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Annals of Psychiatry and Mental Health

Research Article

A Cross-Sectional Study Examining Motivation and Competence in Adult ADHD Patients

Luis Javier Irastorza* and Jose Maria Bellon

MHC Arganda del Rey, Sureste Hospital, Arganda del Rey, Spain
Hospital General Universitario Gregorio Marañon Instituto Estadística, Spain

***Corresponding author**
Luis Javier Irastorza, MHC Arganda del Rey, Sureste Hospital, Arganda del Rey, Madrid, Spain, Tel: 0034630987811; Email: ljirastorza@telefonica.net

Submitted: 25 September 2017

Accepted: 24 October 2017

Published: 26 October 2017

ISSN: 2374-0124

OPEN ACCESS

Keywords
- Adult ADHD
- Competence
- Motivation
- Personality dimensions

Abstract

Motivation and competence are both executive functions that are impaired in some ADHD patients. Based on a cross-sectional study of adult ADHD outpatients, we observed a correlation between personality dimensions (conscientiousness) and inattentive and combined ADHD subtypes.

We undertook a review of the literature on competence and motivation and adapted it to this type of patient. We found that low levels of competence, self-discipline, and achievement-striving (NEO-PI-R) can impact motivation.

We conclude that the motivational deficit in these individuals, associated with a lower level of competences, can affect their self-esteem and wellbeing.

INTRODUCTION

Adult ADHD is characterized by marked heterogeneity in cognitive underperformance, involving multiple cognitive pathways [1,2]: memory, inhibitory control, delay aversion, decision-making, timing, response variability, reward, and motivation, and emotional regulation. The levels of deficit within each of these domains differ more or less independently within patients with ADHD and there is considerable overlap between neuropsychological performance in ADHD patients and normal controls [3]. Furthermore, in some patients, cognitive deficit(s) may not remain stable and can, in fact, be context-dependent.

Anatomically, the meso-accumbens dopamine pathway projects from the ventral segmental area in the midbrain to the nucleus accumbens in the ventral striatum. It is fundamentally involved in reward and motivation and has been hypothesized to underpin the deficits in these areas seen in ADHD [4].

However, having ADHD is not only a matter of being inattentive and overactive. Motivation and executive functioning lie at the core of the etiology of attention-deficit/hyperactivity disorder (ADHD) and support multicomponent models that emphasize both mechanisms [4]. The emergence of motivationally-based ADHD models shift the focus from inattention to impaired motivation and offer an alternate view of the issues people with ADHD have with task completion [5,6]. Delay aversion represents a motivational style characterized by negative reactions to delayed reward and preference for immediate versus delayed rewards. Individual differences in delay aversion tasks have been proposed to be the result of hypofunctioning dopamine systems that result in altered reactions to reward [7].

Other issues individuals with ADHD face with respect to motivation and competence in the tasks set for them are:

Self-motivation: self-motivating to stick with a task when there is no immediate reward in doing so.

Self-discipline or self-stopping: delaying gratification or delaying others in the social group to attain long-term goals.

Self-management: considering past and future consequences before acting.

Self-organization and problem-solving: planning the sequence of activities in daily life and the steps needed to reach goals on a daily basis; improving new plans or developing new behaviors to overcome obstacles that may arise in attempting to meet these goals.

Self-activation: beginning a task (more than the ability to maintain motivation).

When seeking associations between personality dimensions (NEO-PI-R) [8] and ADHD, several authors have found the following: less Agreeableness, Conscientiousness, and Extraversion, and more Neuroticism in ADHD than in

controls [9-11]. Conscientiousness encompasses facets such as order, competence, self-discipline, achievement striving, and deliberation.

The purpose of this study is to examine the personality dimensions that have to do with motivation and competence in adult ADHD patients, based on the current body of literature regarding these constructs.

MATERIALS AND METHODS

The following instruments were administered to 54 outpatients attending the Arganda MHC (Sureste Hospital), with a DSM-V diagnosis of ADHD: CAARS-SL to assess ADHD [12] and NEO-PI-R [8] for personality dimensions. The sample of this study is based on a preliminary work [11], including patients with mood, anxiety, and personality disorders in the ADHD group and excluding other ones with drugs and psychotic disorders and mental retardation.

Several theoretical constructs about competence and motivation are discussed as they pertain to these patients.

Competence

Competence can be defined as the fundamental motivation that helps people develop and adapt to their environment, learning to use tools to achieve competence in experiences and specific results [13]. Some authors contemplate achievement as a competence and achievement striving as a competence of motivation [14,15].

Competence and motivation consist of various components and ADHD patients function better at some than others [16,17]:

1) Competence as effectiveness**:** Choosing tasks that enable them to improve their own development and abilities that are neither very easy nor very difficult (these patients are better motivated and concentrate better on these tasks, focusing much of their attention and not struggling with their working memory). They include their hobbies or sports, creative facets at which they can stand out. There is no motivational deficit in these areas.

In achievement striving individuals, competence depends on: choosing challenging tasks, achieving self-referenced information about their development, self-feedback, and having direct, personal control over the outcome of the task.

2) Competence as success**:** This presupposes the previously seen prerequisites of experience: personal responsibility, direct feedback, freedom to set and reach challenging goals. They also include using measures of motivation of procedure (the chance to apply their know-how and abilities; i.e., knowing how to do it, having the ability called for by the procedure). These patients will have difficulties if they are complex or no previously learned tasks, whereas they will find it easier to carry them out if they have automated these tasks or if they receive support or supervision.

3) Competence as ability**:** Reasons can have a causal effect in the development of abilities (the domain of ability better positions the individual to attain a specific incentive from the reason and thereby satisfy their motivational need). If this ability is trained and repeated, it will be easier for these individuals to learn. In contrast, the reasons can interact with existing abilities to mold behavior.

Five elements of competence have been proposed [18] : metacognitive abilities (understanding and the person's control of their own cognition; which is complicated for ADHD patients), learning (components of knowledge acquisition: encoding, selective combination and comparison):thinking (components of functioning: critical analysis, creative, practical, and wisdom-based), knowledge (declarative, or knowing that, and procedural, or knowing how),and motivation.

Patients with ADHD may also associate learning disabilities, have more creative and practical thinking and less analytical and wisdom-based thinking. They may have a faulty working memory for critical and wisdom-based thinking. It may be very hard for them to be aware of metacognition and they may be less motivated, particularly to achieve long-term goals [16].

Kinds of motivation

Achievement striving [19]: If high, they seek moderate challenges and risks. They are attracted to tasks that are neither very easy nor very difficult. They are fighters and constantly strive to improve.

This type of motivation can be quantified using the NEO-PI-R, within the sub-facet of "achievement striving" under the dimension of conscientiousness. ADHD patients score low for this.

Motivation toward competence or self-effectiveness: the person's beliefs about their own ability to overcome the problem at hand, to achieve the expected success [20]. This would be included in the sub-facet of competence and self-discipline, under the heading of conscientiousness, also found to be low in this work.

Table 1: Mann-Whitney correlation between CAARS-SL Inattentive (score A), with NEO-PI-R.

	Hyperactive CAARS	Inattentive CAARS	Combined CAARS
Conscientiousness		-4 **	-2.26 *
Competence	-1.85	-3.16 **	-2.5 *
Dutifulness	-2.56 **	-2.77 **	-3.27 **
Order		-4.1 **	-1.76
Self-discipline	-2.27 *	-4 **	-2.74 **
Deliberation	-1.74	-1.85	-1.94
Achievement striving		-4.1 **	
P < 0.01 **, p< 0.05 *			

RESULTS

The survey was conducted among 54 outpatients: 23 males (42.6%) and 31 females (57.4%); mean age 36.63, standard deviation 12.24; marital status: 20 married or partnered (37%), 25 single (46.3%), 7 separated or divorced (13%). Inattentive ADHD was present in 44 (81.5%, 34 of them as combined) and combined ADHD in 34 (63%).

The correlation between personality dimensions, under the facet of conscientiousness and its 6 sub-facets, and self-report ADHD scale (CAARS-SL) is shown in Table 1.

Greater association is found between conscientiousness and inattentive than with the combined and hyperactive subtypes. Dutifulness and self-discipline are the sub-facets that are negatively correlated to all three ADHD subtypes.

DISCUSSION

We have attempted to find an association between the different sub-facets of conscientiousness and competence and motivation in adult ADHD patients.

Other authors have found similar results, albeit using a different scale:

The scores on the Achievement scale (surrogate trait measure for motivation) was significantly lower in ADHD participants, which was significant for the CAARS A ($r=-0.43$, $p<0.005$), CAARS E (inattention) using the Multidimensional Personality Questionnaire (MPQ) [5, 21]; the lower the scores on the achievement scale, the greater the inattention.

In our study, not only has motivation been found to be lower in the inattentive, but also in the combined subtype (the latter having lower levels of self-discipline and dutifulness), contributing to aggravate symptom severity.

These results may imply that the lower motivation these patients have is due, in part, to lower competence, self-discipline, conscientiousness, and achievement striving. The greater association found with the inattentive subtype may be due to their lower levels of competence and skill and capacities.

This study presents the following limitations: small sample size and its cross-sectional design, which does not allow inferences about causality and the temporal stability of the associations indicated by our data. These data derived from adults cannot be extrapolated to adolescents.

Its strengths lie in that it attempts to relate the current literature on motivation and competence with adult ADHD patients' clinical data.

CONCLUSIONS

The motivational deficit in individuals with ADHD applies more to long, non-immediate tasks. These patients think they perform less and have less confidence and motivation to reach their goals, in our clinical experience.

Their competence and wellbeing should be bolstered with specific abilities for each patient and other with the help of learning. They battle with their need for prompt gratification and loss of motivation. Learning must be continuous, regulated, consistent, and minimally motivating for them.

Future studies are called for to assess the directionality of the association between inattention and motivation deficit (i.e., poor motivation results in inattention or inattention leading to poor motivation; perhaps even reverse causation).

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Cite this article

Irastorza LJ, Bellon JM (2017) A Cross-Sectional Study Examining Motivation and Competence in Adult ADHD Patients. Ann Psychiatry Ment Health 5(6): 1118.