality from an evolutionary perspective. In this survey, relationship between obsessive-compulsive traits and issue of success has been assessed.

Method and Material: Four hundreds families, who have been chosen randomly, have been asked by a self-reply questionnaire regarding the existence of obsessive-compulsive traits, in their highest and lowest successful children. Data were analyzed by z test for comparison of proportions.

Results: Except for stubbornness, all of the remaining traits were significantly more prevalent among the highest successful children in comparison with the lowest ones. “Perfectionism” was the most prevalent trait among successful group of children, tagged along by “Rigidity regarding Morality and ethics”, “orderliness and devoting to details” and “Devoting to work and avoiding leisure”. “Obligating others to submit his or her style of behavior”,” collecting objects and money” and “parsimoniousness”, were the least prevalent traits.

Conclusion: Obsessive-compulsive personality traits, at a reasonable level, seem to be one of the main behavioral factors that may help the person toward attainment of personal and/or social success.

Key words: obsessive-compulsive personality trait; evolutionary psychology; evolutionary psychiatry.

Conflict of interest: None.

Introduction:

The study of personality traces its roots to the early twentieth century, and has experienced a notable research effort and development in psychology over the last century (1). In contrast, despite pioneering work on the subject in the 1970–1980s (2), personality has been literally ignored by behavioral ecologists, who have only started to work on it in the last decade (3). The tenfold increase in the number of annual publications since Wilson *et al.*'s (1994) seminal paper on shyness and boldness in humans and other animals illustrates the success of

personality as a major concept within behavioral ecology(4). Nevertheless, despite the recent burgeoning of publications on the topic, our understanding of the evolutionary ecology of personality remains scanty (5). Also, there is abundant evidence, that personality traits are substantially influenced by the genes. In the long run, but not yet, approaches via molecular genetics and brain physiology may also make decisive contributions to understanding the heritability of personality traits (6). In the frame of this hypothesis, each individual has finite time and energy budgets. Effort allocated to solving one adaptive problem precludes effort allocated to other adaptive problems. Life-history theory is a broad formulation of the major tradeoffs in an individual's life with respect to capturing and allocating energy, and Individuals compete with one another in sending signals to others about their quality as a mate, friend, and coalition member. Besides, Balancing selection occurs when genetic variation is maintained by selection, such that different levels on a trait dimension are favored, or are adaptive, in different environmental conditions to the same degree(7). If selection pressures vary over time or space, as some of them do, then selection can favor different levels of a personality trait in these different environments. Some environments, for example, may favor a risk-taking personality, whereas others favor a more cautious risk-averse personality. For example, Psychopaths, as part of their strategy, undoubtedly have

difference-detecting adaptations that assess and evaluate the exploitability of potential victims (8). On the other hand evidence suggests that the heritability of some traits originates from individual differences in mutation load, which can plausibly explain some harmful mental disorders such as schizophrenia and autism (7). One key toward a deeper understanding of personality and individual differences will come from changing the ways in which psychologists conceptualize them. Specifically, at least some personality differences can be conceptualized as alternative strategies for solving recurrent adaptive problems (9). Some individual differences may reflect differences in the strategies individuals use to solve these adaptive problems (5). Among a variety of character traits, obsessive-compulsive personality traits seem to have been appropriate for guaranteeing human success. Believing in orderliness and preoccupation with details, perfectionism, devoting to work, conscientiousness, parsimoniousness, insisting on well-organized decisions and putting force on others for obeying them, all of these are in contrast with the chaotic life style of borderline, exploitative style of narcissistic, social disregard of antisocial, guardedness of paranoid , social avoidance of schizoid and schizotypal, isolation of avoidant , passivity of dependant, and attention seeking efforts of histrionic trait. While evolutionary psychologists agree that evolution is relevant to all psychological mechanisms, and different hypotheses are trying to

explain personality and individual differences, there has been very little research done on personality from an evolutionary perspective. So, for appraisal of such an assumption a preliminary survey had been accomplished to assess that is there essentially any obvious relationship between obsessive-compulsive traits and personal-social success of people.

Method and Material:

Four hundreds families, who have been chosen randomly among usual clientele to a general medical clinic during a six months period, have been asked as regards the existence of obsessive-compulsive traits, assumed from the diagnostic criteria table in the *Diagnostic and Statistical Manual of Mental Disorders*,5th edition (7), in their highest and lowest successful children. Success was defined broadly as the "greatest obtainable achievement" in social, personal, educational and occupational aspects of life, according to 'their own standards and perspectives'. Mothers, fathers or both of them were asked by a self-reply questionnaire, which included the complete obsessive-compulsive traits, specified with separate checkmark columns for highest and lowest successful children. Besides it had been stressed for responders that such definition of "success" could only be justifiable, when there was no external and

inevitable factor responsible for its achievement or frustration. The families with less than two children or children less than 14 years old were excluded from the study. If there were more than two children above 14 years old, the parents were asked to choose among all of them the highest successful and the lowest successful ones by their own decision, with respect to their personal socio-cultural values.

Statistical analysis:

Data were analyzed by z test for comparison of proportions. Significance also was defined as a p value equal to or less than 0.05. MedCalc Statistical Software version 15.2 was used as statistical software tool for analysis.

Results:

The demographic characteristics of the children have been shown in table 1. Eight hundreds children, who were inquired in this regard, included 393 male and 403 female cases ($z = -0.70$, $p < 0.48$, 95%CI = -0.06, 0.03). In this regard, test for the difference between two Independent proportions did not show any gender-based significance among highest ($z = 0.56$, $p <= 0.57$, CI 95%=-0.04, 0.08), and lowest successful cases ($z = -1.55$, $p < 0.11$, CI 95& = -0.12, 0.01).

According to the results, except for stubbornness, all of the remaining traits were significantly more prevalent among the highest successful children in comparison with the lowest ones (Table 2)(Figure 1).

“Perfectionism” was the most prevalent trait among successful group of children, tagged along by “Rigidity regarding Morality and ethics”, “orderliness and devoting to details” and “Devoting to work and avoiding leisure”. Incidentally, “obligating others to submit his or her style of behavior”,” collecting objects and money” and finally “parsimoniousness”, as well were the least prevalent traits.

Discussion:

Over the last decade, an increasing number of studies have demonstrated individual differences in a specific behavioral trait over time, between the same behavior across different environmental conditions, or associations between different behavioral traits. While such studies are necessary to provide the material that will help us generalize the existence of personality or behavioral syndromes across the world, they are restricted by their descriptive nature, and it is necessary to move from this descriptive phase of personality studies to the experimental study of the ecological relevance and fitness consequences of

personality differences (10, 11). A lot can be learned about the evolution of personality by examining in detail how multiple ecological factors can shape—over the short- or long-term—consistent behavioral differences among individuals. Ecological studies of personality have shown that natural selection acts on inter-individual behavioral variation (12). Advances in evolutionary personality psychology afford a reformulation of units of analysis long considered fundamental to the field. First, it offers a non-arbitrary formulation of *fundamental human motives*—a domain historically plagued by different and incommensurate frameworks with no basis for adjudication. Second, it provides a functional analysis of *personality traits* anchored in motivational individual reaction norms and adaptive individual differences that enable the field to move beyond the important descriptive advances currently achieved (13). According to the findings of the present assessment, obsessive-compulsive traits are prominent characteristic of successful people. So it may possibly be supposed that: 1) Obsessive-compulsive traits, in general may promote attainment of valuable individual-social goals and 2) if this inference could be factual, then such spectrum of traits might be theoretically essential for foundation and progression of civilization through history of human being, and last of all, 3) such kind of difference may be found as well at the bottom of developmental differences among various societies. Although, every society is undoubtedly a

mixture of people with a blend of traits, but such combination is not inevitably homogeneous among them. Alternatively, although we don't know that how much genetic heritage or environmental acquisition , separately, contribute to the behavioral substrate of human being, but we are inform that both of them are major determinants in this process. Surely, the genetic component of behavior and its acquired one (by training or modeling) are capable of reinforcing each other in the context of society. Such a finding, no doubt, could not be in full harmony with the perspectives of Skinner, Pavlov, Watson, or cultural-historical viewpoints of Vygotsky, as historical pioneers of behaviorism and/or environmentalism in the last century. Since the emphasis had been on a mixture of nurture plus nature, as resources of final consolidation of character, so it is not presentable equally by every person in every time; or better to say everybody may not be appropriate for every task and personality traits may play role here as social marker of responsibility. On the other hand an interesting amount of data has led some to conclude that obsessive-compulsive behaviors are evolutionarily conserved and obsessional phenomena function as an *off-line* risk avoidance process, designed to lead to risk avoidance behavior at a future time, thus distinguishing it from anxiety and related phenomena as *on-line* emotional states, designed to lead to the avoidance of immediate and direct risks (14, 15, 16). Also, it is mentionable that Individuals with antisocial

personality disorder (APD) will show a lower frequency of social content obsessional thoughts than the general population (17, 18). The suggestion that individuals suffering from OCD or APD lie on opposite ends of the risk seeking and harm avoidant scale is consistent with this prediction (19). Besides, Obsessional patients should be more socially conforming than the average person and less prone to risk taking (19). Nevertheless, evolutionary psychology should be construed to include all inquiry that takes evolution into account, rather than as a subset of evolutionary perspectives which leans solely on adaptationism. While any explanation of human behavior should be grounded in biological evolution, this does not, of course, mean that environment, culture, and context are any less important to these analyses (3). Small sample size, lack of exact operational definition and valid measure for evaluation of personal and/or social success, limitation of research to a middle-class urban area, lack of direct observation and appraisal of the offspring and relying on parent's subjective judgment were among the weak points of this assessment. Further large practical randomized, well-designed, appraisals are necessary to evaluate the evolutionary effects of particular characters on civilization of human being.

Conclusion:

Obsessive-compulsive personality traits, at a reasonable level, seem to be one of the main behavioral factors that may help the person toward attainment of personal and/or social success.

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Table1 - Demographic characteristics of the highest and lowest successful children in four hundreds participant families.

Successful Children	Male	Female	Total
Highest	204	196	400
Lowest	189	211	400
Total	393	407	800

Character	Number of Highest successful	Number of Lowest successful	z	p-value	95% CI
Orderliness and devoting to details	212	36	13.45	0.00	0.37,0.50
Perfectionism	284	124	11.31	0.00	0.33,0.46
Devoting to work and avoiding leisure	208	92	8.47	0.00	0.22,0.35

Rigidity regarding Morality and ethics	252	103	10.82	0.00	0.31,0.44
Collecting objects and money	184	132	3.76	0.00	0.06,0.19
Obligating others to submit his or her style of behavior	188	92	7.11	0.00	0.17,0.30
parsimoniousness	184	101	6.20	0.00	0.14,0.27
stubbornness	168	164	0.28	0.77	0.053,0.07

Table2 - Prevalence of obsessive-compulsive personality traits among the highest and lowest successful children.

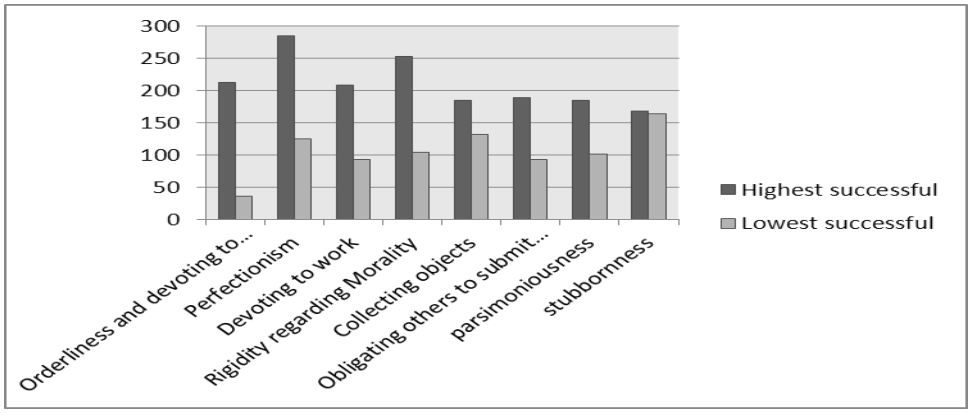

Figure 1 – Comparison of obsessive-compulsive traits among highest and lowest successful children.

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