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Research Article

Academics' Career Capital and Career Satisfaction: The Mediation Effect of Research Productivity*

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Abstract

The competitive advantages of knowledge-producing institutions are their wise, creative, enthusiastic, and excited academicians and their competences. Currently, questions come to the fore as to which variables affect the research performance of university-employed academicians, and what role does research performance have in the relationship of these variables with career satisfaction. In answer to these questions, this study hypothesizes that career competences (capital) will positively affect academic productivity and career satisfaction, and that academic productivity will have a mediator effect on the relationship between career competences and individual career satisfaction, using the groundwork of the competence-based career theory conceptualized as *intelligent career* by Arthur, Claman, and DeFillippi. With the aim of empirically testing these hypotheses, as well as hypotheses that establish the sub-dimensions of these research questions, two field studies (including one pre-study) have been carried out on academicians working for universities in Turkey. The results reveal that career capital has significant effects on the research productivity of academicians and that research productivity has a mediator effect on the relationship between career capital and career satisfaction.

Keywords

Research productivity • Academicians • Career competencies • Career satisfaction

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Most organizations in today's information economy are regarded as working with knowledge (Powell & Snellman, 2004) and employing knowledge workers (Horibe, 1999). In a knowledge economy, knowledge is produced and transformed into value through the contributions of research institutions (universities), industry, and government; universities, where knowledge is produced, establish the first leg of the tripod (Etzkowitz, 2003). Knowledge-producing institutions have a competitive advantage in their smart, creative, spirited, and lively academicians and their competences (Baldwin, 1990; De Janasz & Sullivan, 2004). Studies reveal that academic articles written by academicians and published in prestigious journals account for more than 50% of the variance in university ranking (Siemensa, Burtonb, Jensenb, & Mendoza, 2005). At present, which variables affect the research performance of academicians in universities and what role does research performance have in the relationship between these variables with career satisfaction are the questions that have come up.

In answer to these questions using the competence-based career theory, which Arthur, Claman, and DeFillippi (1995) conceptualized as *intelligent career*, for its base, this study hypothesizes that career competence, or career capital, positively affects individual academicians' productivity and career satisfaction and that individual academic productivity will have a mediator effect on the relationship between career competence and individual career satisfaction. With the aim of empirically testing these hypotheses, as well as hypotheses that establish the sub-dimensions of these research questions, two field studies, including a pre-study, were carried out on academicians working for universities in Turkey.

Career Satisfaction

Career satisfaction is a reflection of the internal attitudes of individuals towards their career and the developments in their career; it forms a subjective aspect of career success (Stebbins, 1970). In accordance with contemporary career approaches, knowledge workers give more importance to psychological career success, which is also known as career satisfaction (Arthur & Rousseau, 1996; Hall, 1996; Janasz & Sullivan, 2004). Career satisfaction, or psychological career success, emphasizes the individual over the organization and considers that the internal standards of an individual are formed through the perception of satisfaction as a function of their success in their social environment; it reveals to some extent an individual's level of happiness (Ballout, 2007). From this perspective, career satisfaction reveals an individual's quality of life.

Contemporary Career Approach and Career Competences

The contemporary career approach has been widely studied through a theory first claimed by DeFillippi and Arthur (1994) as the *competency-based career* and later revised by Arthur et al. (1995) as the *intelligent career*. According to new career understanding, individuals need to be *employable* (Fugate, Kinicki, & Ashforth, 2004) to be able to realize their careers among different organizations. For this purpose, individuals improve their career competences by consciously investing in their careers while simultaneously performing their current duties (DeFillippi & Arthur, 1994; Erdoğan & Aytekin, 2012; Tams & Arthur, 2010). These career competences generate career capital, which has value for both careerists and employers (Inkson & Arthur, 2001; Parker, Khapova, & Arthur, 2009).

Existing literature related to career competence is concentrated on three main areas. The first of these is the research that aims to form the conceptual framework of career competences. In this field, what career competences can be investigated are, and numerous concepts are stated and defined. For instance, Jones and DeFillippi (1996) argued that careerists should have the competences of know-why, know-how, know-whom, know-what, know-where, and know-when. Some studies aimed to identify and define the factors that generate and improve career capital. In short, these studies point out that factors such as career commitment, organizational career applications, work experience, career evaluation, and career training are predictors of career competence (Dickmann & Harris, 2005; Kong, Cheung, & Song, 2012).

The third field of study is the output of career capital, which is mainly related to career capital and intelligent career theory. Most of these studies focus on the relationship between career capital and career success, revealing that career capital positively affects career success (e.g., Arthur, Khapova, & Wilderom, 2005; Baruch, 2004; Eby, Butts, & Lockwood, 2003; Ng, Eby, Sorensen, & Feldman, 2005; Van Den Born & Van Witteloostuijn, 2013). However, the impact of career competences on employees' individual productivity (work performance), impact of employees' individual productivity on their career success, and the mediating role of individual productivity on the relationship between career capital and career success have been ignored. This study investigates the effect of career capital on individual productivity (work performance) and career success, as well as the mediating role of individual productivity (work performance) on the relationship between career capital and career success. Career competences are treated through the variables of career identity, career commitment, career insight, desire to develop professional knowledge and skills, and level of English language skills.

Career Identity

Career identity is a motivational variable that answers the question of why, affects career management (Fugate et al., 2004; Noe, Noe, & Bachhuber, 1990), steers the career motivation of the careerist, and reflects to what degree employees define themselves with their work (Day & Allen, 2004; London, 1983).

In understanding contemporary careers, employees identify themselves not with the organization they work for (e.g. university) but with their title or job (e.g., academician; DeFillippi & Arthur, 1994; Khapova, Arthur, Wilderom, & Svensson, 2007). By having a mental compass and source of motivation, they define themselves within the context of their career by answering the questions *who am I* and *who do I want to be* (Fugate et al., 2004). The existence of an intuitive compass prevents the careerist from becoming confused and enables them to have clear vision to define their career goals. As a result, steering all energy and efforts into a specific field will increase the probability of success for the careerist (McArdle, Waters, Briscoe, & Hal, 2007).

In the contemporary career approach, knowledge workers define their career identity themselves according to their own goals, desires, and meaningful works (Hall, 1996; Khapova et al., 2007). When compared to others, careerists who define their own identity themselves have clearer goals, a higher level of energy and motivation to realize their goals, higher self-confidence, and are more likely to be defined by their work (Inkson & Arthur, 2001; Suutari & Makela, 2007). In understanding contemporary careers, academicians define themselves not as an employee of the organization they work for, but by saying “I am a researcher” in contemporary careers (Khapova et al., 2007). Therefore, academicians’ career identity reflects how they describe themselves and the job preferences they are suited for (De Janasz & Sullivan, 2004). Academicians who define their career identity through their career goals and what they want to accomplish gain the belief, motivational energy, and self-confidence they need to realize their goals (Inkson & Arthur, 2001). For instance, academicians who define themselves as a researcher can be expected to focus on research and publications, and thus be more productive.

One of the most important results of career identity is careerists’ internalization of their job and increased contribution. According to this, a careerist who has a definite career identity tries to pursue work in spite of difficulties and increases the contributions to their work (Meijers, Kuijpers, & Gundy, 2013). One of the reasons for this can be that a careerist values career satisfaction more than satisfaction in other areas of life (London, 1983). Thus, a careerist may be expected to carry more work-related activities and increase productivity. In addition, a positive relationship between these two variables should be expected due to the fact that workers with a career identity value career satisfaction.

H1a) Career identity positively affects academic productivity.

H1b) Career identity positively affects career satisfaction.

Career Commitment

Career commitment reflects the employee's motivation to do their job; it is defined as a person's attitude towards a specific profession (Blau, 1985). According to Blau (1985), career commitment must be broadly expressed as commitment to a job. Career commitment and professional commitment are used interchangeably in the literature and measured by the same scale (e.g., Arnold, 1990; Aryee & Tan, 1992; Blau, 1985, 1999).

Crites (1969), based on professional motivation theories, argued that people are motivated because they need to be successful professionally and that they want to feel satisfied. In a study supporting these claims that was carried out in the film industry, the most important instinct for workers in sustaining their career was emphasized as the strong desire to make movies (Jones & DeFillippi, 1996). Academia is a field that requires the strongest desire to do research, become a scientist, and use cognitive and innovative competences (Baruch & Hall, 2004). In summary, professional commitment encourages employees to work with greater motivation and persistence.

According to Colarelli and Bishop (1990), the longitudinal nature of a career makes career commitment, as an extension of career identity, important for improving and sustaining an individual's career. This is because careerists with career identity and career commitment endeavor toward the same goals and, consequently, experience more success in realizing their aims. For instance, a careerist with high career commitment is more enthusiastic about improving job-related knowledge and skills (Kong et al., 2012), consciously and consistently exerting effort in the same direction. This way, a careerist gains more professional competences, knowledge, and skills (Crant, 2000; Kong et al., 2012), as well as greater work performance and career success.

On the other hand, career commitment as a component of an interval career encourages careerists to define themselves through their work (career identity) and deal with any problems they may face (Aryee & Tan, 1992). In other words, an individual with career commitment is more likely to demonstrate stronger determination, which positively affects career resistance, and this motivates the individual to overcome career boundaries (Ituma & Simpson, 2009). As a result, career commitment is thought to be able to positively affect both academic productivity and career satisfaction.

H2a) Career commitment positively affects the productivity of academicians.

H2b) Career commitment positively affects the career satisfaction of academicians.

Career Insight

Career insight refers to realistic career expectations, awareness of strengths and weaknesses, and the ability to have clear career goals (Noe et al., 1990). Careerists with high career insight have clear and reasonable goals, realistic expectations, and objective awareness about themselves in terms of their strengths and weaknesses (Day & Allen, 2004; London, 1983; Suutari & Makela, 2007). This type of careerist has strong competences of career planning and making career decisions (Noe et al., 1990).

Career insight has often been claimed to enable a careerist to choose suitable work and thus reach career success (Van Den Born & Van Witteloostuijn, 2013). With a similar approach, Noe (1996) has claimed that focusing on certain career goals positively affects work performance, as high work performance is the primary condition for most career goals. Careerists who have career goals are aware of this. Thus, it may be expected that academicians who are aware of their strengths and weaknesses and have the ability to make decent career plans will have higher productivity and career success.

H3a) Career insight positively affects academicians' academic productivity.

H3b) Career insight positively affects academicians' career success.

Professional Knowledge and Skills

According to the human capital approach, which deals with the knowledge and skills an individual has (Becker, 1962), career improvement and success depend on the quantity and quality of human values; each additional human capital has a positive effect on a careerist's professional and career development (Ballout, 2007; Becker, 1964; Ng et al., 2005). In the related literature, individuals' education is regarded as a sub-dimension of human capital (Wayne, Liden, Kraimer, & Graf, 1999).

In contemporary career understanding, knowledge workers are often emphasized to tend to voluntarily and consciously gain human capital (skills and competences) that are not unique to a particular organization but are transferable and flexible for use anywhere (Eby et al., 2003; Noe, 1996; Suutari & Makela, 2007). Because these competences include professional skills, they not only support a career but also the role of careerists in their current job, as well as affect work performance (Ballout, 2007; Suutari & Makela, 2007).

Academicians need to be knowledgeable and aware of current developments and new theories and methods in their field to be successful in their career. This is a requirement of the nature of academia, and thus continuous self-improvement has

become the coin of the realm (Baruch & Hall, 2004). It is not at all possible for an employee to gain every required competence through formal education. However, an alternative way to acquire the required competences is by participating in related the educational trainings and developmental activities (Rowold & Kauffeld, 2009).

Careerists who have more in-depth knowledge of their profession, more effective skills, and other competences also have high self-reliance, more courage to intervene in their career when needed, and a stronger professional identity (Inkson & Arthur, 2001). In addition, careerists of this kind usually improve themselves for new work activities and have a healthier and wider career perspective (London & Smither, 1999). As a result, academicians' proactive attitudes toward learning new information, acquiring new skills, and self-development result in refreshment and acquirement of new knowledge, skills, and competences. Thus, they are able to have better work performance and career satisfaction.

H4a) Developing professional knowledge and skills positively affects academicians' productivity.

H4b) Developing professional knowledge and skills positively affects academicians' career satisfaction.

Level of English Language Skills

According to Suddaby (2010), who is the Academy of Management Review's editor, a decent essay needs a clear theoretical structure, which requires clear descriptions and the ability to use language effectively. Similarly, Hacking (1975) argues that every theory has a philosophy that establishes its substructure, and language is of primary importance to understand, convey, and elucidate this philosophy to others. Because English is used by countries that are developed in science, such as the USA, Canada, England, Australia, and New Zealand, pioneers in the world's publication outputs have placed English in the high ground in academia. Therefore, academic outputs need to be written in English to be more easily published, understood, and followed by people all over the globe. Keeping this in mind, many non-English-speaking countries encourage researchers to publish their work in English (Baruch & Hall, 2004).

Academicians' success depends to some extent on how much they follow and know about the developments in their field (e.g. new theories, practices, statistical methods), sometimes even outside of it (Baruch & Hall, 2004). Considering that English is the language of science, this success also depends on one's ability to use English. Effective use of English is of critical significance for academicians, not only for reading, comprehending, and writing, but also for communicating better and

building relationships with their colleagues from different countries, similar to other business branches (e.g., Cappellen & Janssens, 2008). English-speaking individuals, particularly in non-English-speaking-countries, have been observed to perform better when networking, as it heavily relies on English language skills (Ismail & Rasdi, 2007). A quote from academicians interviewed in the scope of Ismail and Rasdi's (2007) qualitative study is as follows:

I was invited to international conferences at various levels due to my English language skills. Reactions towards my studies were quite positive. I think my language skills have an important role in this, because they appreciated my presentations and I have been re-invited to every conference I've attended [international network and reputation]. My university appreciated the invitations that I received [intra-organizational network and reputation]. Frankly, this case paved the way for my career development [career success]. (p. 165)

Academicians probably tend to avoid writing and publishing any of their works in English unless they have the ability to use English effectively. The primary reasons for avoiding this would be the difficulties of meeting journal's expectations, comprehending its rules, communicating with editors, and translating, as well as the time spent on this process. Although academicians are capable of producing inventive and original works in their mother tongue, works addressing only the speakers of a particular language may not draw the attention they deserve. As a result, using English effectively enables academicians to communicate and cooperate with other academicians from different cultures and countries, acquire new knowledge and skills, widen their social network, and improve their productivity and career success.

H5a) Ability to use English positively affects academicians' productivity.

H5b) Ability to use English positively affects academicians' career success.

Academic Productivity

Because governments, public institutions, and organizations expect academicians to be more productive (Austin, 2002; O'Neil, Bensimon, Diamond, & Moore, 1999), all universities expect academicians to produce scientific output for development and promotion (Blackburn & Lawrence, 1995; De Janasz & Sullivan, 2004). As a result of these expectations, authorities encourage academic productivity through new regulations. Furthermore, when the nature of academia is considered, one of the most important goals of academicians is known to be publishing new studies for their careers, and publication is the reason of existence for most academicians (Baruch & Hall, 2004). The works they publish and citations they receive usually bring academicians into prominence in academia (Baruch & Hall, 2004; Long & Fox, 1995).

Today's knowledge employees, who self-manage their careers, have more career capital because they have built their own career, determined their career goals, and have clearer career goals. In pursuit of these goals, they improve themselves, endeavor with stronger motivation, and have more productivity and higher career success (Arthur, Claman, & DeFillippi, 2005; Day & Allen, 2004; Fugate et al., 2004; Noe et al., 1990).

Academic productivity is the work output of academicians. Individuals' work output affects their professional and social status. This situation is valid for all jobs. To exemplify, the quality and quantity of surgical operations made by a surgeon brings reputation, demand, income, and career satisfaction to the surgeon. For this, the surgeon needs to have the required competences and qualifications. The results of a case in which the surgeon is unsuccessful and thus unable to gain a reputation would be exactly the opposite. For academicians, publications have the same career role as operations have in a surgeon's career. Academicians who have clear career goals, career identity, self-knowledge about their strengths and weaknesses, and can make plans to overcome weaknesses are expected to be more productive. Seeing that academicians with a large number of publications and who have received citations have better reputations, they will have higher psychological satisfaction. In other words, it is expected that academic productivity will have a mediator effect on the relationship between career capital and career satisfaction.

H6a) Academic productivity positively affects career satisfaction.

H6b) Academic productivity has a mediator effect on the relationship between career capital and career satisfaction.

Purpose and Scope of the Study

The present study aims to investigate the mediator effect of academicians' research performance (productivity) on its relationship with their career capital and career satisfaction. The relationship between career capital and career success, as well as academic research performance and career satisfaction, are expected to be identified as a result. This study is expected to contribute to both the scientific literature and practice in the field. In studies related to career capital and career success, the effect of career capital on work output and the role of work output in the relationship between career capital and career success have been overlooked. The results of this study are expected to help fill in these gaps in the literature.

The present study is thought to offer some implications and ideas on how to perform better for universities that compete for a higher rank in university standings and how

to acquire more eligible students. By figuring out what variables affect academic success, this study will help universities provide better regulations regarding their practices on a number of issues, such as recruitment, employee selection, and the content of their educational programs.

This study involves academicians who have completed their PhD and are currently working in the Republic of Turkey in the Faculty of Economics and Administrative Sciences (including Schools of Management or Political Sciences), Faculty of Engineering and Architecture (including Schools of Civil Engineering, Mechanical Engineering, or Architecture), or Faculty of Education.

Method

Research Design and Sampling

This quantitative study includes the relational descriptive model in order to identify the relationship between career capital, research productivity, and career satisfaction, as well as the mediator effect of research productivity on the relationship between career capital and career satisfaction. Relational descriptive models focus on explaining the existence and degree of relation between two or more variables (Hüsrevşahi, 2015).

In this study, academicians with a doctoral degree employed in a Faculty of Economics and Administrative Sciences, Faculty of Engineering, Faculty of Education, or derivatives of these faculties were chosen as the sampling framework. Stratified and systematic sampling methods were used together. Universities from the three largest cities in Turkey, amongst others, were evaluated as different strata, and samples were chosen from these strata through systematic sampling. Systematic sampling was applied using Microsoft's Excel program. The universities were arrayed using numbers in Excel with respect to the strata. Seven universities in the first strata and 12 in the second strata were then chosen randomly.

A questionnaire was prepared for this study and surveys were collected in person in two phases, one of which was a pre-study. In the pre-study, 102 academicians were surveyed and the suitability, reliability, and validity of the scales were investigated. In light of these analyses, the survey was re-evaluated for the main study. In the main study, 632 questionnaires were collected from 19 universities in 12 different cities over 6 months by contacting over 1,000 academicians in Turkey. In the analysis, 597 fully filled questionnaires were included.

Measuring Instruments

Demographic Variables. In this study, certain demographic variables are expected to affect career capital and career success. For this reason, academicians' marital status, gender, level of income, county, department, and lecture load have been investigated as control variables.

Career Competences. For career identity (sample expression, "I spend my spare time doing activities that will help me at work") and career insight (sample expression, "I have realistic career goals"), measures adapted by Day and Allen (2004) from London (1993) and Noe et al. (1990) were applied, each with seven items. For measuring career commitment, Blau's (1999) scale of six items for health techniques was adopted and used (sample expression, "I certainly want to have a career in academia"). *Developing professional knowledge and skills* was measured through the scale developed by Eby et al. (2003; sample expression: "I seek opportunities to learn for my job"). As for language knowledge, participants' scores from the Foreign Language Exam (YDS) and Foreign Language Exam for State Employees (KPDS) were used as a base. IELTS and TOEFL scores were converted into equivalent grades in accordance with the system of Assessment Selection and Placement Center (OSYM).

Career Satisfaction. The scale of Martins, Eddleston, and Veiga (2002) was used for measuring career satisfaction. However, due to the significance of acquiring new competences and skills in the contemporary career approach, the item "I am happy with my current progress in acquiring new competences and skills" from Greenhaus, Parasuraman, and Wormley's (1990) scale was added to this study's scale.

Scientific Productivity. Scientific productivity was measured by the Web of Science Productivity (WOS Productivity), which takes into consideration publications within the scope of the Web of Science (Science Citation Index [SCI], Scientific Citation Index Expanded [SCIE], Social Sciences Citation Index [SSCI], and Arts & Humanities Citation Index [AHCI]). Although academicians' productivity is known to not be limited to the Web of Science (WOS), due to limitations such as time, cost, and quantity of pages, this study has only taken WOS results into consideration. Despite the fact that measuring scientific productivity has been widely argued in the literature, publications and citations are generally the only considered criteria (Bozeman, Dietz, & Vaughan, 2001; Stephan & Levin, 1997). In this study, it was agreed upon to use the method of Pezzoni, Sterzi, and Lissoni (2012), where publications and citations are considered together. In this method, published articles in the WOS database have been taken into consideration, and a score was calculated for each article by dividing the impact factor of the journal by the number of authors. Total scores collected out of all articles are considered to be the WOS productivity of an academician. The

most important limitation of this method is that people who have been working for academia for a long time will seem as if they are more productive, considering that the number of publications will naturally be higher (Stephan & Levin, 1997). In other words, because the total productivity increases upon experience, an academic who has been working for 25 years and has four articles will seem more productive than another person who has worked for three years and has three articles. For this reason, total WOS productivity of each author has been divided by their years of experience; their annual WOS productivity was calculated and analysis was carried out upon their annual WOS productivity. This way, the years of experience in academia is neutralized. *WOS productivity* was calculated as illustrated below:

$$\text{WOS productivity} = \frac{\sum_{\alpha=0}^m \left(\frac{\text{Impact Factor}}{\text{Number of Authors}} \right)_{\alpha}}{\text{Years Employed in Acadamia}} \quad (1)$$

Preliminary Investigation: Analysis and Results

The scales were originally written in English and translated by the authors into Turkish. The translated version was evaluated through face-to-face discussions and applied in a pre-test. In light of feedback, the survey was revised and translated back into English by two different translators, re-evaluated, and then the Turkish draft version was prepared. Six enlightened academicians with influence in their fields were surveyed, and their feedback helped the project coordinator prepare the final version of the survey.

Since the scales used in this study had been translated from English, reliability and validity of the scales were investigated through SPSS in the pre-study. For factor analysis, variables with an eigenvalue of 1 or higher were regarded as factors; principal-components analysis was utilized as the method and the Varimax technique was used for rotation. A score of 0.45 was used as the basis for factor loading. As a result of the questionnaires that were collected from 79 males and 23 females, the factor structure of the scales of *career identity*, *career insight*, *career commitment* (sub-dimensions of know-why), *developing professional knowledge and skills*, and *career satisfaction* were detected to be suitable; Cronbach's alpha indexes for these scales scored between 0.806 and 0.899. The main study was conducted from these results.

Main Investigation: Analysis and Results

Demographic Data. The results of SPSS analysis revealed that 211 of the participators (35.3%) are from Ankara, Istanbul, and Izmir; 386 (64.7%) are from other cities. As for field of academia, 208 people are employed in a Faculty of

Economics and Administrative Sciences, 177 in a Faculty of Engineering, 211 in a Faculty of Education, and 1 whose field was not specified. Among the participants are 401 males, 190 females, and six academicians who did not specify their gender; 310 are assistant professors, 130 are associate professors, and 58 are professors. Ninety-nine participants either did not share their title. The ages of our participants were as follows: 216 were 35 or younger, 138 were between 36-40, 120 were between 41-45, 64 were between 45-50, 33 were between 51-55, 24 said they were 56 or older, and 2 did not specify their age.

Another issue concerning academicians in Turkey is the number of hours they spend lecturing each week. Among the academicians who stated how many hours they lecture, 122 gave between 0-6 hours of lectures per week, 91 between 7-12 hours, 79 between 13-18 hours, 121 between 19-24 hours, and 118 between 25-30 hours per week. Forty-nine academicians reported that they gave 31 hours or more lectures every week, and 17 of them didn't give any information about this. During data collection, some academicians were observed to have spent up to 54 hours a week lecturing, usually at the request of management. In addition, 132 academicians noted that they give out-of-field lectures. Amongst these academics, 52 of them spent 6-12 hours and 75 of them spent 13+ hours a week lecturing on topics outside of their profession, while 5 of them didn't give any information. Of the participants, 511 got their PhD in Turkey, 25 in the USA, 14 in England, and 13 in other foreign countries; 34 academicians did not share any information about this. Of the academicians, 468 noted the language of education was Turkish, and 87 reported it was English; the rest did not share this information.

Factor and Reliability Analysis. For factor analysis, the method and techniques have been utilized the same way as in the pre-study. Factor analysis was applied on the variables of know-why, know-how, and career satisfaction; their validity and reliability were investigated. Factor analysis has also been applied to the items from three sub-dimensions of know-why: career insight (seven items), career commitment (six items), and career identity (seven items). In the factor analysis, the seventh item from the sub-variable of career identity generated a factor (I am considered for promotions to higher positions, as well). This may be because promotions at universities are not given according to the objective but for different and unrelated criteria (e.g. political ideas, presidency elections, etc.). Thus, deleting these items from analysis was agreed upon. The three sub-dimensions of know-why explained 63.41% of the total variance. The percentage was 71.86% for the variable of developing professional knowledge and skills; and it was 75.17% for the variable of career satisfaction. KMO test scores varied between 0.807 and 0.928, and the Barlett test for these variables was significant at 1%.

Factor loadings of the items were as follows: career insight was between .682 and .796; career identity was between .640 and .749; career commitment was between .746 and .836; developing professional knowledge and skills was between .776 and .879; and career satisfaction was between .837 and .889. The results of Cronbach's alpha reliability test are illustrated in Table 1, where Cronbach's Alpha coefficient was observed to be significant at a level between .84 and .91 for all variables.

Correlation Analysis. The results of two-tailed correlation analysis, mean values of the scales, standard deviation values, and Cronbach's alpha reliability test scores utilized by the Pearson technique are illustrated in Table 1. As shown on Table 1, while no significant relationship was found between age and productivity in analyzing the correlational relationships, this variable is positively correlated with lecture load ($r = 0.185$; $p < .01$), level of English language use ($r = 0.129$; $p < .01$), and career satisfaction ($r = 0.084$; $p < .05$). What draws one's attention to lecture loads is that a negative correlation was observed between out-of-field lecture-loads and career satisfaction ($r = -0.094$; $p < .05$). The variable of productivity, being significant at 1%, had a high correlation with all dimensions of career capital and career satisfaction. An intriguing point about productivity is that the highest correlation of this variable was with career satisfaction ($r = 0.532$; $p < .01$), and with career identity among the variables of career capital ($r = 0.43$; $p < .01$).

All dimensions of career capital were seen to have high correlations between each other and with career capital at a significance of 1% percent (values vary between $r = 0.267$ and $r = 0.705$). One significant point about the variable of career satisfaction is that the second highest correlation it had was with productivity ($r = 0.532$ and $p < .01$) after career commitment ($r = 0.542$ and $p < .01$).

Hypothesis Tests. Multi-linear regression analysis was run to investigate the impact of independent variables on dependent variables (see Table 2). Considering that they may impact these relationships, the variables of department, gender, and lecture load were included in all analyses with the independent variable as control variables; therefore, multi-linear regression analysis was preferred over simple linear regression. Hierarchical regression analysis was then run to look at the mediator role of productivity on the relationship between career capital and career satisfaction.

The results of multi-linear regression analysis are shown in Table 2. The first row of the table includes the basic independent variables, and the second row breaks these down between productivity and career satisfaction (the dependent variables). In the first row of Table 2, the section that includes the dependent and control variables with their F -values in the R^2 -ANOVA model, and the β -values of gender are given respectively. The table only illustrates values that are statistically significant ($p < .05$); consequently, although included in models, the variable of *lecture load*, was not included in the table, as no significant impact had been found in any analysis.

Hypotheses H1, H2, H3, H4, and H5 were tested using multi-linear regression analysis. As shown on Table 2, the explanatory adequacy of the model consisting of career identity and control variables is measured as 0.198 ($p < .001$) for *productivity* and 0.234 ($p < .001$) for *career satisfaction*. The β -value for career identity, which refers to its impact on every unit of variance in productivity, is measured as 0.173 ($p < .001$), and the β -value for career satisfaction as 0.628 ($p < .001$). These results completely support hypotheses H1a and H1b.

Table 2 also illustrates that the variance of the model consisting of career commitment and control variables explains the variance at 0.186 ($p < .001$) for productivity and at 0.303 ($p < .001$) for career satisfaction; β -values are 0.141 ($p < .001$) and 0.604 ($p < .001$), respectively. These results directly support hypotheses H2a and H2b. The model consisting of career insight and control variables explain the variance in productivity at 0.128 ($p < .001$) and in career satisfaction at 0.192 ($p < .001$); the β -value of career commitment is 0.138 ($p < .001$) for productivity and 0.570 ($p < .001$) for career satisfaction. These findings reveal that hypotheses H3a and H3b are supported.

The significant impact of the sub-dimensions of know-how on productivity is verified in Table 2. The explanatory adequacy of the model consisting of professional knowledge, skills, and control variables was measured as 0.185 ($p < .001$) for productivity and 0.267 ($p < .001$) for career satisfaction. Level of English language explains productivity at 0.093 ($p < .001$) and career satisfaction at 0.102 ($p < .001$). These results completely support hypotheses H5a and H5b.

In Table 2's last column, values are given in relation to the impact of productivity on career satisfaction. According to these, productivity explains 28.5% ($p < .001$) of the variance in career satisfaction. In this relationship, the β -value was measured as 1.745 ($p < .001$). Hypothesis H6a is supported by these results.

Hierarchical Regression Analysis. The last hypothesis in this study is that academic productivity has a mediator effect on the relationship between career capital and career success. For this purpose, the mediator impact of productivity, which takes into consideration the published works of academicians in the scope of Web of Science, has been investigated. This database is generally used in the literature related to academic productivity (Bozeman et al., 2001; Pezzoni et al., 2012; Stephan & Levin, 2001).

Baron and Kenny (1986) recommend a four-step model for variable analysis. According to their model, the independent variable has to impact the mediator variable *and* dependent variable, and the mediator variable has to impact the dependent variable. Analyzing the impact of the independent variable and mediator

variable together on the dependent variable must then reveal a significant change in the β -values of the independent variable. The significance of the change in β -value was investigated using the Sobel test. According to this test, if the value of an independent variable conveyed by mediator variable shows a significant difference from zero (Sobel's $p < .05$), a mediator variable impact is noted (MacKinnon, Warsi, & Dwyer, 1995; Sobel, 1982). This test has been used in many studies within the social sciences (e.g., Komarraju, Swanson, & Nadler, 2014).

In this study, the mediator role of published WOS works, which is considered to be significant to academicians on the relationship between career capital and career success, was investigated through hierarchical multiple regression analysis. The variables of department, gender, and lecture load were included as the control variables in all steps of the hierarchical multiple regression analysis. The results of this analysis are shown in Table 3. The first row of the table includes the independent variables. Model 1 consists of independent variables and control variables. Model 2 is established by adding the mediator variable of productivity to Model 1. The values below the models represent their impact on the dependent variable. The first row of Tables 2 and 3 include R^2 , which refers to the explanatory adequacy of the independent variables on the variance of the dependent variable; the second row includes F -statistics. The third line includes the rate of change of R^2 in Model 2 compared to Model 1 (ΔR^2) and the fourth row illustrates the F -statistics for this change $F(\Delta R^2)$.

No autocorrelation has to occur between variables to apply a regression analysis. Durbin-Watson statistic (d) was used to test this feature. A score of ~ 2 on this test means there is no autocorrelation between variables (Durbin & Watson, 1951; Nerlove & White, 1977). As for β -values, beta value of the independent variable (β -InVar), is shown in line 6 and the beta value (β) of mediator variable is shown in line 7. The last line illustrates Sobel's t -statistic, which shows whether there is a significant difference between the β -values of Models 1 and 2.

Data shown in Table 3 illustrates that the variables of career insight and control explain 19.2% of the variance in career satisfaction ($R^2 = 0.192$; $p < .001$). In Model 2 (adding WOS productivity [WOS V]), explained up to 36.2% of the variance in career satisfaction ($R^2 = 0.362$; $p < .001$). When comparing β -coefficients, one unit of increase to every unit of career insight is observed to affect career satisfaction by 0.507 units (β -InVar = 0.570; $p < .001$) in Model 1; this impact decreases to 0.374 ($p < .001$) in Model 2. This decrease causes no difference in the significance of the β -value for career insight. Thus, Sobel's t -test was applied to investigate if this change is statistically significant. As shown in the last row of Table 3, Sobel's t -statistic was significant at 0.1% (Sobel's $t = 8.32$). As illustrated in the career identity column, the

Table 1
Correlation Matrix And Reliability

| | N | M | S | A | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------------------------|-----|-------|------|------|---------|----------|----------|---------|---------|---------|---------|---------|---------|---------|
| 1. Age | 597 | | | | 1 | | | | | | | | | |
| 2. Lecture load | 597 | | | | 0.185** | 1 | | | | | | | | |
| 3. Out-of-field lecture load | 597 | | | | 0.033 | 0.423** | 1 | | | | | | | |
| 4. WOS productivity | 597 | 0.107 | 0.18 | | 0.028 | -0.002 | 0.039 | 1 | | | | | | |
| 5. English level | 597 | | | | 0.129** | -0.178** | -0.111** | 0.269** | 1 | | | | | |
| 6. Career Commitment | 597 | 4.13 | 0.77 | 0.91 | -0.006 | -0.071 | -0.089* | 0.407** | 0.267** | 1 | | | | |
| 7. Career Insight | 597 | 4.12 | 0.64 | 0.90 | -0.002 | 0.00 | -0.041 | 0.337** | 0.247** | 0.495** | 1 | | | |
| 8. Career Identity | 597 | 3.86 | 0.65 | 0.84 | 0.065 | 0.017 | -0.004 | 0.430** | 0.270** | 0.458** | 0.565** | 1 | | |
| 9. Prof. knowledge and skills | 597 | 4.07 | 0.62 | 0.90 | 0.001 | -0.045 | -0.043 | 0.412** | 0.293** | 0.562** | 0.611** | 0.705** | 1 | |
| 10. Career satisfaction | 597 | 3.79 | 0.84 | 0.89 | 0.084* | 0.00 | -0.094* | 0.532** | 0.296** | 0.542** | 0.431** | 0.476** | 0.511** | 1 |
| 11. Title | 597 | | | | 0.628** | 0.259** | 0.017 | 0.253** | 0.249** | 0.122** | 0.101* | 0.165** | 0.066 | 0.308** |

* Correlation significant at $p < .05$; ** Correlation significant at $p < .01$.

Table 2
Multi-linear Regression Analysis Results (Impact of the sub-dimensions of career capital on productivity and career success)

| | Career Identity | | Career Commitment | | Career Insight | | Developing prof. Knowledge and skills | | English | | Productivity | |
|--------------------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|---------------------------------------|--------------|---------------------|--------------|---------------------|--------------|
| | Career satisfaction | Productivity | Career satisfaction | Productivity | Career satisfaction | Productivity | Career satisfaction | Productivity | Career satisfaction | Productivity | Career satisfaction | Productivity |
| R^2 | 0.198 | 0.234 | 0.234 | 0.303 | 0.128 | 0.128 | 0.192 | 0.185 | 0.102 | 0.093 | 0.102 | 0.285 |
| F | 35.2*** | 43.6*** | 43.6*** | 63.4*** | 21.1*** | 21.1*** | 33.9*** | 32.4*** | 16.1*** | 14.7*** | 16.1*** | 58.2*** |
| β : independent variable | 0.173** | 0.628*** | 0.141*** | 0.04*** | 0.38*** | 0.38*** | 0.7** | 0.174** | 0.276*** | 0.07*** | 0.276*** | 1.745*** |
| β : Department | | | 0.004** | | 0.004* | | | | | 0.005** | | |
| β : Gender | | | -0.055* | | -0.053* | | | | | | | |
| β : Lecture load | | | | | | | | | | | | |

* significant at $p < .05$; ** significant at $p < .01$; *** significant at $p < 1\%$.

Table 3
Hierarchical Multiple Regression: Mediator Role of Academic Productivity on the Relationship Between Career Capital and Career Satisfaction

| | Career Insight | | Career Identity | | Career Commitment | | English | | Prof. knowledge and skills | |
|-----------------|----------------|----------|-----------------|----------|-------------------|----------|----------|----------|----------------------------|----------|
| | Model 1 | Model 2 | Model 1 | Model 2 | Model 1 | Model 2 | Model 1 | Model 2 | Model 1 | Model 2 |
| R^2 | 0.192 | 0.362 | 0.234 | 0.366 | 0.308 | 0.420 | 0.102 | 0.318 | 0.267 | 0.392 |
| F | 33.9*** | 64.6*** | 43.6*** | 65.9*** | 63.4*** | 82.7*** | 16.1*** | 53.3*** | 52.1*** | 73.6*** |
| Δp^2 | | 0.17 | | 0.132 | | 0.113 | | 0.217 | | 0.125 |
| $F(\Delta R^2)$ | | 151.8*** | | 119.1*** | | 110.9*** | | 181.4*** | | 117.3*** |
| d | | 1.782 | | 1.791 | | 1.75 | | 1.79 | | 1.8 |
| β -InVar | 0.570*** | 0.374*** | 0.628*** | 0.400*** | 0.604*** | 0.435*** | 0.276*** | 0.155*** | 0.699*** | 0.479*** |
| β -WOS V | 1,745*** | 1,427*** | | 1,312*** | | 1,203*** | | 1,58*** | | 1,266 |
| Sobel's t | | 8.32*** | | 8.8*** | | 9.5*** | | 6.57*** | | 9.13*** |

* significant at $p < .05$; ** significant at $p < .01$; *** significant at $p < .001$.
 InVar = Independent variable; WOS V= WOS productivity

explanatory percentage of Model 1 for career satisfaction was measured as 23.4% ($p < .001$), and the β -value of career satisfaction (independent variable) was measured at 0.628 ($p < .001$). Model 2 explains 36.6% ($p < .001$) of the variance in career satisfaction, and the β -value of career identity goes down to 0.400 ($p < .001$). The significance of this difference was verified through Sobel's t -test ($p < .001$). This demonstrates in the career commitment column that both Model 1 ($R^2 = 0.308$; $p < .001$) and Model 2 ($R^2 = 0.435$; $p < .001$) have a significant impact on career satisfaction. β -values measured in career commitment at 0.604 ($p < .001$) in Model 1 and at 0.435 ($p < .001$) in Model 2 indicate this change to be statistically significant (Sobel's $t = 9.5$; $p < .001$).

Model 1 consists of English language use, which is one of the sub-dimensions of know-how; its control variables explain 10.2% of the variance in career satisfaction ($p < .001$). Meanwhile, Model 2 explains 31.8% of this variance ($p < .001$). β -value of the variable of English language was measured as 0.276 ($p < .001$) in Model 1 and 0.155 ($p < .001$) in Model 2. Although there is no difference in the level of significance between these two β -values, the difference between the β -values was proved to be significant through Sobel's t -test (Sobel's $t = 6.57$; $p < .001$). Model 1, which includes the variable of developing professional knowledge and skills, explains 26,7% ($p < .001$) of the variance in career satisfaction, while Model 2 explains 39.2% of this variance ($p < .001$). β -values for this variable were measured as 0.699 ($p < .001$) in Model 1 and 0.479 ($p < .001$) in Model 2. The significance of the difference in β -values for this variable is illustrated in Sobel's t -test results (Sobel's $t = 9.13$; $p < .001$).

Results and Discussion

Continuous learning and self-development is an individual phenomenon in contemporary knowledge society and career understanding, and it is more the individual's responsibility (London & Smither, 1999). This is why careerists who want to be successful in their work exert more effort to learn and improve themselves. However, individual self-development is also of value to their employer. On one hand, academic productivity is important for a university in order to place higher in university rankings and to obtain more eligible students. On the other hand, academic productivity is also important for public, government, and scientific development in a broad sense. This is because scientific knowledge gained through conducted scientific researches contributes to the individual, country, region, and even the world. According to human capital theory, scientific knowledge produced through scientific research generates two types of capital (Bozeman et al., 2001). The first type is transformed into economic value and generates new economic values. The other type is transformed into new skills and knowledge for people; this enhances their capacities and positively influences their productivity and its quality; consequently, it increases their ability to produce economic value (Coleman, 1993). As a result, state and private universities encourage research and offer academics opportunities to improve their qualifications.

Generating knowledge and transforming it into value is the most important objective in a knowledge economy. There is a significant correlation between the level of development and the value created out of knowledge (Horibe, 1999). Because creating value out of knowledge heavily depends on individual effort and competence, researchers and other academic staff represent the strengths and weaknesses of a university. This fact increases the importance of the qualifications, motivation, knowledge, skills, and work performance (productivity) of academics employed by universities. In this study, the qualifications and performance of academicians were analyzed within the framework of intelligent career, and it was hypothesized and investigated that academicians who invest in their career and have higher motivation will also have higher scientific performance. It was also hypothesized and empirically investigated that career capital will increase academic productivity, which is the work output of academicians, and academic productivity will increase career satisfaction, which is a dimension of career success. As a result of a wide field study and analyzing collected data, it was statistically proven that this hypothesis was supported and that academic productivity, which also refers to the work performance of academicians, generally has a mediator impact on the relationship between the variables of career capital and the variables of career success.

Correlation analysis reveals that academic productivity has a positive correlation with all dimensions of career capital. This factor has notably high correlations

with the variables of career commitment, career identity, career satisfaction, and improving professional knowledge and skills. In the related literature, some studies have expressed that career capital positively affects the work performance of an individual. For instance, according to [Tams and Arthur \(2010\)](#), an individual needs to be successful at both work and in relationships to have success in career. This is why careerists do their work, consciously invest in themselves, and raise their *capital* at the same time to be more successful at work. Careerists use this capital to do their work more effectively and steer their career as they want. These competences are valuable not only for individuals, seeing that they increase employee productivity, but also for employers ([D'Amico, Rios-Aguilar, Salas, & Canche, 2012](#); [Parker et al., 2009](#)). Amongst these variables, career identity and career commitment provide careerists with high energy and motivation to work; career insight enables conscious career planning. Seeing that they are transferable, having professional competences, professional knowledge, and skills ensure effective and productive work, consequently increasing performance and productivity.

The dimensions of career capital significantly impact career satisfaction, which can also be regarded as career success. This situation is in parallel with previous related studies (e.g., [Eby et al., 2003](#); [Van Den Born & Van Witteloostuijn, 2013](#)). For instance, according to [Akkermans, Brenninkmeijer, Huibers, and Blonk \(2013\)](#), individuals work for career satisfaction and want to be successful. Thus, individuals with the new career understanding try to improve their career competences and maximize their career satisfaction. [King \(2004\)](#) argued that individuals act proactively with their career, improving themselves and steering their own careers to be able to have this.

The correlation between academic productivity and career satisfaction shows that professional success can have a positive impact on an individual's perception of their career. Accordingly, the more academic productivity increases, the more an academician's career satisfaction increases. In parallel with these results, [Baruch and Hall \(2004\)](#) have put forth that academicians hold as vital being well known among colleagues through their publications, having one's publications cited, and being the center of attention from these things. Because the variable of academic productivity by being published in relatively good journals within the context of WOS showed the highest correlation with career satisfaction indicates a powerful confirmation of these studies in the literature. The results of multiple regression analysis (Table 3) have also revealed that academic productivity explains a significant proportion of the variance in the factor of career satisfaction; this also supports the given statements. In this case, academic productivity, which can be regarded as academicians' work performance, has a considerable impact on career satisfaction expressed in the subjective dimension of the academics' career achievement.

The basic theoretical framework of this study is that academic productivity has a mediator effect on the relationship between career capital and career satisfaction of academicians. The hierarchical regression analysis in Table 3 reveals that the theoretical framework in question has been strongly supported by the fieldwork that has been carried out. According to these results, the variables of academicians' commitment to their profession (career commitment), defining themselves by their profession (career identity), awareness about planning their career (career insights), level of English usage, and professional competence affect academic productivity; thus, academic productivity affects career satisfaction. As such, academic productivity has a mediator effect on the relationship between career capital and career success.

Limitations and Recommendations

It is clear that the variables of career capital affect academic performance and career success, and that academic performance has a mediator effect on the relationship between career capital and career satisfaction. However, the total variance explained by career capital indicates that the variables in question explain a portion of the variance in the dependent variable as a whole. Therefore, the variables of career capital are estimated to have a mediating effect on the dependent and moderator variables, and career capital and academic performance are also considered to have the same effect on career satisfaction. A study such as this is also thought to be theoretically necessary. Even though studies in the literature on the subject are very limited, career capital variables are likely to explain variances in the variables of both career success and productivity together. It is believed that investigating this case in future studies will contribute to the literature.

Data collection is the most basic limitation in academic studies. Academic performance is usually measured with the data obtained from the Web of Science index. Taking academicians' other studies into consideration, or at least studies in other international indexes that can be indexed, will contribute to assessing productivity more realistically. However, difficulties in data collection constitute the biggest obstacle to this.

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