

Success determinants of full-time researchers at hospitals. A perceptions-based study

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INTRODUCTION

Different factors affecting performance and productivity of researchers have been described in the literature. Namely individual factors, contextual and organizational factors, and psychological factors.

Most studies have been carried in an academic environment, mainly in laboratories. But these factors may affect researchers activity in a different way within the essentially clinical hospital environment. In this work we investigate the extent to which different individual and institutional characteristics can influence performance and productivity of researchers within the hospital setting.

The Miguel Servet (MS) Research Contract Programme is one of the most important strategic actions being undertaken by Spanish Administration in order to enhance the research activity at public hospitals. The Programme is aimed at incorporating researchers with excellent training within the National Health System (NHS) in order to improve its research capacity and to promote the creation of stable research groups within the NHS.

After the six-year contract, MS researchers' activity and results are evaluated anew for those who wish to apply for a further five-year contract through the Researcher Stabilization Programme. To be evaluated positively, researchers must demonstrate a certain productivity in high impact journals together with leadership (i.e. leading of funded research projects and first/last authorship of articles).

METHODOLOGY

POPULATION

The 367 researchers funded by first eighth calls (1998-2005) of the MS Programme

RESEARCH INSTRUMENTS

We used a web-based survey to obtain data from the population of MS researchers (72.2% response rate). Data on research activity and productivity were obtained from the activity reports submitted by researchers

SAMPLE

174 researchers who finished its six-year contract and who answered the survey

VARIABLES

Dependent variables (research performance, productivity and leadership):

art_N: number of articles in WoS journals

art_FL: number WoS articles as a first or last author

proj_N: number of funded projects

art_Q1: number of articles in first-quartile WoS journals

art_Q1_FL: number of WoS articles in Q1 journals as a first or last author

proj_PR: number of projects as principal researcher

Independent variables

a) Satisfaction with... (in a 1 to 5 scale):

- Scientific quality of the host group
- Scientific quality of the host centre
- Research autonomy
- Decision-making capacity
- Leadership
- The conditions of the facilities and space available
- Job stability expectations

c) Self-assessment of their contribution to the relationship between clinical and basic researchers (1 to 5 scale).

e) Type of research performed (basic, clinical, both).

b) Satisfaction with the resources at their disposal (1 to 5 scale):

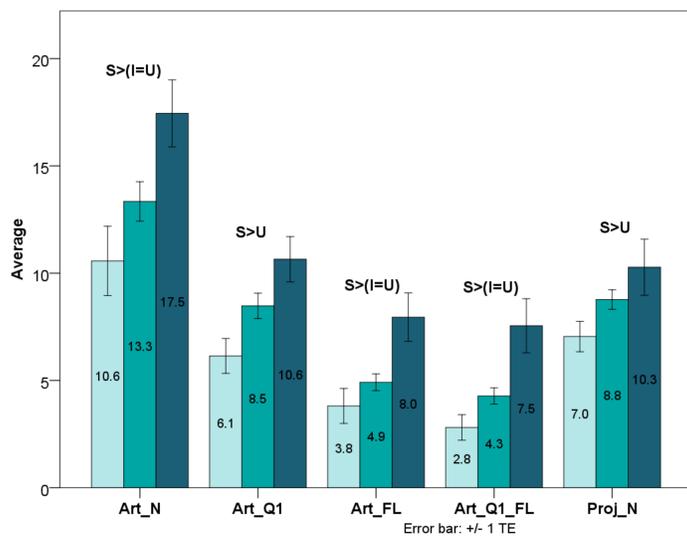
- Human resources: technical and support staff and researchers in training
- Material resources: infrastructures, equipment and research materials
- Support units
- Economic resources

d) Creation of new research groups

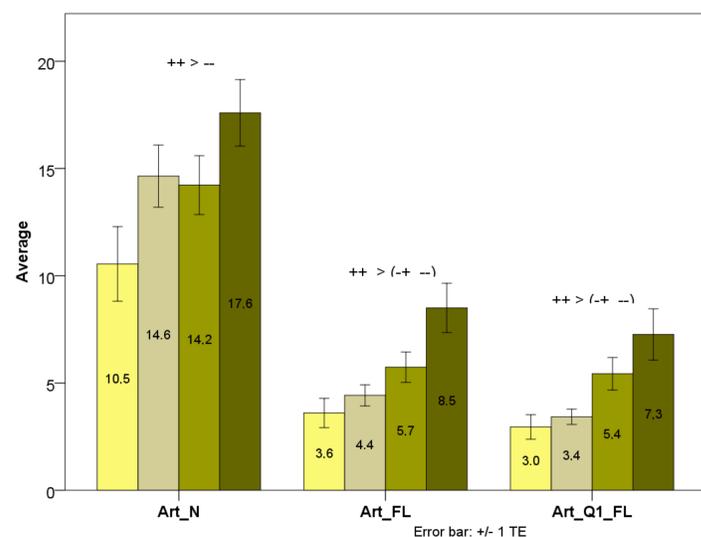
- Yes, my incorporation has led to the creation of a new research group I lead.
- No, I stayed in a already existing group.

DATA ANALYSIS

In order to determine whether the means for paired samples were systematically different, we applied the Student's t-test, adjusted using the Bonferroni correction.



Satisfaction with human resources
 Unsatisfied (light blue), Intermediate (teal), Satisfied (dark blue)



Satisfaction with Autonomy/Leadership and Environment
 -- Unsatisfied F1F2 (yellow), --+ Unsatisf. F1 / Sat. F2 (light green), +- Sat. F1 / Unsatisf. F2 (medium green), ++ Satisfied F1F2 (dark green)

Factorial analysis:
 F1 (Autonomy and Leadership): Satisfaction with research autonomy, decision-making capacity and leadership
 F2 (Environment): Satisfaction with scientific quality of the host group, scientific quality of the host centre, conditions of the facilities and space available

Productivity and the capacity to obtain research projects are related with researchers' satisfaction with the human resources in their groups.

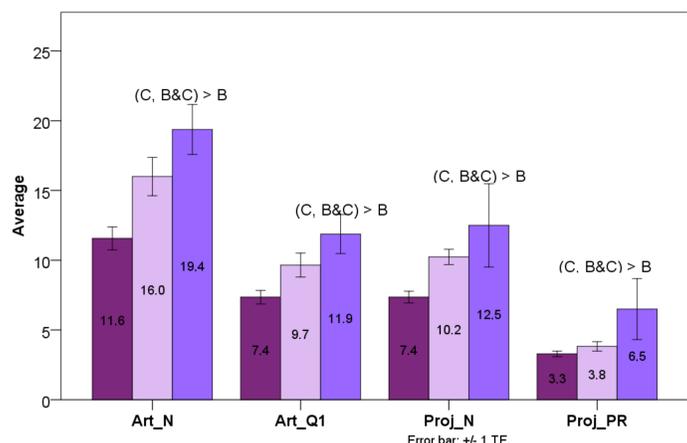
Art_N increases by 57% in satisfied versus unsatisfied researchers.

The capacity to publish in top journals is also influenced by this satisfaction: art_Q1 increased by 65%.

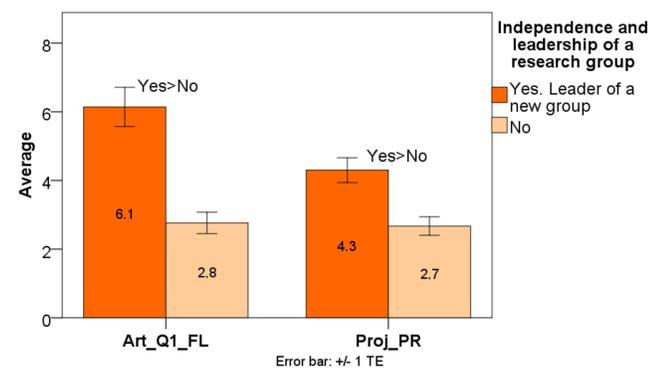
Satisfied researchers participated in 44% more projects than those unsatisfied, but did not obtain a significant higher number of projects as principal researcher.

Productivity is also related with researchers' satisfaction with their environment and their autonomy and leadership.

Researchers satisfied with both autonomy/leadership and environment published 66.8% more Art_N and 2.4 times more Art_FL than those unsatisfied with both factors.



Type of research performed
 Basic (dark purple), Basic & Clinical (medium purple), Clinical (light purple)



Independence and leadership of a research group
 Yes. Leader of a new group (orange), No (light orange)

Productivity in WoS journals is also related with the kind of research performed.

Researchers doing clinical research published more articles (65% more than those doing basic research and 21% more than basic+clinical researchers), more art_Q1(+ 70% than basic) and obtained a higher proj_N and proj_PR (+69% and +98% respectively).

Leaders of a research group more than doubled the number of art_Q1_FL by researchers that stayed in an already existing group, and increased proj_PR by 61%.