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Recruiting, Selecting, Retaining, and Monitoring Investment Managers: A Review of a Scattered Literature.

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Abstract

This paper attempts a comprehensive and multi-disciplinary review of a scattered literature on the characteristics of successful investment managers. It considers non-peer reviewed papers and reports written by organisations and human resource experts but also empirical papers from those in disciplines such as business studies, economics, finance, psychology and psychiatry. It focuses on three issues: ability, personality and motivation. Most of the studies have concentrated on motivation and various themes are apparent suggesting that it is possible to profile successful investment managers

Key Words: E22 Investment, E47 Forcasting G11 Investment Decisions G41 Economic Decision Making

Introduction

Every decision maker, at some point in time, has made a serious selection error: divorce statistics attest to this decision-making tendency. Hence, few would dispute the idea of putting serious effort (time and money) into strategies to improve selection outcomes. In the context of financial planning, this is most easily conceptualized as selecting the best person to assist in the management of financial and investment decisions. One way to do this is to choose Investment Managers who exhibit abilities, motivation, and personality characteristics that ensure productivity and engagement that matches an organization's culture.

While some financial planners often act as IMs when working with clients, it is more common for financial planners to select IMs to manage a portion of client assets (i.e., financial planners hire IMs via mutual fund, exchange traded fund, hedge fund choices). Their ability to find IMs who "do a good job" for their clients inevitably improves their long-term success and reputation. Hence the importance of having a sound theoretically and empirical proven process to do just that.

It is, of course, equally important that the selected person is well managed to ensure her or his continual engagement and productivity (Cornell, Hsu, & Nanigian, 2017; Goyal & Wahal, 2008; Harlow & Brown, 2006; Harrison, 2016; Porter & Trifts, 2014). This review paper will examine the scattered literature on the individual characteristics of successful IMs by focusing on the interface of psychology and finance — an area now dominated by the work of Behavioural Economists.

There is certainly no shortage of books and papers on the process of selection (Chamorro-Premuzic & Furnham, 2010; Chamorro-Premuzic, von Stumm, & Furnham, 2011; Cook, 2008). Some works have been written by consultants and exude confidence and bravado, suggesting the author's know all the key issues and how to solve them. Others are written by practical Human Resource (HR) professionals who try to give simple practical advice about the crucial steps and pitfalls associated with personnel selection. Most offer information on general selection, with some providing insights for the selection of very specific occupations like IMs. Some organisations commission serious reports on the topic (e.g., Barclays White Paper, 2016), whereas others report case studies (e.g., Christensen, 2017). There are also books, reviews, and papers written by academics who seem more cautious about recommendations based on the available, often contradictory, evidence (e.g., Ryan & Ployhart, 2014).

There is also a growing and robust academic literature, mainly in management and psychology journals, on the relationship between personality and work success measured by numerous criteria (e.g., salary, promotion history, general satisfaction) (Furnham, 2019a). Studies have been conducted in many different countries (Smithikral, 2005) and organisations (Misha, Youshan, & Hassan, 2015) to see if the pattern of relationships occurs irrespective of job-type, company sector, or the demography or culture of employees.

There is also a related literature on the psychology of money and how people think about, spend, and save money (Furnham, 2015; Furnham & Grover, 2019; Furnham & Murphy, 2019; Lay & Furnham, 2018; Ksendzova, Donnelly, & Howell, 2017; Maison, 2019). Many of these studies have shown a link to personality, such as Balasuriya and Yang (2019) who showed how personality traits predict pension decisions. Specifically, they showed that trait Extraversion correlated with non-participation in private pensions (both employer-run and personal pensions), while those high in Conscientiousness were more likely to participate and pay more into personal pensions. The trait Openness-to-Experience was negatively correlated with saving via personal pensions. Interestingly, traits Agreeableness and Extraversion were shown to correlate inversely with the amount contributed to personal plans.

There is also no shortage of advice about how to select IMs (Foster & Warren, 2016; Haight, Morrell, & Ross, 2007; Harrison, 2016) based on the personal experience and observations of "seasoned professionals". There are also a number of reports that consider IM selection issues (e.g., EY, 2017). For instance, Seddon-Daines and Chinwala (2018) listed the top eight attributes of IM managers based on over 100 interviews with "market practitioners" from 40 firms. The eight attributes were: numeracy, intellectual curiosity, analytical ability, aptitude for learning, right balance of confidence and humility, ability to challenge, openness to being challenged, and courage of convictions and communication.

A 2010 IFSWF Report noted that it is possible, in theory, to identify outperforming IMs, although the report concentrated very specifically on how to access performance rather than what personal factors led to high performance. A scan of the internet reveals many such lists: For instance, in a blog, Beard (2018) listed 10 "must have" personality traits for fund managers: intense curiosity, an ability to see the world differently, confidence, humility, success-orientation, communication skills, tolerance of ambiguity, see patterns in data, emotional regulation, and ability to go against trends. Schweser (2017) provided another list of "nine portfolio manager skills required for success": humility, ability to work independently, strong emotional control, competitive spirit, decisiveness, analytic ability, anticipation, tenacity, and communication. While these lists are interesting, it is not clear how attributes shown on lists are best measured, how they are related to one another, or their relative importance. Nor is it clear whether list attributes are a product of biology or socialisation or how easy attributes can change.

What is Special about Investment Managers?

A fundamental question in Industrial-Organizational psychology is to what to extent the principles of selection and management are essentially applicable to *all* jobs or whether principles of selection need to be adapted for different job families or sectors. That is, does the selection process differ depending on whether a person is selecting an accountant or an engineer, a financial expert or a human resources manager? Few would dispute that the "competencies" necessary differ from one job to another, and that there would also be some overlap given the essentially managerial nature of the job.

Psychological, as opposed to Human Resource, experts interested in selection tend to think about three distinct human characteristics: a person's ability, personality, and motives. The argument is while there are significant differences between success in different occupations (actuary versus doctor versus pilot) and those in different sectors (public versus private versus voluntary), there are enough generalizable patterns to suggest that many factors predict success in all jobs, including IMs.

There is, however, a more fundamental issue with regards to IMs: whether success (and failure) is predominantly determined by luck (chance) or by skill (wise decision making; Fama & French, 1993; 2010). A related issue is the active versus passive debate; namely, whether there is sufficient evidence that a certain group of identifiable managers can generate alpha (i.e., superior-risk adjusted returns) over time. Fama and French (1993) concluded the following in this regard:

> *This evidence strongly suggests that superior active managers do exist and that investors have a reasonable chance of finding them. Further, it also appears to be true that once they identify and select these superior managers, investors are rewarded for their efforts. That being the case, it seems logical to wonder why all mutual fund investors (or consultants to those investors) do not try to identify and invest in these managers. There are undoubtedly a multitude of reasons for this, but they are likely to be related to two core issues. First, the volume of the required data and the complexity of the analytics involved might make it difficult (i.e., not cost effective) for many*

investors to attempt to discern the best managers on their own. Further, the methodology underlying our selection process is not representative of the techniques typically employed by intermediaries who service the investment market (p 22).

At the heart of this insight, as well as the broader literature, is the notion that individual differences in intelligence, personality, and motivation influence how people make decisions, which is true equally of people in the financial planning and investment profession (Fenton-O'Creevy, Nicholson, Soane, & Willman, 2011). The following discussion reviews these important attributes.

Ability (Intelligence)

Intelligence is one of the most powerful and important predictors of success at work, particularly in high-level, complex jobs (Furnham, 2008). There is no doubt that IMs must be very able; that is, intelligent with a preference for numerical, convergent thinking. The question is *how intelligent?* Most studies confirm that the relationship between intelligence and success is not linear, and that once some level is reached (e.g., 1.5 standard deviations above the norm) there is no appreciable difference in performance.

Indeed, one study found no relationship between intelligence and wealth and a quadratic relationship between intelligence and financial difficulty (Zagorsky, 2007). However, an important and well researched study that looked at manager SAT college scores showed that those who had studied at institutions that demand higher intelligence scores reported systematically higher risk-adjusted, excess alpha did note that these results should not be interpreted quite simply as brighter people are better stock pickers as the outcome could be related to the networks different institutions offer to graduates and/or that different companies hire from different schools.

Additionally, multiple intelligence may be at play. Though it has been disputed, the concept of multiple intelligence suggests that it is possible to identify specific types of intelligence, such as numerical intelligence, that may be more relevant for IM managers.

While there are many studies that show a direct relationship between measured IQ and success in senior management and technical jobs, this relationship does not appear to be established with IMs. Nevertheless, the skills required to be a successful IM would suggest a high IQ, which partly predicts access to, and success in, educational institutions and the resultant knowledge base. The as-yet unanswered question is what the "cut-off" score for entrants to IM jobs is or should be, or what scores should be for those promoted to senior management positions. At present, proxies tend to be used rather than cut-off scores, and/or a postgraduate degree in finance or some related discipline.

Personality: The Bright and Dark-Side

Personality refers to preferences that are both biologically based and environmentally shaped. Psychologists have attempted over the years to derive the "periodic table" of traits: that is, provide a parsimonious taxonomy of personality traits and try to describe how these relate to observable behaviour. The *Big Five* model developed by McCrae and Costa (1987) has been used extensively in studies examining the role of personality in predicting work success (Furnham, 2018). This widely accepted model suggests that personality can accurately and parsimoniously be described and measured by five traits. The traits are *Extraversion* (being sociable, energetic, outgoing), *Neurotic* (anxious, moody, stress-prone), *Openness-to-experience* (creative, imaginative, curious), *Agreeable* (caring, empathic and supportive), and *Conscientious* (reliable, planful, organised).

Personnel selection research relies heavily on the Big Five trait model. The literature suggests low Neuroticism and high Conscientiousness consistently relate most to work success in *all* jobs, particularly senior managerial jobs. Neurotics are prone to stress, illness, and often poor decision making due to poor emotional regulation. On the other hand, Conscientious people are well organised, planner and hardworking. For the other three traits, much depends on the nature of the job. Thus, in some jobs, Agreeableness tends to be positively correlated with work success (e.g., counselling), whereas in other jobs, Agreeableness is negatively correlated (e.g., negotiations). The same is true of Extraversion, which is usually correlated with work success because of the optimism and social skills associated with Extraversion although it is obvious that in some jobs (e.g., pilot, air traffic control) it may be Introversion that is a best predictor. Openness or curiosity is known to be strongly associated with creative or decision-making jobs but much less so with more administrative and monitoring roles. A description of the Big Five is provided in Table 1.

Insert Table 1 Here

Psychiatrists are also interested in personality, particularly personality disorders. This has led to the popular distinction between the "bright side" associated with normal personality traits and the "dark side" related to abnormal traits. These terms were introduced as a way to use categories of the well-established Personality Disorders (i.e. Psychopath, OCD) but to conceive of "dark side” *tendencies* rather than disorders. The most widely used personality test contains 168 true/false items that assess dysfunctional interpersonal themes (Hogan Development Survey). These dysfunctional dispositions reflect a test-taker’s distorted beliefs about others that emerge when people encounter stress or stop considering how one’s actions affect others. Over time, these dispositions may become associated with a person’s reputation, which can impede job performance and career success.

While there have been modifications over the years, there has been sufficient agreement among researchers and clinicians to “map out” the different personality disorders. A description of personality disorders is presented in Table 2.

Insert Table 2 Here

The Anti-social, Obsessive-compulsive, Passive-aggressive, and Dependent types are particularly problematic in the workplace. People with Personality Disorders have difficulty expressing and understanding emotions. It is the intensity with which they express them and their variability that makes them odd. More importantly, those who exhibit Personality Disorders often have serious problems with self-control.

It should be noted that these Personality Disorders are typically grouped along different axes or different clusters. When clustering, three are usually made: (1) Odd/Eccentric (Paranoid, Schizoid, Schizotypal); (2) Dramatic/Emotional/Erratic (Antisocial, Borderline, Histrionic, Narcissistic); and (3) Anxious/Fearful (Avoidant, Dependent and Obsessive-Compulsive). These three clusters have been described as (a) “Moving Against others” (by deliberately manipulating and controlling others), (b) “Moving Toward others” (by building alliances with others), and (c) “Moving Away from others” (by maintaining their distance and pushing others away (Hogan, Hogan, & Warrenfeltz, 2007)

Perhaps the most interesting and paradoxical research findings have been from studies that have shown a positive relationship between some of the Personality Disorders and job success. (see Furnham, Trickey, & Hyde, 2012). What the data suggest is that certain traits (e.g., Psychopathy, Narcissism), at least at the sub-clinical, rather than clinical, level are associated with leadership emergence and effectiveness, but may later contribute to derailment (Gøtzsche-Astrup, Jakobsen, & Furnham, 2016). These disorders have recently been associated with money beliefs and behaviours (Furnham, 2019b).

Indeed, the whole of vocational guidance is based on the principle of job fit, which most people understand. For instance, in a mental health literacy study by Furnham and Petropoulou (2019), the authors asked people to read vignettes of people with Personality Disorders and suggest what type of job would suit them best. There was a tendency for people to believe those with OCD would be suited to accountancy, Narcissism and Paranoia to general management, Histrionic personality disorder to acting, and Schizotypal to artistry. Surprisingly Paranoid and Sadistic people were judged to be good managers, and Histrionic, Passive aggressive, and Schizotypal the worst managers. People in Cluster C (from Table 2) were judged as the best managers, whereas those in Cluster B were thought to be better adjusted.

Furnham (2019a) showed that there are also some traits that appear to differentiate the scientist from the person interested in commerce, particularly cautiousness, which is positively associated with a scientific approach but negatively associated with a commerce approach. Additionally, people who are motivated by science are also characterised as being more inquisitive but having lower mischievousness, sociability, and interpersonal sensitivity. However, people who are motivated by commerce are characterised by higher prudence, scepticism, colourfulness, and mischievousness.

The extensive and growing literature on the 'dark-side' of work success suggests that the Moving Against others/Cluster B dark-side traits are often associated with work success, particularly sub-clinical Narcissism (boldness), Histrionic (colourful), and Schizotypal (imaginative). In this regard, there have been a number of recent studies looking at the dark-side and corporate affairs. Aabo and Eriksen (2018) hypothesized and demonstrated that there is an inverse U relationship between a CEO's Narcissism and company stock return volatility. In short, Narcissists take more risks which can be both advantageous and disadvantageous depending on the situation.

Motivation

While it is relatively straightforward to obtain a robust and valid measure of intelligence and personality, it is harder to measure motivation, mainly because people cannot, rather than will not, "confess" what "really" motivates them. Motivation is much more of a sub- or un-conscious attribute. The most usual way to measure motivation is though as assessment of values; the idea is that whatever a person values will motivate that person. For instance, one test (the Motivation, Values and Preference Inventory; Hogan et al., 2007) identified 10 values: *Recognition* (desire to be known, seen, visible and famous, dreams of fame, high achievement); *Power* (desire to succeed, make things happen, outperform the competition); *Hedonism* (pursuit of fun, excitement, pleasure [e.g., eating, drinking, and entertainment]); *Altruism* (desire to help others, a concern for the welfare of less fortunate, public service); *Affiliation* (needing and enjoying frequent and varied social contact and a social lifestyle); *Trradition* (a belief in and dedication to old-fashioned virtues: family, church, thrift, hard work); *Security* (a need for predictability, structure, and efforts to avoid risk and uncertainty, and a lifestyle minimizing errors and mistakes); *Commerce* (interest in earning money, realizing profits, finding new business opportunities, investments, and financial planning); *Aesthetics* (need for self-expression, a dedication to quality and excellence, an interest in how things look, feel, and sound); and *Science* (being interested in science, comfortable with technology, preferring data based—as opposed to intuitive decisions, and spending time learning how things work). These can be seen in Table 3.

Insert Table 3 Here

Again, there appears to be limited literature on the topic of motivation and the selection of IMs, although it would not be difficult to set up and test various hypotheses. For instance, successful IMs may be higher than the population in terms of norms on an interest in Commerce and Science and lower on Security. One important issue often overlooked is that managers work with others and that their success is often dependent on how they manage staff. Management is a contact sport; it involves the ability to form and motivate excellent teams. IMs are often highly reliant on the information and support they receive from peers and reports. Hence their ability to manage others may be as relevant to their success as this powerfully impacts on the quality of their decision making.

Personality and Financial Decision Making

The aim of this review up to this point has focused on the very scattered literature on the individual difference correlates (i.e., ability, personality, values/motivation) of IMs (or closely related experts). It is important to note, however, that while occasionally journals in Behavioural Economics, household finance, finance, and management publish empirical or review papers on personality and the selection of IMs, academic interests and fashions wax and wane. Much of what is published related to personality and decision-making focuses on other topics. Some of these papers tend to be more applied and of interest in breaking new ground. For instance, Cronqvist, Siegal, and Yu (2015) explored a unique data set to demonstrate the biological basis and heritability of investor styles. They found, as hypothesised, that genetically more similar investors have more similar investment styles. They went on to conclude that genetic differences affect value versus growth orientation among individual investors. However, they also recognised the importance of life experiences. Indeed, they demonstrated that an investor's style is also related to earlier and later life events (e.g., growing up during the Great Depression or entering the job market during an economic downturn), with those who grew up in a lower status socio-economic rearing environment having a stronger value orientation several decades later in their lives. The remainder of this review provides an overview of some of the most recent contributions in the literature related to personality and decision making.

Over the years, a number of "one-off" studies have been published on the relationship between specific personality traits and financial/investment decision making. It is difficult to structure this literature and what follows is an attempt to review papers that have a least some things in common.

While there are some clear patterns in the data, research results are difficult to compare for three reasons. *First*, some studies use "real people" involved in financial decision making (i.e. portfolio managers) while other studies use students, albeit finance and economics students. *Second,* researchers tend to use different measures of personality even when trying to measure the same construct (i.e., extraversion or risk approach). *Third*, studies have examined a very wide variety of decision-making variables, measured in very different ways. For example, rather than uniformly describing one behaviour, researchers have looked at advice seeking/preferred source, investment choices/horizons, risk perception, and trading frequency, among a large list of other behaviours. However, most researchers have been interested in risk-taking propensity and acceptance (Pinjisakikool, 2017).

There are a growing number of good studies on individual difference predictors of wealth/money/investment decisions (e.g., Baum & Locke, 2004). Many of these well-designed and analysed studies use student volunteers rather than IMs and look at the relationship usually between personality variables and one very specific type of decision style/preference, such as anchoring, risk aversion, or overconfidence (Gort, Wang, & Siegrist, 2008; Mayfield, Perdue, & Wooten, 2008; Oehler, Wendt, Wedlich, & Horn, 2018).

Some studies have classified "investor personality" based on heuristics and biases rather than on classic psychological traits. As an example, Dickason and Ferreira (2018) classified four investor personality types: conservative, moderate, growth, and aggressive, which related to investor risk-tolerance level. Others have recently classified investors under other various headings (Ceschi, Costantini, Sartori, Weller, & Di Fabio, 2019). Many recent studies have been inspired by the relatively new disciple of *Neurofinance*, an interdisciplinary science mainly interested in decision-making (Ascher, Da Silva, Da Veiga, & Souza, 2016).

A very large number of studies in this area has looked at personality and other correlates of risk preference. This research emphasis is based on the notion that risk preference is highly stable over time and across different life domains, and more importantly, is related to many important economic and health outcomes (Kuhlman & Zuckerman, 2000; Lauriola & Levin, 2001; Mata, Frey, Richter, Schupp, & Hertwig, 2018). A very wide range of traits have also been considered from the perspectives of cynical hostility (Bucciol & Zarri, 2017) to Type A/B behaviour.

Researchers from many different backgrounds, mainly in the social sciences, have looked at the individual differences of IMs related to phenomena such as investment decisions (e.g., Ahmad, Hassan, Mahmood, & Aslam, 2016; Pak & Mahmood, 2015; Shankar & Kallarakal, 2018) and susceptibility to various biases (Bashir, Fazal, Shabeer, Aslam, & Jelani, 2013; Kubilay & Bayrakdaroghi, 2016; Rzeszutek, Szyszka, & Czerwonka, 2015; Rzeszutek, Czerwonka, & Walczak, 2015). In this regard, Akhtar, Thyagaraj, and Das (2017) noted that personality may cause inconsistencies in decisions related to investments. Related to this, Tauni, Fang, and Iqbal (2017) found a direct relationship between personality types and trading behaviour among individual investors.

Consider a study by Ackert, Athanassakos, and Church (2015). They were interested in whether behavioural and personality factors predict an IM "investment style" including risk tolerance, time preference, over-confidence, and evaluation of employment opportunity. In their experimental study, using a sample of students, they showed that personal affective assessment had a significant impact on many aspects of investment decisions. Similarly, Gambetti and Giusberti (2017) examined the relationship between personality and taking out housing loans, and found a relationship between the two.

Numerous other studies have used measures of the Big Five personality model, or similar factors (Kasilingam, 2014), with some interesting results. In an early study, Nicholson, Soane, Fenton-O'Creevy, and Willman (2005) showed that those who score high on Extraversion and Openness, but low on Agreeableness, Conscientiousness, and Neuroticism are more likely to exhibit financial (and other domain) risk taking preferences. Mayfield et al. (2008), testing American students, found Extraverts preferred, but Neurotics eschewed, short-term investments, while those Open-to-experience preferred long-term investing. Oehler et al., (2018) tested 364 German students and found more Extraverted individuals were willing to pay higher prices for financial assets. Extraverts were also found to buy more financial assets when assets are overpriced, while more Neurotic individuals tend to hold less risky assets in their financial portfolios compared to less Neurotic individuals.

Cecchini, Bajo, Russo, and Sobrero (2019) were particularly interested in the "disposition effect", which is the tendency to cash in quickly financial gains but hold on longer to stocks with losing/falling prices. They found three traits related to different outcomes: (1) reward sensitive extroverts quickly sold the stock at a gain to receive a burst of utility; (2) conscientious investors suppressed impulsivity; and (3) conscientious investors patiently waited for (hopefully) higher cumulative returns. Cecchini et al. (2019) also highlighted the importance of openness to experience to better value information to achieve higher outcomes.

Czerwonka (2019) showed, as many others have before, that Extraversion (positively) and Conscientiousness (negatively) were related to risk taking; and that men were greater risk takers than women.

Durand, Fung, and Limkriangkrai (2019) were interested in *myopic loss aversion*. They showed, using students and traders in an experimental study, that Extraverts tend to trade less, whereas Neurotics are more prone to trade. In a study of over 500 Chinese investors, Tauni et al. (2017) noted that those who score high on Openness and Neuroticism trade stocks more frequently when they acquire information from financial advisors while Extraverted and Conscientious investors trade stocks less intensively when they use financial advice. Extraversion and Agreeable types trade stocks more intensively when they acquire information via word-of-mouth communication. Tauni et al. (2017) also found Open-minded, Conscientious and Neurotic investors adjust their portfolio less frequently as a result of social interaction.

In an important Finnish study that looked at personality traits and stock market participation, Conlin, et al. (2015) looked at personality subscale scores and market participation among 3,000 Finns. The found that some scales (e.g., exploratory excitability, extravagance, and dependence) had large effects such that a one standard deviation in scores had marginal effects of up to four percentage points on the probability of participating in the stock market.

Isidore and Christie (2017) tested 436 secondary equity investors in India. They were more interested in behavioural biases rather than personality differences. Isidore and Christie (2017) found investors with higher annual incomes were less prone to biases when compared to investors with lower annual incomes. Also, investors with higher annual income were prone to exhibit an over-confidence bias when compared to investors with lower annual income. It was also noted that investors with high annual income were more likely to exhibit higher an over-confidence bias but lower representativeness, loss aversion, availability, and mental accounting biases.

Studies in focused on this topic area are becoming more sophisticated as can be seen by the work of De Bortoli, da Costa, Goulart, and Campara (2019) who found, as others have done, that Openness to experience is the strongest predictor of financial risk taking. There have also been important summaries by groups working in the area. In one pioneering study, Fung and Durand (1994) noted that personality is clearly related to both risk taking and over-confidence, both of which are extremely important inputs when making financial decisions. They argued that (p. 112):

> *First, personality matters when choosing portfolios and is something investors and their advisers should consider. Second, whether investors have self-awareness or not, they seek portfolios that do not create emotional discomfort. Investors construct portfolios that are congruent with their personalities. Therefore, besides suggesting what investors should do, an understanding of personality will help explain what investors actually do.*

In an important early paper entitled *An Intimate Portrait of the Individual Investor* Durand, Newby, and Sanghani (2008) looked at the relationship between personality and preferences for innovation and risk, knowledge of the financial markets, and trading data in a small sample of Australian equity IMs. Overall, the managers were less Agreeable, based on population norms. Durand et al. (2008) also looked at the relationship between personality and seeking information about the market, levels of stock exposure, trading frequency, choice of large stocks, and total return. Their results provided the following interesting insights: (1) Extraverts exhibited higher returns and more portfolio exposure, but fewer trades; (2) Masculinity was found to be negatively related to portfolio exposure and total return; and (3) Risk taking propensity was related to lower exposure, fewer trades, and a lower monthly sharp ratio. While this was really a pilot study, the work of Durand et al. (2008) was one of the first in the area.

In a later study conducted with senior finance students as participants, Durand, Newby, Peggs, and Siekiera (2013a) looked at the relationship between personality and many financial measures using a complex and realistic investment analysis game. They were particularly interested in the availability heuristic, which was hypothesized to be related to Neuroticism and negative emotionality. More importantly, they examined the disposition heuristic, which is the tendency to hold losers too long and sell winners too soon. They concluded the following (p. 125):

> *We have found that negative emotion is associated with subjects' use of the availability heuristic. Negative emotion is also associated with the size and risk of the portfolios subjects established. It is also associated with trading frequency total return,.....Our finding that risk taking propensity is associated with higher total returns (and also a lower value of R2) allows us to begin to relate a basic concept of finance, that is, the return to risk trade-off, to a measurable personality trait. We also find that risk taking propensity is negatively related to subjects' propensity to utilize the availability heuristic. In each analysis of the first trade undertaken by investors, we find that preference for innovation is statistically significant in all of our analyses. Masculinity was significant in two of the three analyses. Conscientiousness was also associated with trading and the analysis of disposition effect using the second trade undertaken by our subjects. Extraversion was also found to be positively related to R2. Openness to experience is associated with portfolio diversification (measured by the Herfindahl Index). Conscientiousness, agreeableness and femininity are found to be associated with selecting momentum stocks in portfolios in the Long Momentum regressions. Preference for innovation was found to be associated with trading. Agreeableness was found to be associated with the disposition effect (using the second trade undertaken by the subjects).*

In another study using 61 students taking part in a 13-week foreign exchange trading course, Durand, Newby, Tant, and Trepongkaruna (2013b) were interested in over-confidence and over reactions. As with their earlier study, they found particular personality traits, namely risk-taking propensity, negative emotionality, Neuroticism, Extraversion, masculinity, preference for innovation, and Conscientiousness were logically and statistically related to both trading over-confidence and over-reactions.

In a study of the role of personality traits in corporate financial decision making, Daskalakis, Kokkinaki, Kalogeras, Hoffmann, and Chrysikopoulou (2011) asked 59 CEOs of publicly listed companies to specify their capital structure decisions and measured their personalities They concluded the following (p. 3):

> *… a) CEOs with high self-esteem favour decisions lowering the long-term liabilities-to-equity ratio and issuing new equity that do not lead to financial obligations like debt;*

b) CEOs that are highly extraverted find exploiting possible advantages of each source of finance (i.e., the debt tax shield) more important than avoiding possible corresponding negative consequences (i.e. debt financial distress). In contrast, CEOs who are intolerant to ambiguity consider avoiding possible negative consequences more important than exploiting possible advantages. Extraverted CEOs tend to issue new equity whenever the debt-to-equity ratio is lower relative to the sector's ratio; c) CEOs who are open to new experiences avoid traditional, available, funding sources. They consider as more important the exploitation of possible advantages rather than avoiding possible negative consequences and they tend to issue new equity whenever the stock price is relatively high; d) The more conscientious a CEO is, the more (s)he thinks that the stock market generally evaluates the firm at lower levels than its real value; and finally, e) CEOs high in sensation seeking tend to issue new equity, whenever the debt-to equity ratio is relatively high compared to the sector's ratio while the more emotionally stable a manager is, the less (s)he prefers issuing debenture. These results also lead us to conclude that personality traits are closely related to specific value maximization impediments, viewed by the behavioral finance perspective, such as aversion to ambiguity, illusion of knowledge, anchoring and the availability heuristic. Moreover, our results demonstrate interesting insights regard.

Kleine, Wagner, and Weller (2016) examined the determinants of individual trading activity based of 2,147 individual investors. They found that Agreeableness, Extraversion, and Openness were central in explaining cross-sectional differences in trading activity. Openness was found to be a main driver of excess trading. Over-confidence, as shown by low levels of Agreeableness, was found to be related to excessive trading. Kleine et al. (2016) concluded that Agreeableness saves individual investors from losing money via trading, while Openness endangers terminal wealth. Along the same line, a study of 742 Indian investors linked personality traits to investment success. Kasilingam (2014). found that certain personality factors (i.e.,Aagreeableness, Extraversion, and Neuroticism) were related to an investor's attitudes about loss and return, while other traits (i.e., Conscientiousness and Openness) were related to financial decision-making skills.

There have been a number of studies from different countries using different methodologies that have focused on the relation between personality and financial decisions (e.g., Shankar & Kallarakai, 2018). For instance, in one study of 200 investors operating in the Iranian stock market, Sadi, Asl, Rostami, Gholipour, and Gholipour (2011) investigated the relationship between personality and five cognitive biases: over-confidence, availability, escalation of commitment, randomness, and hindsight. They found a number of small, significant, and predicted relationships suggesting that it was worth examining personality differences in understanding cognitive bias. Along the same line, Rizvi and Fatima (2015) looked at the relationship between the Big Five personality traits and stock market investment patterns in 100 Indians. They confirmed many previous studies by concluding that males invest more than females and that Extraverts invest more than Introverts.

Inevitably, the personality correlates associated with risk preferences has been very well researched, although results have been mixed (Belcher, 2010). One important personality variable is Sensation Seeking, which measures behaviours such as thrill and adventure seeking, disinhibition, and boredom susceptibility. Testing nearly 300 private investors, Sokolowska and Makowiec (2017) showed that Sensation Seekers perceive less risk in bull (but not bear) markets. In short, as predicted in their study, Sokolowska and Makowiec (2017) noted that Sensation Seekers show a preference for risky portfolios. Those who make decisions in bull markets chose more risky portfolios. Sensation seeking positively correlated with preference for risky portfolios in both market conditions. There have also been a number of studies on the relationship between personality and confidence/over-confidence in financial decision making with mixed results (see Bashir et al., 2013).

Overall, the literature suggests that five personality traits play some part in explaining an IMs decision-making processes and behaviour, as well as describing IM cognitive biases. Extraverts may be impulsive, over-optimistic, and over-confident. Neurotics and those with high agreeableness appear to be too slow and cautious. Conscientiousness has been shown to be related overall to risk aversion, while Openness seems to be associated with high risk taking. The more “extreme” the score/preference, the more important that variable in relating to financial decision making.

Investment Management: The Dark Side

Psychologist often try to contrast the “bright” and “dark” side of personality. Several recent studies have looked at very specific dark traits associated with personality disorders. Lu and Teo (2018) for example, found that high testosterone, masculine hedge fund managers were less successful as they had a preference for lottery-like stocks and were reluctant to sell losing stocks. Noe and Vulkan (2018) argued that investment decisions are usually made in a group context. They were particularly interested in the social aggressiveness of portfolio managers, which leads some managers to attempt to dominate their social group rather than use the group to help make better decisions. In an experimental study with business school students, They showed that the more aggressive the manager, the more likely the manager was to recommend risky investment decisions consistent with the person's own personal preferences. They concluded (p. 14):

> *In short, our results point to a hitherto ignored "elephant in the room"— the effect of personality on risk taking in the social context of the finance industry. We investigated whether a prima facie important non-cognitive trait of fund managers, one that financial firms routinely screen for in hiring—aggressiveness—effects fund manager behavior. We documented strong, economically significant effects of personality on behavior. Given the externalities generated by risk taking by financial firms, our results suggest that the managerial personality may significantly affect financial stability*.

In another interesting and important study, Ten Brinke, Kish, and Keltner (2018) coded the behaviour of 101 hedge fund managers related to the extent to which the managers were Psychopathic, Machiavellian, and Narcissistic. They then looked at the relationship between these dark traits and the managers' financial performance over 10 years as measured by annualized returns, and various technical ratios. They found higher Psychopathic traits were associated with lower absolute returns, and that Narcissism was associated with decreased risk-adjusted returns. Thus, the popular idea that callous, manipulative, deceptive, Psychopaths thrive and succeed in the investment world appears to be a false narrative. Thus, it may be that the dishonesty of Psychopaths (detected by their colleagues) and the over self-confidence of narcissists leads to poor investment decisions.

Overall, it seems that traits associated with volatility in a cognitive (openness), emotional (neuroticism), and social (extraversion) sense are most likely to be related to risk-taking and decision making. Added to this are the concepts of aggression and freneticism which have been linked to Type A behaviour and risk taking in many aspects of life

Concepts in Practice

Many researchers have recognised that while personality traits have an impact on investment decisions, personality traits are also influenced by other factors. These influencers may include the type of organisation an IM works for, the amount of money an IM has to invest, or the sector that the IM works in. This implies that personality traits may act as *moderator and mediator* variables. Consider the work of Akhtar et al. (2018); these researchers looked at 101 Indian investors and showed that the relationship between personality traits and IM investment performance is moderated by social contact and media. Other studies have indicated that investment type, based on investment philosophy (e.g., contrarian, ethical investing), has a strong impact on stock return volatility. Whilst it may be possible to show that different personality types are more likely to follow different investment philosophies (Agreeable people being Ethical Investors; Open people following a Contrarian philosophy) it is highly debateable whether one investment philosophy is always more successful than another.

Conclusion

As noted in this review paper, the literature relating individual characteristics, particularly personality characteristics, of IMs to decision-making processes is diverse and growing. It is nonetheless important to understand that much of the literature is very scattered. Some studies are empirical, whereas other studies are based on personal experience. Researchers come from very different disciplines—accounting, actuarial science, economics, financial planning, engineering, finance, management, and psychology. Not only does each disciple have its preferred theories and methodologies, each discipline brings a unique level of expertise to the topic, with associated limitations. Some do small scale experiments using students while others interrogate large databases.

Regardless of the professional background or the theoretical orientation of studies, the literature is *relatively unanimous* is concluding that the personality of IMs impacts on many aspects of their work, including who they hire as analysts, how they manage staff, and of course, how they make decisions. Understanding an IM's ability, personality, and motivation can go a long way to explain his or her success or failure. Personality is about preference—preference for risk, decision making style, reactions to success and failure, emotional regulation, management style, and a host of additional factors. As the research has shown, personality is related to behavioural biases and risk-preferences, both of which clearly impact on IM decision making.

When making IM selections, it is important, as the literature clearly shows, to consider IN and OUT factors. That is, it is important to list both bright and dark-side traits that are associated with high performance while minimizing traits that lead to sub-optimal performance. It is important to have a procedure to look for these traits: looking for traits that are positively and negatively related to IM success.

Perhaps most relevant, and also most forgotten, insight from the literature is related to the concept of optimal. It is clear that despite what many people believe, there is rarely a *linear* relationship between IM traits and success. Instead, success tends to be a *curvilinear* relationship. That is, there is evidence of optimal rather than maximal relationships. As such, it is important to look for IMs to have enough (rather than too much) of each characteristic. Similarly, it is clear that some traits are more important than others.

The ability of a financial planner or investor to change or moderate a IMs or one's personality is beyond the scope of this paper. Most would accept the fact that with sufficient feedback and help, IMs can develop and change some of the behaviours associated with trait characteristics. However, even if this is the case, the ability of a financial planner to prompt changes among IMs is limited. With this in mind, the focus associated with selecting an IM should be on matching IM trait characteristics to the needs of clients and current market conditions. Current developments in assessment through Big Data may also be useful here (Ihsan & Furnham, 2018). Thus, accessing data from the web and looking at an individual's business and personal network and communication history could yield important additional data to improve selection.

Finally, in this regard, it is important to note Furnham's (2019) cautionary note:

> *Finally, just as it is important not to neglect personality variables in understanding work success, it is important not to over-emphasize their role. Many studies show that personality traits account for only modest amounts of variance. More importantly, they can act as moderator and mediating factors. However, what is more often the case is that the relationship between personality and work success is mediated and moderated by other measurable and specifiable factors. It is only in understanding these variables and processes that one can really understand how, when and why personality traits have such an important impact on success in the workplace.*

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Table 1. The Big Five traits

High	Average	Low
1. *Neuroticism*		
Sensitive, emotional and prone to experience feelings that are upsetting.	Generally calm and able to deal with stress, but sometimes experience feelings of guilt, anger or sadness.	Secure, hardy and generally relaxed, even under stressful conditions.
2. *Extraversion*		
Extraverted, outgoing, active and high-spirited. Prefer to be around people most of the time.	Moderate in activity and enthusiasm. Enjoy the company of others but also value privacy.	Introverted, reserved and serious. Prefer to be alone or with a few close friends.
3. *Openness-to-experience*		
Open to new experiences. Have broad interests and are very imaginative.	Practical but willing to consider new ways of doing things. Seek a balance between the old and the new.	Down-to-earth, practical, traditional and pretty much set in your ways.
4. *Agreeableness*		
Compassionate, good-natured and eager to cooperate and avoid conflict.	Generally warm, trusting and agreeable, but can sometimes be stubborn and competitive.	Hard-headed, sceptical, proud and competitive. Tend to express anger directly.
5. *Conscientiousness*		
Conscientious and well organised. Have high standards and always strive to achieve goals.	Dependable and moderately well organised. Generally have clear goals but are able to set work aside.	Easy-going, not very well organised, and sometimes careless. Prefer not to make plans.

Source: Adapted from Costa and McCrae (1987)

Table 2: The DSM IV and the HDS

DSM Labels	Theme	PROFILE Scale	Theme	HDS Scale	Theme
Borderline	Inappropriate anger; unstable and intense relationships alternating between idealization and devaluation.	Unstable Relationships	Flighty; inconsistent; forms intense albeit sudden enthusiasms and disenchantments for people or projects	Excitable	Moody a to please but short enthusias people, p things
Paranoid	Distrustful and suspicious of others; motives are interpreted as malevolent.	Argumentative	Suspicious of others; sensitive to criticism; expects to be mistreated	Skeptical	Cynical, distrustfu doubting true inter
Avoidant	Social inhibition; feelings of inadequacy and hypersensitivity to criticism or rejection	Fear of Failure	Dread of being criticized or rejected; tends to be excessively cautious; unable to make decisions	Cautious	Reluctan risks for being rej negativel evaluated
Schizoid	Emotional coldness and detachment from social relationships; indifferent to praise and criticism	Interpersonal Insensitivity	Aloof; cold; imperceptive; ignores social feedback	Reserved	Aloof, de and uncomm lacking i or aware the feelin others

Passive-Aggressive	Passive resistance to adequate social and occupational performance; irritated when asked to do something he/she does not want to	Passive-Aggressive	Sociable, but resists others through procrastination and stubbornness	Leisurely	Independ ignoring requests becomin or argum if they pe
Narcissistic	Arrogant and haughty behaviors or attitudes; grandiose sense of self-importance and entitlement	Arrogance	Self-absorbed; typically loyal only to himself/herself and his/her own best interests	Bold	Unusuall confiden feelings grandios entitleme overvalu one's cap
Antisocial	Disregard for the truth; impulsivity and failure to plan ahead; failure to conform with social norms	Untrustworthiness	Impulsive; dishonest; selfish; motivated by pleasure; ignoring the rights of others	Mischievous	Enjoying taking ar limits; ne exciteme manipula deceitful and expl
Histrionic	Excessive emotionality and attention seeking; self-dramatizing, theatrical, and	Attention-seeking	Motivated by a need for attention and a desire to be in the spotlight	Colorful	Expressi animated dramatic to be not needing t center of

	exaggerated emotional expression				
Schizotypal	Odd beliefs or magical thinking; behavior or speech that is odd, eccentric, or peculiar	No Common Sense	Unusual or eccentric attitudes; exhibits poor judgement relative to education and intelligence	Imaginative	Acting a thinking creative a sometim unusual v

Table 3: The 10 Values & Motives

Recognition: Desire to be known, seen, visible, and famous, which leads to a. lifestyle guided by a search for opportunities to be noticed and dreams of fame and high achievement, whether or not they are fulfilled.

Power Desire to succeed, make things happen, make a difference and outperform the competition.

Hedonistic Pursuit of fun, excitement, pleasure, and a lifestyle organised around eating, drinking, and entertainment.

Altruistic Desire to help others, a concern for the welfare of the less fortunate in life, and a lifestyle organised around public service and the betterment of humanity.

Affiliation Needing and enjoying frequent and varied social contact, and a lifestyle organised around social interaction.

Tradition A belief in and dedication to old-fashioned virtues such as family, church, thrift, hard work, appropriate social behaviour, and a lifestyle that reflects these values.

Security A need for predictability, structure, and efforts to avoid risk and uncertainty - especially in the employment area - and a lifestyle organised around minimising errors and mistakes.

Commerce Interest in earning money, realising profits, finding new Business opportunities, and a lifestyle organised around investments and financial planning.

Aesthetics Need for self-expression, a dedication to quality and excellence, an interest in how things look, feel, and sound, and close attention to the appearance of things.

Science Being interested in science, comfortable with technology, preferring data based - as opposed to intuitive - decisions, and spending time learning how things work.