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# Personality Types of Master of Science in Project Management Students: A Field Study

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## ABSTRACT

*In this research study, students enrolled in a university Master of Science in Project Management degree program were asked to respond to the Big Five personality inventory to ascertain whether their personality traits were in alignment with Big Five Leadership profile proposed by Lussier and Achua (2013) or were ranked similarly with the general population. Additionally, this study sought to explore whether university project management master degree students' Big Five personalities were aligned with the suggested Big Five profile for project managers. The ranking of the Big Five leadership categories of 172 project management students was compared to rankings in previous studies. It was observed that the Big Five rankings of project management students differed in order from both the Lussier and Achua (2013) leadership profile as well as multiple studies conducted within the general population. However, the project management student rankings were consistent with recommended rankings for project managers. The findings can contribute to better understanding the traits that characterize students studying in the project management field of occupation.*

## INTRODUCTION

A *project* is defined as "a temporary endeavor undertaken to create a unique product, service, or result. The temporary nature of projects indicates that the project has a start and end" (Project Management Institute, 2013, p. 3). Projects are often distinguished from other efforts such as everyday work because they have start and stop date; a specific objective to be achieved within the stated timeframe; and a defined endpoint. Additionally, they are completed by the combined efforts of a diverse set of people and specialists working close together as a team to complete the project throughout its lifecycle. Furthermore, a project has the characteristic of being non-routine, having unique elements, and being completed with the constraints of scope, time, and cost (Larson & Gray, 2014).

Globally, more organizations are relying on project management to accomplish goals and objectives (Davis, 2011). In the recent past, success was measured by effectively meeting the triple constraints of scope, time, and cost (PMI, 2013). However, project management includes multiple stakeholders; therefore, project managers need to have people skills along with technical skills to achieve project success (Hardy-Vallee, 2012). Such people skills include having a personality that lends itself to increase the probability of project management success (Gehring, 2007). Because the project management field is rapidly growing, organizations that invest in project managers with positive traits, as well as the ability to manage triple constraints of project management projects, are more likely to have the greatest chance of achieving project success (Global Knowledge, 2013). In sum, a project manager's personality must be one that can successfully deal with project scope, time, and cost along with soft skills

needed for project success (Lindblad, 2014). It is vital; therefore, that a project manager’s personality lends to effective leadership for the organization’s project success.

We began our research by accepting the premise that one of the most influential decisions an organization’s leadership can make is designating a project manager with a personality profile that matches both the project and the team members that he or she will be managing. Therefore, the selection and development of project managers is of great importance for an organization (Muller & Turner, 2006). People’s abilities to understand, predict, direct, change, and control human behavior are often difficult to acquire. However, a desirable personality of a project manager can be crucial a project’s success in a variety of interpersonal environments (Henkel & Wilmoth, 1992).

Several self-scoring psychological instruments exist that assist project managers to access their personalities and understand both strengths and those areas where improvements can be made. One of the oldest and widely used self-scoring instruments that has stood rigors of time is The Big Five Personality Model which was named by Lewis Goldberg, a researcher at the Oregon Research Institute, the instrument is now generally used in business and in psychological research (McCrae & Costa, 2006; Peabody & Goldberg, 1989; Hunt, 2000; Lusser & Achua, 2013; Smith, 2015). The purpose of this present research study was to explore if students enrolled in a university Master of Science in Project Management program had Big Five personalities which aligned with leadership and project management profiles. Further, it was of interest to determine if the project management students’ Big Five personality profiles differed significantly from the general population.

## LITERATURE REVIEW

### Personality Overview

Personality encompasses the characteristics of a person and how he or she interacts with others (Hunt, 2000; Robbins & Judge, 2007, p. 106). More than often, personality is described by traits. Over the years much research has been done on the traits that make up personality. Results of such research show there are five general dimensions of personality referred to the Big Five personality dimensions (Daft, 2011). This research resulted in the “Big Five Model of Personality Traits” that has been widely used over the years because of its strong research background and reliability (Bartone, Eid, Johnsen, Laberg, & Snook, 2009; Hunt, 2000; Lusser & Achua, 2013). Additionally, the Big Five Model of Personality Traits has shown much validity across different cultures, different instruments, self-reporting, third-party reporting, and professional reporting (Digman, 1990; Barrick and Mount, 1991; John and Srivastava, 1999). The Big Five personality dimensions include the following: surgency, agreeableness, conscientiousness, and openness to experience (Lusser & Achua, 2013). As individuals, our personalities are different; however, there many common traits that people share (Daft, 2008). These common traits are described as five dimensions and exist on a continuum in which a project manager may have a low to high degree of each of the five dimensions (Lusser & Achua, 2013). The five dimensions are as follows:

**Table 1: *Big Five Personality Traits***

<b>Big Five</b>	
<b>Domains</b>	<b>Sub-factors</b>
<b>Surgency</b>	Dominance Extroversion Energy Determination

<b>Agreeableness</b>	Socialability Sensitivity Emotional Intelligence
<b>Adjustment</b>	Emotional Stability Narcissism Self-confidence
<b>Conscientiousness</b>	Dependability Integrity
<b>Openness</b>	Flexibility Intelligence Locus of Control

*Source: Adapted from Lussier, R. & Achua, C. (2013). Leadership: Theory, application, & skill development. (5<sup>th</sup> ed.) South-Western: Mason, OH.*

### ***Surgency***

The first trait, surgency implies extraversion, dominance, and a high energy with determination to get the goal, or task completed (Lusser & Achua, 2013). The surgency subfactors, include extraversion, dominance, energy, and determination (Lusser & Achua, 2013). As an extravert, this person tends to be very assertive, outgoing, active, and optimistic (Daft, 2011). When an extravert is in a group, he or she is sociable, active, talkative, cheerful, upbeat, and greets everyone with enthusiasm; the extravert tends to not be reserved or to avoid intimidation (Foley, 2015). Conversely, introverts are more reserved, have more internal dialogue, and prefer spending time by themselves or in a small group of people (Hall, 2014; Foley, 2015).

### ***Agreeableness***

The second trait, agreeableness is primarily a dimension consisting the traits of sociability and emotional intelligence. The agreeableness sub factors include socialability, and sensitivity (Lusser & Achua, 2013). People with the agreeableness trait are described as courteous, flexible, trusting, good-natured, cooperative, forgiving, likable, and good-hearted (Daft, 2008). Those who exhibit this trait have also been described as affectionate, friendly, and kind to others. (Smith, 2015; Cherry, 2015).

### ***Adjustment***

The third trait, adjustment, indicates the person's traits of emotional stability and self-confidence. The adjustment sub factors include emotional stability, narcissism, and self-confidence. People with this trait tend to be able to get along with people, are good working under pressure, have self-control, and tend to be calm, secure, and positive (Lusser & Achua, 2013; House & Aditya, 1997).

### ***Conscientiousness***

The fourth trait, conscientiousness, indicates the individual's traits of dependability and integrity (Daft, 2011). Sub factors of conscientiousness include dependability and integrity (Lusser & Achua, 2013). This trait has been associated with being focused on a few goals, as well as being persistent and achievement motivated (Daft, 2011). People with this trait tend to be thorough; they know how to plan, and follow goals and objectives through (Smith, 2015).

## **Openness**

Finally, openness traits include flexibility, intelligence, and internal locus of control. The sub factors of openness include flexibility, intelligence, and locus of control (Lusser and Achua, 2013). Openness is associated with having a broad range of interests, as well as being imaginative, creative, artistically sensitive, and open to originality and new ideas (Daft, 2011). People with high scores in openness tend to have an inquiring creative intellect, a desire for new knowledge, and are open to new experiences (Smith, 2015).

## **METHODOLOGY**

### **Research Questions**

The Project Manager is the person responsible for managing the project to a successful completion while balancing the traditional triangle of time, scope and cost. To accomplish project goals, the project manager utilizes these technical skills as well as various soft skills when dealing with people. These skills include leadership, communication, negotiation and strong analytical abilities. Many times a project manager does all of this in a matrixed organization with multiple lines of responsibility to the project, the organization, the sponsor, customers, and project team members (Lusser & Achua, 2013; Project Management Institute, 2014).

Hence, it takes a certain kind of personality to succeed in project management. For the right person, a project management career can be both challenging and fulfilling. It is with this premise that the present study undertakes to determine if graduate students enrolled in a Master of Science in Project Management program have the Big Five Personality<sup>®</sup> classifications of a successful project manager. Understanding project management students' Big Five Personality<sup>®</sup> classification would be valuable when establishing various project management curriculum, including courses and specific lesson plans. Furthermore, it would enable students to know and understand their own Big Five Personality<sup>®</sup> classification as an aid, both in managing projects and in handling the different personalities involved within project teams. Research indicates conscientiousness and openness to experience were both statistically significant predictors of successful project managers (Bell 2007; Biswas 2008). In addition, a major meta-analysis combining 73 prior studies to correlate the Big Five personality dimensions with leadership showed that the highest correlation with leadership was surgency (.310, followed by conscientiousness 9.28) and openness to experience (.24). Thus, we began our consideration of project management students' Big Five Personality<sup>®</sup> classification with three research questions:

- 1) Do students in a Master of Science in Project Management degree program exhibit Big Five Personality<sup>®</sup> scores that meet the profile said to be ideal for project management (Bell, Biswas & Behingield) and therefore rank highest in terms of conscientiousness and openness to experience?
- 2) Do students in a Master of Science in Project Management degree program have Big Five Personality<sup>®</sup> scores that rank highest in terms of surgency in accordance with the Lussier and Achua (2013) leadership ranking of the Big Five Personality<sup>®</sup> scores?
- 3) Do students in a Master of Science in Project Management degree program have Big Five Personality<sup>®</sup> scores that rank in alignment with previous research of the general population?

### **Data Collection**

University students enrolled in a graduate project management degree program were asked to complete the Big Five Personality<sup>®</sup> survey. Participants answered a short online questionnaire which enables the classification of a person's traits using the Big Five Personality<sup>®</sup> instrument. The student responses were tabulated to determine the rank in order of the Big Five personality elements.

## Sample Characteristics

One hundred seventy two project management graduate students working in various industries and organizations across the United States to include U.S. military members responded to the survey; therefore, the 172 graduate study students that answered Big Five Personality<sup>®</sup> questionnaire could be considered a substantial sample of the overall population. The Big Five Personality<sup>®</sup> questionnaire was completed between academic terms 2014 and 2015. Respondents' privacy and confidentiality were strictly protected.

## ANALYSIS OF FINDINGS

The resulting Big Five Personality scores of the 172 project management students were tabulated as given in Table 2.

**Table 2: Big Five Personality Traits Tabulated Results**

Category	Surgency	Agreeableness	Adjustment	Conscientious	Openness to Experience
Mean	27.81	24.92	28.52	31.05	28.94
SD	4.38	4.98	3.68	3.25	3.83
n=172					

By inspection, the student scores ranked in order of Conscientious, Openness to experience, Adjustment, Surgency and Agreeableness. The Big Five data was used to answer the initial research question:

1) Do students in a Master of Science in Project Management degree program have Big Five Personality<sup>®</sup> scores that rank highest in terms of conscientiousness and openness to experience?

As observed in the student ranking data, Conscientious and Openness to Experience were the highest ranking selections in the survey results. This result provides an affirmative answer to the initial research question.

The data also was used to answer the second research question:

2) Do students in a Master of Science in Project Management degree program have Big Five Personality<sup>®</sup> scores that rank highest in terms of surgency, in accordance with the Lussier & Achua (2013) leadership ranking of the Big Five Personality<sup>®</sup> scores?

As observed in the ranking of the Big Five personality instrument results, project management students did not rank highest in terms of Surgency. In fact, Surgency was near the bottom of the student ranking.

Answering the third question requires a review of other studies conducted among the general population.

3) Do students in a Master of Science in Project Management degree program have Big Five Personality<sup>®</sup> scores that rank in alignment with previous research of the general population?

As observed in numerous studies in Table 3, project management students in this study did not align with multiple studies of the population at large, Internet-based studies, and age-related studies of the Big Five characteristics. Most notably, project management students were observed to rank more highly in the Conscientious domain followed by Openness.

**Table 3: Big Five Personality Research Results**

	Lussier and Achua	Project Manager Students	Population Study	Internet Study	Age-20	Age-30	Age-40	Age-50
1	Surgency	Conscientious	Openness	Openness	Openness	Openness	Openness	Openness
2	Agreeableness	Openness to experience	Agreeableness	Agreeableness	Agreeableness	Agreeableness	Agreeableness	Agreeableness
3	Adjustment	Adjustment	Conscientiousness	Conscientiousness	Conscientiousness	Conscientiousness	Conscientiousness	Conscientiousness
4	Conscientiousness	Surgency	Extraversion	Extraversion	Extraversion	Extraversion	Extraversion	Extraversion
5	Openness to experience	Agreeableness	Neuroticism	Neuroticism	Neuroticism	Neuroticism	Neuroticism	Neuroticism
	(Lussier & Achua, 2013)	(Current study)	<i>Srivastava, S., John, O. P., Gosling, S. D., &amp; Potter, J. (2003).</i>	Staff (Ed.). (n.d.).	Nye et. Al (2015)	Nye et. Al (2015)	Nye et. Al (2015)	Nye et. Al (2015)

## SUMMARY

It is suggested that project managers can display a range of personality types to achieve project success. This range can extend from extrovert to introvert personalities. An extrovert project manager may enjoy the executing process; being around people such as working with stakeholders; negotiating with contractors; communicating with others; running meetings; and leading tasks. Conversely, introvert project managers may like spending time alone working the planning process; monitoring and controlling; working with numbers; and analyzing data. (Lindblad, 2015).

This present research study was designed as an exploratory measure using the Big Five Personality<sup>®</sup> instrument with 172 university students enrolled in a Master of Project Management degree program who responded to the instrument. The research show project management graduate students exhibit a ranking of Big Five Personality<sup>®</sup> types that differs from that which has been reported in previous studies of the general population as well as the Lussier and Achua (2013) leadership profile—but is consistent with studies associated with project managers. In conclusion, project management is aimed at making effective and efficient use of resources to complete a project within time, scope, and cost. Project managers are expected to manage projects and measure their performance and success using the triple constraint of time, cost and scope/quality. While the triple constraint is necessary, projects that are delivered on time, within budget and meeting scope specifications may not necessarily perceived to be successful by key stakeholders. Therefore, successful projects also require project managers to demonstrate and apply soft skills such as leadership, communication, team building, negotiation, and decision-making. In sum, project managers must move fluidly between the concrete issues and the soft skills and thus an adaptable personality is well suited for project management (Lindblad, 2015).

The purpose of this research study was threefold: 1) to explore in Master of Science of Project Management students' Big Five Personality<sup>®</sup> personalities were in alignment with recommended project manager personality profiles; 2) to explore if Master of Science of Project Management students' Big Five Personality<sup>®</sup> personalities were in alignment with the Lussier and Achua leadership profile; and 3) to gain a better understanding if the Big Five Personality<sup>®</sup> traits of university students enrolled in a project management degree differ significantly from those Big Five Personality<sup>®</sup> personalities of the general population.

Ideally, the results of this present study will help university project management program chairs and students to take a more positive approach to understanding Big Five Personality<sup>®</sup> classifications and how they relate to project management. The Big Five Personality<sup>®</sup> can be used by project management degree graduate students to help them better understand how their classification type relates to traits required for effective project management. Additionally, educational institutions can use this information when developing project management courses and lesson plans to assist students in assessing their natural fit in

project management and in developing project management teams. However, the authors of this present study do not believe or suggest that Big Five Personality<sup>®</sup> classification should be used for excluding students from project management educational programs. As stated in the code of ethics of the Center for Applications of Psychological Type-CAPT (2010), Interpreting Big Five Personality<sup>®</sup> results, para. 3): “One should not state of imply that type explains everything. Type does not reflect an individual’s ability, intelligence, and likelihood of success, emotions, or normalcy. Type is one important component the complex human personality.”

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