The influence of risk stakeholder personality on risk framing: an exploratory study

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Co-supervisor: Ms. H. Pretorius

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PREFACE

This mini-dissertation is the final deliverable in the Centre for Applied Risk Management (UARM)'s taught master's degree programme. The mini-dissertation was written in article format and consists of three sections: Research project overview, Article, and Reflection.

This mini-dissertation is the student's work. The student was responsible for the final concept, set-up, execution of the research project and writing of the mini-dissertation. The members of the supervisory team contributed in an advisory and technical support capacity on study conception and design, analysis and interpretation of data, and critical revision of the manuscript by the student. The mini-dissertation was language edited before hand-in.

The main study supervisor gave the student permission to hand this mini-dissertation in for examination.
ABSTRACT

Corporate governance models segregate the role of risk manager and risk taker to allow for independent challenge of risk-related decisions. Numerous studies have demonstrated that broad personality traits predict risk-related behaviour. While prospect theory revealed a natural preference towards risk-taking in a negative risk frame, studies have also shown the influence of personality traits on risk preference. We investigated the less reported subject of the potential influence of risk stakeholder personality on risk decision making in the corporate environment. We expected to observe that the personality traits of risk takers and risk managers will differ as a consequence of occupational self-selection. Further, we expected that such personality differences will produce disparate risk preferences between risk takers and risk managers, supporting the governance expectation of independent challenge of risk-related decisions. A sample of investment banking risk stakeholders (n = 100) completed the HEXACO–PI–R as well as a vignette-based risky choice questionnaire involving positively and negatively framed financial risk scenarios. We found homogeneity in personality traits between risk takers and risk managers but observed a noticeable bias toward risk-taking in the negative frame by risk managers. High Honesty–Humility and Conscientiousness scores in both groups may negate the risk of irresponsible risk-taking or undesirable risk behaviour. The results of this study confirm the importance of personality screening for job applicants and should also alert risk practitioners to potential weaknesses in the independent challenge of risk-related decisions as a result of personality homogeneity among risk stakeholders.

Key terms: HEXACO, prospect theory, risk framing, financial risk management, vignette study, personnel selection
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FIGURE

Figure 1: Study concept outline. ............................................................................................ 1
The research project overview is described with reference to the study concept outline depicted in Figure 1.

Corporate governance guidelines emphasise the responsibility of risk managers to challenge the risk-related decisions of risk takers. Independence of the risk manager from the risk taker is important for such challenges to add value to the business activities. As such, corporate governance models segregate the roles of the risk taker and risk manager. The influence of personality traits on risk-related behaviour has been the topic of various studies and is well documented in the academic literature. The existence of a natural risk-taking bias proposed by prospect theory has also been demonstrated by a number of studies. In a formal risk management context, the independence of risk managers could be undermined if the personality traits of risk takers and risk managers are too similar. This potentially undetected weakness of formal risk management practices prompted me to explore the influence of personality traits of risk stakeholders on the contribution of risk managers in challenging risk-related decisions. Financial institutions have been at the forefront of formalising risk
management practices. Despite these initiatives, investment banks, in particular, are associated with sensational losses in the recent past. The findings of this study could therefore provide valuable practical insight to optimise the contribution of risk management through awareness of potential deficiencies in risk management practices and role-based personality employment screening.

The journal *Personality and Individual Differences* is dedicated to publishing articles that explore the influence of personality factors or explain individual differences in disciplines such as industrial psychology. As this study explores the influence of risk stakeholder personality traits on the contribution of formal risk management to risk-related decisions, the study is ideally aligned with the aims of the journal. The notable contribution that articles from *Personality and Individual Differences* added to the background for this study further demonstrates the alignment between this research topic and the aims of the journal. Searches conducted using the North-West University library as well as Google Scholar, using the key words of this article, consistently returned articles published in *Personality and Individual Differences*. No other journal displayed the same consistency in search results. Personality psychology researchers and practitioners such as industrial psychologists comprise the readers of the journal and constitute the intended target audience for this article. *Personality and Individual Differences* was therefore selected as the most appropriate journal for publication of this research article.
ARTICLE

1 Abstract

Corporate governance models segregate the roles of risk manager and risk taker to allow for independent challenge of risk-related decisions. Numerous studies have demonstrated that broad personality traits predict risk-related behaviour. While prospect theory revealed a natural preference towards risk-taking in a negative risk frame, studies have also shown the influence of personality traits on risk preference. We investigated the less reported subject of the potential influence of risk stakeholder personality on risk decision making in the corporate environment. We expected to observe that the personality traits of risk takers and risk managers will differ as a consequence of occupational self-selection. Further, we expected that such personality differences will produce disparate risk preferences between risk takers and risk managers, supporting the governance expectation of independent challenge of risk-related decisions. A sample of investment banking risk stakeholders (n = 100) completed the HEXACO–PI–R 60 item personality inventory as well as a vignette-based risky choice questionnaire involving positively and negatively framed financial risk scenarios. We found homogeneity in the personality traits of risk takers and risk managers but observed a noticeable bias toward risk-taking in the negative frame by risk managers. High Honesty–Humility and Conscientiousness scores in both groups may negate the risk of irresponsible risk-taking or undesirable risk behaviour. The results of this study confirm the importance of personality screening for job applicants and should also alert risk practitioners to potential weaknesses in the independent challenge of risk-related decisions as a result of personality homogeneity among risk stakeholders.

Key terms: HEXACO, prospect theory, risk framing, financial risk management, vignette study, personnel selection

2 Introduction

A risk manager must be able to challenge the risk–related decisions of risk takers to allow the risk management function to add value to business. Accordingly, the roles of risk taker and risk manager are segregated to facilitate such challenges in corporate governance models (Doughty, 2011). We also expect typical personality differences between risk takers and risk managers due to self-selection based on the requirements of these two roles. Such role-related personality differences should allow for healthy debate on risk-related questions. On the other
hand, homogeneous personality traits of risk takers and risk managers could undermine the risk manager’s ability to effectively challenge risk takers’ decisions.

The academic studies listed in Table 1 demonstrated the influence of personality traits on risk-taking behaviour. Other studies found an inherent bias in the risk-taking propensity of individuals based on the manner in which risk is framed (Tversky & Kahneman, 1981; Van Gelder, De Vries, & Van Der Pligt, 2009) and that personality traits influence our perception of risk (Mishra & Lalumière, 2011; Weller & Thulin, 2012). These studies mostly involve academic participants and tend to consider risk in the broad social context. No studies exploring the interplay between personality traits and risk frame relating to formal risk management in the financial services could be found in academic journals.

Accordingly, this study explored the potential impact of risk stakeholder personality traits on the contribution of risk-based decisions in an investment bank according to the research design shown in Figure 1. We anticipated observing heterogeneous personality traits among risk takers and risk managers due to role-based disposition. Such a situation should produce contrasting risk perceptions and facilitate healthy deliberation on risk responses. If the two groups are too similar, one could expect groupthink in decision making with resultant depletion in the value add of the risk management function to business decisions. Such a result would suggest the importance of role-based personality employment screening and raise awareness of a potential inherent weakness in formal risk management practices.

3 Background

This section summarises existing theory and published research results on the link between personality traits, risk behaviour and risk framing.

3.1 Risk management

Formal risk management practices in the South African banking environment are aligned to the Basel Committee on Banking Supervision (BCBS) guidelines (SARB, 2015). These guidelines stress the importance of independent participation of risk managers in risk-related decision making processes, thereby requiring independence of risk managers from risk takers (BCBS, 2015). Such independent participation should facilitate debate between risk stakeholders to ensure appropriate consideration of, and response to, potential risks associated with all business decisions. The contribution of the risk management function to this process relies heavily on the ability of the risk manager to think and act independently of the risk taker.
3.2 Prospect theory

Prospect theory has largely replaced expected utility theory as the preferred model to explain the manner in which individuals evaluate risk (Barberis, 2013). Prospect theory asserts that individuals are inept at assessing the likelihood of risk materialising. People also tend to experience loss (negative situations) more severely than gains (positive situations) (Tversky & Kahneman, 1981). Studies have demonstrated that individuals would typically favour taking risk to reduce losses, but avoid taking risk to increase gains (Benjamin & Robbins, 2007; Roszkowski & Snelbecker, 1990; Schurr, 1987). Although prospect theory provides a generalised portrayal of risk-taking preference, the tendency to engage in risky activities is also related to personality.

3.3 Personality traits and risk behaviour

A number of studies have shown links between personality traits and risk behaviour. Table 1 lists a representative sample of such studies.

Table 1: Studies exploring the link between personality and risk behaviour

<table>
<thead>
<tr>
<th>Authors</th>
<th>Participants</th>
<th>Personality assessment</th>
<th>Risk behaviour related to</th>
<th>Behaviour and personality trait</th>
</tr>
</thead>
<tbody>
<tr>
<td>De Vries, De Vries, and Feij (2009)</td>
<td>Undergraduate psychology and educational science students</td>
<td>HEXACO–PI 208 and HEXACO–PI–R 200</td>
<td>Sensation seeking</td>
<td>Openness to experience Extraversion</td>
</tr>
<tr>
<td></td>
<td>Heterogeneous community participants</td>
<td></td>
<td></td>
<td>Conscientiousness Honesty–Humility Emotionality</td>
</tr>
<tr>
<td>Dunlop, Morrison, Koenig, and Silcox (2012)</td>
<td>Undergraduate psychology students plus nominated peers</td>
<td>HEXACO–PI 60</td>
<td>Adult delinquency</td>
<td>Extraversion Honesty–Humility</td>
</tr>
<tr>
<td>Gardiner and Jackson (2012)</td>
<td>Full-time employees from predominantly service, educational, retail and production sectors</td>
<td>NEO–IPIP 50</td>
<td>Maverickism</td>
<td>Extraversion Openness to experience Agreeableness</td>
</tr>
<tr>
<td>Nicholson, Soane, and Fenton</td>
<td>Student and executive participants in</td>
<td>NEO–PI–R 240</td>
<td>Domain-specific risk-taking</td>
<td>Extraversion Openness to experience Neuroticism Agreeableness Conscientiousness</td>
</tr>
</tbody>
</table>
The studies in Table 1 applied the Five Factor model (FFM) or the six factor HEXACO personality inventory to assess personality traits. The FFM assesses five broad personality dimensions: Neuroticism, Extraversion, Openness to experience, Agreeableness, and Conscientiousness (Gardiner & Jackson, 2012). The acronym HEXACO refers to the six broad personality dimensions measured by the instrument: Honesty–Humility (H), Emotionality (E), Extraversion (X), Agreeableness (A), Conscientiousness (C), and Openness to experience (O) (Ashton, Lee, & Goldberg, 2007). The FFM and HEXACO measure similar dimensions of Extraversion, Conscientiousness and Openness to experience, whereas the concepts of Agreeableness, Neuroticism and Emotionality differ between the two models. Honesty–Humility is a new construct introduced through HEXACO (Ashton & Lee, 2009). Although these studies differ in terms of participants, risk behaviour and personality assessment tools, similar trends emerge with regard to personality traits and risk-taking as can be seen in Table 1.

<table>
<thead>
<tr>
<th>O’Creevy, and Willman (2005)</th>
<th>graduate and company-specific training programmes</th>
<th>Social and recreational risk-taking</th>
<th>Openness to experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weller and Tikir (2011)</td>
<td>Undergraduate students</td>
<td>HEXACO–PI 192</td>
<td>Honesty–Humility</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Health, safety and ethical risk-taking</td>
<td>Risk awareness</td>
</tr>
</tbody>
</table>

Studies applying the Five Factor model in the form of the NEO Personality Inventory Revised (NEO–PI–R) or International Personality Item Pool (NEO–IPIP) demonstrate positive association between Openness to Experience and Extraversion to increased risk-taking, while Agreeableness is associated negatively with increased risk-taking behaviour.

Studies based on the HEXACO personality inventory (HEXACO–PI) and revised HEXACO personality inventory (HEXACO–PI–R) concur that low levels of Honesty–Humility are repeatedly associated with increased risk-taking, with all facets of this trait inversely related to risk-taking behaviour. Conscientiousness is also negatively associated with risk-taking, albeit less consistently observed than Honesty–Humility, with facets Diligence and Prudence displaying the strongest negative associations with risk-taking behaviour. Emotionality is negatively associated with status-driven risk-taking as well as sensation seeking, with Fearfulness most notably influencing this association. Conversely, high levels of Extraversion and Openness to Experience were regularly observed to display positive associations with risk-taking, while Agreeableness was not found to correlate strongly with risk-taking. The lack of
correlation of Agreeableness with risk-taking found in current studies may be due to a difference in the definition of the factor between the FFM and HEXACO. However, more research will be required to establish whether this discrepancy is a consistent feature of the two instruments.

From the studies listed in Table 1, we conclude that individuals with high levels of Extraversion and Openness to Experience and low levels of Honesty–Humility, Emotionality/Neuroticism and Agreeableness will be more likely to engage in risky activities. Low levels of Honesty–Humility have also been associated with the “Dark Triad” of Machiavellianism, narcissism and psychopathy, representative of three materialisations of a general propensity to exploit and manipulate others (Lee & Ashton, 2014). In addition, Agreeableness may play a role in groupthink during decision making (De Dreu, Nijstad, & van Knippenberg, 2008).

3.4 Personality traits and risk framing

Drawing from the work of Nicholson et al. (2005) as well as Weller and Tikir (2011), we reason that the differences in associated personality traits for domain-specific risk could also be influenced by the participant’s perception of the risk. Risk framing refers to the effect of perceiving risk either from a negative (loss) or positive (gain) perspective (Roszkowski & Snelbecker, 1990). Three different categories of risk framing have been identified, namely, risky choice, attribute framing and goal framing (Levin, Schneider, & Gaeth, 1998). Each risk frame category emphasises a different aspect of the choice presented. Risky choice can be presented as a decision between a risky option and a riskless option where the anticipated value of both outcomes is equivalent. In contrast, attribute framing concerns positive or negative characteristics of an option to the participant for evaluation, while goal framing concerns presentation of the outcome of a choice in a negative or positive manner (Levin et al., 1998). Risky choice can thus be used as an objective measure to assess an individual’s natural preference for, or aversion to, risk-taking.

Studies have demonstrated associations between personality traits and risk framing. Using Zuckerman’s Sensation-Seeking Scale (SSS-V), Eysenck’s Impulsivity Scale (EIS), Retrospective Behavioural Self-Control Scale (RBS) and Domain-Specific Risk-Taking Scale (DOSPERT) for personality assessment, Mishra and Lalumière (2011) demonstrated positive associations between impulsivity and sensation seeking to negative risk frames (risky choice) and negative associations between self-control and negative risk frames. Weller and Thulin, applying the HEXACO–PI–R, demonstrated associations between Honesty–Humility, Emotionality and Conscientiousness across risk frames. Low levels of Honesty–Humility were associated with increased risk-taking in both a positive and negative risk frame. While the facets Greed-avoidance and Fairness were inversely related with risk-taking in a positive risk frame, all
facets of Honesty–Humility were inversely related to risk-taking in a negative frame. High levels of Conscientiousness, specifically the facets of Perfectionism, Diligence and Prudence, were positively linked with risk-taking in a gain frame. Emotionality, particularly through the facets of Fear and Dependence, was inversely related to risk-taking in both a negative and positive risk frame (Weller & Thulin, 2012). Despite using different personality assessments, both these studies concur that the general risk-taking bias proposed by prospect theory is influenced significantly by personality traits.

3.5 Hypotheses

Drawing from the literature, two hypotheses concerning the differences in risk preference and personality traits between risk takers and risk managers were investigated in this study.

First, we anticipated observing significant differences in the personality traits of risk managers and risk takers, with risk managers generally reflecting higher levels of Honesty–Humility and Conscientiousness as well as lower levels of Extraversion and Openness to experience than their risk-taking counterparts. The regimented nature of risk management functions as well as the relative obscurity of the risk manager in comparison with the risk taker suggests a natural selection of these personality traits for the respective roles.

Second, it is expected that risk managers will generally display a higher level of risk aversion than risk takers, due to the functional perspective of the respective roles. We further expected that this aversion to risk would apply to risk in both a negative and positive risk frame.

4 Method

4.1 Participants

This study focused on risk stakeholders in an investment banking environment. Permanent employees from a South African investment bank were invited to participate in this study on a voluntary basis. Risk stakeholders consisted of two main groups: risk takers and risk managers. The risk taker group comprised investment bank employees involved in the core function of the bank, i.e. trading and lending activities. The risk manager group comprised investment bank employees tasked with risk supervision. Risk managers therefore included representatives from market risk, credit risk, legal risk, operational risk, and compliance risk. No members of the sample were excluded, thereby avoiding specific bias in the sample on top of unintended bias due to the voluntary nature of the sampling method.
4.2 Procedure and Measures

A self-administered online survey was distributed to the risk stakeholders consisting of the HEXACO–PI–R 60 item personality inventory and an exploratory vignette-styled risk preference questionnaire.

The risk preference questionnaire was created for the purpose of this study. It was modelled after prospect theory and designed specifically to assess risky choice valence using hypothetical scenarios in a story vignette style. The vignette style presents a brief hypothetical scenario, based on real events, to the participant for evaluation. Vignettes are expected to allow the researcher to create a context-specific research instrument that allows for greater statistical analysis than would be possible from open-ended questions (Alexander & Becker, 1978). Accordingly, eight investment banking context-specific scenarios with two options per scenario were created for this study. The scenarios were based on financial risk with four scenarios mimicking trading and four mimicking lending activity. Although the financial outcome of each option was equal, the options were respectively presented in a negative frame and a positive frame. In the positive frame the participant had the option to select a riskless option (a sure recovery) or a risky option (a probability to recover).

For example, a positively framed scenario associated with trading activity would read; “You invested R600,000 in Zimbabwean dollar (ZD). Civil unrest broke out in the country and the value of the local currency is set to decrease dramatically. You have two options available to exit your ZD position. Which do you prefer? Option A, R200,000 of your investment will definitely be recovered; Option B, there is a one-third probability that all R600,000 will be recovered, and a two-thirds probability that none of the investment will be recovered”.

Similarly, the negative frame presented a riskless option (a sure loss) and a risky option (probability to lose). For example, a negatively framed scenario associated with lending activities would be presented as; “You issued a loan to a large mining company. The company’s financial position has deteriorated dramatically and you need to recover your loan. The total loan value is R240,000. Two alternatives for recalling the loan are proposed. Which option do you prefer? Option A, you will definitely lose R160,000; Option B, according to estimates, there is a one-third probability that nothing will be lost and a two-thirds probability that the full R240,000 will be lost”.

The financial outcome of both risky and riskless options was equal in order to test risky choice valence (Levin et al., 1998). A binary scoring scale was applied to the preference questionnaire with the selected and unselected options attracting scores of 1 and 0, respectively.
4.3 Analysis

Testing for significant difference in personality traits involved the means of two variables, namely, risk taker and risk manager and t-tests could thus be used. The risky choice preference of risk stakeholders were evaluated using chi-squared tests to allow for comparison of multiple means.

5 Results and Discussion

Ninety-seven valid responses were obtained from 64 risk managers and 33 risk takers. An administrative error in the HEXACO questionnaire was detected during the survey process. This section therefore commences with an account of the error, applied remediation and conclusion from the test of validity of the responses. The subsequent sections explore the influence of personality traits and risk preference on the contribution of risk management to risk decisions with reference to our two hypotheses:

- Hypothesis 1 – Personality traits of risk managers and risk takers will differ significantly;
- Hypothesis 2 – Risk managers will generally display a higher level of risk aversion than risk takers.

5.1 Validity of results

An administrative error resulted in the option “Strongly agree” being presented as “Strongly disagree” for item 6 in the HEXACO scale. The error was reported by two participants after 82 of our sample had completed the survey. The survey was temporarily suspended to correct the error and the data for the 82 completed responses extracted. The survey was re-initiated after which 18 additional responses were collected. As the affected item related to Honesty–Humility, the Cronbach α statistic was calculated to test the internal consistency reliability for Honesty–Humility.

The overall HEXACO Cronbach α coefficient for this sample was 0.72. This corresponds well with the Cronbach α of 0.76 obtained for a larger sample (n = 138) from a similar stakeholder population in the mini-dissertation by Leanne Williams. Table 2 contains the Cronbach α coefficient for each HEXACO factor:
Table 2: Cronbach α: HEXACO factors

<table>
<thead>
<tr>
<th>HEXACO Factor</th>
<th>Cronbach α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honesty-Humility</td>
<td>0.67</td>
</tr>
<tr>
<td>Emotionality</td>
<td>0.69</td>
</tr>
<tr>
<td>Extraversion</td>
<td>0.74</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>0.69</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>0.71</td>
</tr>
<tr>
<td>Openness to Experience</td>
<td>0.68</td>
</tr>
</tbody>
</table>

The lower Cronbach α for the Honesty-Humility factor agrees with the findings in the Leanne Williams masters study. Further checks were done to investigate whether the option issue negatively contributed to the validity of the Honesty-Humility factor in this research.

Cronbach α was computed on the 82 initial responses as well as the overall data set. The Honesty–Humility Cronbach α for the initial 82 responses was computed at 0.62 and weakened to 0.59 when item 6 was excluded. This indicated that the administrative error did not significantly reduce the reliability of the data set. The Honesty-Humility Cronbach α increased to 0.67 when the 18 additional responses were included in the data set.

For the full data set, Item 6 contributed well to the Honesty-Humility factor compared to the other Honesty-Humility items as shown in Table 3. Item 54 showed the worst correlation with the factor and was the only item that resulted in an increase in Cronbach α when deleted. This indicates an opportunity for further study into the suitability of HEXACO for the South African market.

Table 3: Honesty-Humility Cronbach Coefficient Alpha with Deleted Variable (full set of 100 responses)

<table>
<thead>
<tr>
<th>Deleted variable</th>
<th>Raw Variables</th>
<th>Correlation with Total</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q6</td>
<td></td>
<td>0.44</td>
<td>0.62</td>
</tr>
<tr>
<td>Q30R</td>
<td></td>
<td>0.49</td>
<td>0.61</td>
</tr>
<tr>
<td>Q54</td>
<td></td>
<td>0.12</td>
<td>0.69</td>
</tr>
<tr>
<td>Q12R</td>
<td></td>
<td>0.29</td>
<td>0.65</td>
</tr>
<tr>
<td>Q36</td>
<td></td>
<td>0.40</td>
<td>0.63</td>
</tr>
<tr>
<td>Q50R</td>
<td></td>
<td>0.34</td>
<td>0.65</td>
</tr>
<tr>
<td>Q18</td>
<td></td>
<td>0.26</td>
<td>0.66</td>
</tr>
<tr>
<td>Q42R</td>
<td></td>
<td>0.40</td>
<td>0.63</td>
</tr>
<tr>
<td>Q24R</td>
<td></td>
<td>0.32</td>
<td>0.64</td>
</tr>
<tr>
<td>Q48R</td>
<td></td>
<td>0.32</td>
<td>0.64</td>
</tr>
</tbody>
</table>
In addition, a poll of the 82 initial participants confirmed that the participants correctly interpreted the option for “Strongly agree” based on the sequence of the other items in the HEXACO scale. Based on this, the data set was considered adequately valid for the purposes of this study.

5.2 Risk stakeholder personality traits

Significant differences in the personality traits of risk managers and risk takers were expected under Hypothesis 1. Table 4 displays the mean scores of risk takers and risk managers for each HEXACO personality trait. Emotionality was found to be the only statistically significant difference in the mean between the risk stakeholder groups at the 5% significance level ($\alpha = 0.05$). The risk manager group displayed a statistically significant higher mean for Emotionality than the risk taker group. In this study, we therefore failed to reject the null hypothesis for the traits Honesty–Humility, Extraversion, Agreeableness, Conscientiousness, and Openness to experience.

Table 4: Personality traits of risk stakeholders

<table>
<thead>
<tr>
<th>HEXACO factor</th>
<th>Overall mean (n = 97)</th>
<th>Risk managers (n = 64)</th>
<th>Risk takers (n = 33)</th>
<th>Probability (p-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min = 1 Max = 5</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Honesty–Humility</td>
<td>3.8</td>
<td>3.8</td>
<td>0.45</td>
<td>3.8</td>
</tr>
<tr>
<td>Emotionality</td>
<td>3.0</td>
<td>3.1</td>
<td>0.48</td>
<td>2.9</td>
</tr>
<tr>
<td>Extraversion</td>
<td>3.5</td>
<td>3.4</td>
<td>0.52</td>
<td>3.5</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>3.2</td>
<td>3.2</td>
<td>0.46</td>
<td>3.3</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>4.0</td>
<td>4.0</td>
<td>0.49</td>
<td>3.9</td>
</tr>
<tr>
<td>Openness to experience</td>
<td>3.5</td>
<td>3.4</td>
<td>0.55</td>
<td>3.6</td>
</tr>
</tbody>
</table>

*Significant at $p = 0.05$ level

Drawing from the work of Ashton et al. (2010), the higher Emotionality score among risk managers may suggest an elevated awareness of risk to themselves and those they feel a responsibility towards. One could add to this the potential effect of the requirement that risk managers must challenge risk takers on their decisions. This is not an easy task and can be expected to lead to greater emotionality in the risk taker group. Understanding the reasons for higher emotionality in the risk taker group should be of importance to organisations and could be explored in a future study. Such further study could also include investigating potential elevated scores at facet level such as those found by Ashton et al. (2010) and De Vries et al. (2009).

Risk managers and risk takers scored an equivalent above-average Honesty–Humility mean. This suggests a propensity for active cooperation between risk takers and risk managers (Hilbig, Zettler, Leist, & Heydasch, 2013). The elevated Honesty–Humility mean, in combination with relatively high Openness to Experience mean, suggests a propensity for integrity and ethical
management (Lee, Ashton, Morrison, Cordery, & Dunlop, 2008). The combination of above-average Honesty–Humility and high Conscientiousness means indicates a propensity for self-control (De Vries & van Gelder, 2013). Possible negative risk behaviours such as sensation seeking, status-driven risk-taking and egoism should be mitigated by the above-average Honesty–Humility means of both risk stakeholder groups. Based on previous research, the observed personality traits suggest that both risk stakeholder groups should be disinclined to engage in risky behaviour, leading to anticipated high levels of risk aversion for both groups.

5.3 Risk preference of risk stakeholders

Table 5 compares the proportionate risky choice options selected by risk stakeholders overall as well as each risk stakeholder group, respectively. We expected risk managers to display a higher overall risk aversion than risk takers. The chi-squared analysis confirms the absence of statistically significant differences between the risk stakeholder groups at the 5% significance level ($\alpha = 0.05$). We therefore failed to reject the null hypothesis for this test.

Table 5: Percentage of participants selecting a riskless or risky option per scenario and stakeholder group

<table>
<thead>
<tr>
<th>Scenario and frame</th>
<th>Total (%)</th>
<th>Risk managers (%)</th>
<th>Risk takers (%)</th>
<th>Chi-squared</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 97)</td>
<td>(n = 64)</td>
<td>(n = 33)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Riskless</td>
<td>Risky</td>
<td>Riskless</td>
<td>Risky</td>
<td></td>
</tr>
<tr>
<td>1 Trading (Positive)</td>
<td>70</td>
<td>30</td>
<td>73</td>
<td>27</td>
<td>1.00</td>
</tr>
<tr>
<td>2 Lending (Positive)</td>
<td>67</td>
<td>33</td>
<td>67</td>
<td>33</td>
<td>0.00</td>
</tr>
<tr>
<td>3 Trading (Negative)</td>
<td>49</td>
<td>51</td>
<td>48</td>
<td>52</td>
<td>0.08</td>
</tr>
<tr>
<td>4 Trading (Negative)</td>
<td>61</td>
<td>39</td>
<td>61</td>
<td>39</td>
<td>0.00</td>
</tr>
<tr>
<td>5 Lending (Positive)</td>
<td>71</td>
<td>29</td>
<td>76</td>
<td>24</td>
<td>2.89</td>
</tr>
<tr>
<td>6 Trading (Positive)</td>
<td>84</td>
<td>16</td>
<td>85</td>
<td>15</td>
<td>0.19</td>
</tr>
<tr>
<td>7 Lending (Negative)</td>
<td>62</td>
<td>38</td>
<td>59</td>
<td>41</td>
<td>1.11</td>
</tr>
<tr>
<td>8 Lending (Negative)</td>
<td>63</td>
<td>37</td>
<td>61</td>
<td>39</td>
<td>0.31</td>
</tr>
</tbody>
</table>

*Significant at $p = 0.05$ level (no significant differences found)

The consistent risk aversion indicated by the high percentage choice for the riskless option in Table 5 for both risk stakeholder groups appears to contradict prospect theory’s conclusion that individuals would generally be more risk seeking in relation to a negative risk frame. A decrease in risk aversion is, however, noted when responses to the corresponding positively and negatively framed scenarios are compared. Table 6 provides a summary of the movement from riskless to risky choice when the choice is presented in a negative frame. Scenarios 3, 7, 4 and 8, respectively, presented the negative frames of scenarios 1, 2, 6 and 5.
Table 6: Percentage of participants changing to riskless or risky option under a negative risk frame

<table>
<thead>
<tr>
<th>Scenarios</th>
<th>Risk managers (%)</th>
<th>Risk takers (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 64)</td>
<td>(n = 33)</td>
</tr>
<tr>
<td></td>
<td>Change to riskless option</td>
<td>Change to risky option</td>
</tr>
<tr>
<td>1 vs. 3 (Trading)</td>
<td>6</td>
<td>37</td>
</tr>
<tr>
<td>2 vs. 7 (Lending)</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>6 vs. 4 (Trading)</td>
<td>11</td>
<td>29</td>
</tr>
<tr>
<td>5 vs. 8 (Lending)</td>
<td>13</td>
<td>25</td>
</tr>
<tr>
<td>Average</td>
<td>14</td>
<td>29</td>
</tr>
</tbody>
</table>

On average, 42% of risk managers and 50% of risk takers amended their respective risky choice preference when the choice was presented in a negative frame. While 29% of risk managers changed from a riskless to a risky option, only 14% changed to a riskless option when the choice was presented in a negative frame. The trend for risk takers was contrary to that of risk managers. While 17% of risk takers changed from a riskless to a risky option, 33% changed to a riskless option when the choice was presented in a negative frame. The movement to the risk-averse choice by risk takers is particularly observed for options mimicking lending activities. The observations reflect a tendency for risk takers to be more risk averse when the risk is framed negatively, whereas risk managers become more risk seeking. The observations relating to risk managers correspond to prospect theory, while the observations for risk takers appear to contradict prospect theory. The practical significance of this observation suggests a counterintuitive challenge of risk decisions whereby risk managers may encourage, rather than discourage, risk-taking. However, a recent study demonstrated that supporting or selecting a less popular position is also regarded as a risky choice (Erb, Hilton, Bohner, & Roffey, 2015). The tendency of risk managers to opt for the risky choice could thus also suggest a willingness to challenge the popular choice, reducing the risk of detrimental groupthink (Bénabou, 2013; De Dreu et al., 2008; Hodson & Sorrentino, 1997).

Our investigation into a possible link between personality traits and risk preference for the two groups did not show adequate significant results, perhaps due to the high level of personality trait homogeneity in our sample and should be investigated in a future study.

5.4 Sanity check

In addition to the data discussed in the article, participants were requested to provide their own opinion on the impact of formal risk management practices on risk-taking activities. Question 16 in the survey (see Appendix A) asked: 'In your opinion, do you think that formal risk
management processes discourage risk taking?" with 'Yes' and 'No' as answer options as well as an open-ended comments section. The results showed that from a total of 96 valid responses, 39 participants responded ‘Yes’ and 57 ‘No’; comments were added by 61 respondents to substantiate their selected answer. In total, 50 respondents regarded formal risk management practices as reducing irresponsible risk-taking, rather than discouraging risk-taking altogether, whereas nine participants considered formal risk management as a bureaucratic process that inhibits innovation and delays decision making. Two participants considered formal risk management to have insignificant to no impact on risk-taking propensity on the basis that risk management creates awareness, but does not change a person’s character and that the perception of risk is not uniform.

Between risk stakeholders, 28% of risk managers compared with 9% of risk takers considered formal risk management to have a limited, or no, effect on risk-taking. In contrast, 67% of risk managers felt that formal risk management processes reduce risk-taking, with 49% viewing the reduction as a decrease in irresponsible risk-taking. Seventy-three percent of risk takers felt that risk management processes reduce risk-taking with 58% describing the reduction as a decrease in irresponsible risk-taking. Eighteen percent of risk takers felt that risk management processes stifle business activities compared with 5% of risk managers.

The overall results on this question show that risk takers view formal risk management practices more optimistically than risk managers. Even though both groups believe that formal risk management practices reduce irresponsible risk-taking, a larger contingent of risk takers than risk managers believe that formal risk management practices reduce irresponsible risk-taking. These self-reported results confirm the observations from the study that demonstrated a general aversion to risk-taking across both risk stakeholder groups. This result links to the finding that the personality traits observed for both risk stakeholder groups in this study would be associated with responsible risk-taking rather than undesirable risk behaviour.

6 Conclusion

We did not find significant differences in the personality traits of risk takers and risk managers. Instead, the personality traits of risk managers and risk takers were similar, with the exception of Emotionality. In general, the overall personality profiles of risk takers and risk managers suggest a low propensity for risk-taking.

The data also did not support the anticipated differences in risk preference between risk takers and risk managers. Contrary to our expectations, risk managers, in comparison with risk takers, were more inclined to take risk in a negative frame. Conversely, risk takers displayed a
consistent aversion to risk-taking and displayed a higher risk aversion to risk in a negative frame. Both risk stakeholder groups appeared equally averse to risk-taking in the positive risk frame. It is therefore likely that risk-related decisions may not be effectively challenged by risk managers when the risk is presented in a positive frame. Conversely, risk managers appeared more inclined than risk takers to take risk when the risk was negatively framed. This suggests a counterintuitive challenge of risk decisions by risk managers, potentially increasing risk-taking rather than discouraging it. Prospect theory proposes that individuals experience losses more severely than gains. It is thus plausible that risk managers could perceive loss experiences more intensely than risk takers, due to the perceived failure in their loss preventing capacity. Drawing from the work of Erb et al. (2015), the inclination by risk managers to take risk in a negative frame could also imply a willingness to challenge the popular choice, thereby counteracting the negative impact of groupthink. Such challenge would, however, be limited to situations where risk is presented in a negative frame.

The high Conscientiousness and Honesty–Humility means for both risk stakeholder groups suggested a reduced propensity for status-driven risk-taking, egoism, adult delinquency and sensation seeking (Ashton et al., 2010; De Vries et al., 2009; Dunlop et al., 2012). High means for these traits rather suggests a propensity for self-control, integrity and ethical management (De Vries & van Gelder, 2013; Lee et al., 2008). The high mean scores for Conscientiousness in both risk stakeholder groups also suggested an increased perception of risk and its associated benefits (Weller & Tikir, 2011). It is therefore plausible that increased risk-taking in this regard would not equate to irresponsible risk-taking.

The participating investment bank performs screening on job applicants based on behavioural and competency dimensions. This could explain the observed similarities in personality traits of both risk takers and risk managers, as well as the high means for Honesty–Humility and Conscientiousness. Further study is encouraged to investigate:

• Possible links between personality traits and risk choice preference of risk stakeholders across financial institutions;
• risk responses of risk stakeholder groups with, respectively, similar and dissimilar personality traits, when confronted with risk scenarios framed positively and negatively;
• potential impact of groupthink in risk-related decision making in an investment banking context with specific reference to risk stakeholder personality traits;
• suitability of HEXACO for the South African market;
impact of differences in the definition of the factors between FFM and HEXACO in risk-related study findings. However, more research is required to establish whether this discrepancy is a consistent feature of the two instruments.

7 References


Levin, I. P., Schneider, S. L., & Gaeth, G. J. (1998). All frames are not created equal: A typology and critical analysis of framing effects. *Organizational Behavior and Human Decision Making, 76*(2), 149-188. doi: [http://dx.doi.org/0749-5978/98](http://dx.doi.org/0749-5978/98)


Total word count of article: 5,241 (6,019 including references)

Maximum number of words for single study articles specified for *Personality and Individual Differences*: 5,000

*Note: Submission of this article to a journal will depend on feedback from the examiners and other critical readers. The article will be adjusted according to feedback received to fit the requirements of the selected journal.*
REFLECTION

Although the research project provides novel insight into the influence of personality traits on the contribution of formal risk management practice in a corporate environment, some limitations are acknowledged. The administrative error in the survey could have been avoided by testing the survey on a controlled sample of participants prior to roll-out. Although regrettable, the administrative error enriched my learning experience and will, I hope, contribute in the same way to the academic literature. The study was limited to a single participating investment bank that performs profile screening on job applicants. The observations could have been enriched through the expansion of the sample by the inclusion of additional investment banks that may not perform personality screening on job applicants. The comparison of the study findings to the self-reported effect of formal risk management practices by the participants was insightful. The positive view that risk takers display towards formal risk management practices was contrary to expectations and supports the reported reduction in irresponsible risk-taking in the bank.

The research study also contributed to my personal learning, which I will apply in my vocational activities in future. During my literature research, I observed such a large number of novel findings from published research articles that it was at times difficult to remain focused on the scope and objective of my study. I learned to expand my knowledge from a wide scope of sources, without losing focus on the core objective, in this case the scope of my study. I also learned that research is not just reading, but exploring topics with like-minded individuals and practitioners. These interactions assisted a great deal in broadening my understanding of theoretical principles and how they play out in the real world. The demands on a part-time student are extremely high. The need for effective planning and the self-discipline to keep to the plan is crucial. I did not only learn to construct a plan with “the end in mind”, but also to prioritise my work and study activities in a manner that always retained a focus on my short, medium and long-term goals.
APPENDICES

8     Appendix A – Survey

8.1    Questionnaire explanation and consent

Dear participant,

You are invited to participate in an academic research study conducted on behavioural risk. This study forms part of my dissertation towards the MCom Banking and Financial Risk Management course, presented by the Centre of Applied Risk Management (UARM), North-West University Vaal Triangle Campus. (http://www.nwu.ac.za/uarm/home)

The goal of the study is to explore relationships between personality traits and risk perception. This study focuses on financial risk and specifically targets risk stakeholders in an investment bank.

Please note that:

1. This is an anonymous survey and the answers you give will be treated as strictly confidential.

2. The data will be analysed and reported in aggregated format.

3. The results of the study will be used for academic purposes only and may be published in an academic journal. A summary of the findings will be made available to [participating bank].

4. Please answer the questions as completely and honestly as possible.

5. The first part of the questionnaire asks for biographical information followed by:

   a. A risk preference scale. This scale is based on prospect theory and is designed to elicit the preferred risk response of the participant.

   b. The established HEXACO Six Factor Personality Inventory research instrument.

6. Your participation in this study is voluntary and you may choose not to participate.

7. Only answer the survey once.
Your contribution and willingness to assist in this research project is much appreciated!

Kind regards,

Johan Grobbelaar

I have read the information above and consent to participate in this study on a voluntary basis.

a. Yes
b. No

8.2 Biographical information

This section asks for information about you. This information will be used in the analysis of the data and not to identify you.

Please select the option that best describes you.

01. Please select the option that best describes you?

a. Male
b. Female

02. Your ethnic group

a. Black
b. Coloured
c. Indian
d. White
e. Other

03. Your first language
a. Afrikaans
b. English
c. isiNdebele
d. isiXhosa
e. isiZulu
f. Sesotho sa Leboa
g. Sesotho
h. Setswana
i. siSwati
j. Tshivenda
k. Xitsonga
l. Other

04. Highest level of formal education completed

a. No formal education
b. Primary school
c. High school
d. College
e. University bachelor's degree
f. University post-graduate degree
g. Other

05. Level of your current role in your organisation

a. Board
b. Owner/Executive/C-level
c. Senior management
d. Middle management
e. Non-management

06. Business function relevant to your current role
   a. Risk and compliance
   b. Trading and lending

07. Risk type most relevant to your role
   a. Compliance risk management
   b. Credit risk management
   c. Enterprise risk management
d. Legal risk management
e. Market risk management
f. Operational risk management

8.3 **Risk preference scale**

You will now be presented with eight scenarios. Please read each scenario carefully and indicate which response option you would have preferred:

08. Scenario 1: You bought R60,000 worth of shares (equity) in a company. The company’s financial situation is in jeopardy and so is your investment. You decide to sell your shares. Which option do you prefer?
   a. You will definitely get back R20,000 of your investment,
   b. There is a one-third probability that you will get the full R60,000 of the investment back, and a two-thirds probability that you will get nothing back.

09. Scenario 2: You granted a loan to a chemical company that has since been forced to go out of business. The total loan value is R240,000. Two options for recalling the loan are proposed. Which option do you prefer?
a. You will definitely recover R80,000.

b. There is a one-third probability that all R240,000 will be recovered, and a two-thirds probability that nothing will be recovered.

10. Scenario 3: You bought commodities worth R60,000 on the market. A surplus of the commodity is available and you therefore decide to sell your commodity holdings. Which option would you prefer?

a. You will definitely lose R40,000 of your investment.

b. There is a one-third probability that you will lose nothing, and a two-thirds probability that you will lose the full R60,000 of the investment.

11. Scenario 4: You invested R600,000 in Japanese yen (JPY). A disaster at one of Japan's biggest nuclear reactors is set to decrease the value of the Yen dramatically for an extended period. You decide to sell your JPY positions. Which option would you prefer?

a. You will definitely lose R400,000 of your investment.

b. There is a one-third probability that you will lose nothing, and a two-thirds probability that you will lose all R600,000.

12. Scenario 5: You hold 5 tons of wheat as security against an agricultural loan of R600,000. The client has defaulted on the loan and the physical commodity must be sold to settle the loan. Which option would you prefer?

a. You will definitely get R200,000 back.

b. There is a one-third probability that you will get all R600,000 back, and a two-thirds probability that you will get nothing back.

13. Scenario 6: You invested R600,000 in Zimbabwean dollar (ZD). Civil unrest broke out in the country and the value of the local currency is set to decrease dramatically. You have two options available to exit your ZD position. Which do you prefer?

a. R 200,000 of your investment will definitely be recovered.

b. There is a one-third probability that all R600,000 will be recovered, and a two-thirds probability that none of the investment will be recovered.
14. Scenario 7: You issued a loan to a large mining company. The company’s financial position has deteriorated dramatically and you need to recover your loan. The total loan value is R240,000. Two alternatives for recalling the loan are proposed. Which option do you prefer?

   a. You will definitely lose R160,000.

   b. According to estimates, there is a one-third probability that nothing will be lost, and a two-thirds probability that the full R240,000 will be lost.

15. Scenario 8: You provided a loan of R600,000 to a construction company. Earthmoving equipment was ceded as security to the loan. The construction company has defaulted on the loan and the security has to be sold to settle the loan. Which option would you prefer?

   a. You will definitely lose R400,000.

   b. There is a one-third probability that you will lose nothing, and a two-thirds probability that you will lose the full R600,000.

8.4 Self-reported effect of formal risk management

16. In your opinion, do you think that formal risk management processes discourage risk taking?

   a. Yes

   b. No

8.5 HEXACO–PI–R 60

In the following section you will find a series of statements about you. Please read each statement and decide how much you agree or disagree with that statement. Select your response using the following scale: Strongly disagree, Disagree, Neutral, Agree, Strongly agree:

17. I would be quite bored by a visit to an art gallery.

   a. Strongly disagree,

   b. Disagree

   c. Neutral

   d. Agree

   e. Strongly agree
18. I plan ahead and organise things, to avoid scrambling at the last minute.

   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

19. I rarely hold a grudge, even against people who have badly wronged me.

   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

20. I feel reasonably satisfied with myself overall.

   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

21. I would feel afraid if I had to travel in bad weather conditions.

   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
22. I wouldn't use flattery to get a raise or promotion at work, even if I thought it would succeed.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

23. I’m interested in learning about the history and politics of other countries.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

24. I often push myself very hard when trying to achieve a goal.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

25. People sometimes tell me that I am too critical of others.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
d. Agree
e. Strongly agree

26. I rarely express my opinions in group meetings.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

27. I sometimes can't help worrying about little things.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

28. If I knew that I could never get caught, I would be willing to steal a million dollars.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

29. I would enjoy creating a work of art, such as a novel, a song or a painting.
   a. Strongly disagree,
   b. Disagree
30. When working on something, I don’t pay too much attention to small details.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

31. People sometimes tell me that I’m too stubborn.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

32. I prefer jobs that involve active social interaction to those that involve working alone.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

33. When I suffer from a painful experience, I need someone to make me feel comfortable.
   a. Strongly disagree,
b. Disagree

c. Neutral

d. Agree

e. Strongly agree

34. Having a lot of money is not especially important to me.

   a. Strongly disagree,

   b. Disagree

   c. Neutral

   d. Agree

   e. Strongly agree

35. I think that paying attention to radical ideas is a waste of time.

   a. Strongly disagree,

   b. Disagree

   c. Neutral

   d. Agree

   e. Strongly agree

36. I make decisions based on the feeling of the moment rather than on careful thought.

   a. Strongly disagree,

   b. Disagree

   c. Neutral

   d. Agree

   e. Strongly agree

37. People think of me as someone with a quick temper.
38. On most days I feel cheerful and optimistic.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

39. I feel like crying when I see other people crying.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

40. I think that I am entitled to more respect than the average person is.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree
41. If I had the opportunity, I would like to attend a classical music concert.

a. Strongly disagree,

b. Disagree

c. Neutral

d. Agree

e. Strongly agree

42. When working, I sometime have difficulties due to being disorganised.

a. Strongly disagree,

b. Disagree

c. Neutral

d. Agree

e. Strongly agree

43. My attitude toward people who have treated me badly is "forgive and forget".

a. Strongly disagree,

b. Disagree

c. Neutral

d. Agree

e. Strongly agree

44. I feel that I am an unpopular person.

a. Strongly disagree,

b. Disagree

c. Neutral

d. Agree
45. When it comes to physical danger, I am very fearful.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

46. If I want something from someone, I will laugh at that person's worst jokes.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

47. I've never really enjoyed looking through an encyclopaedia.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

48. I do only the minimum amount of work to get by.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
d. Agree

e. Strongly agree

49. I tend to be lenient in judging other people.

a. Strongly disagree,

b. Disagree

c. Neutral

d. Agree

e. Strongly agree

50. In social situations, I'm usually the one who makes the first move.

a. Strongly disagree,

b. Disagree

c. Neutral

d. Agree

e. Strongly agree

51. I worry a lot less than most people do.

a. Strongly disagree,

b. Disagree

c. Neutral

d. Agree

e. Strongly agree

52. I would never accept a bribe, even if it were very large.

a. Strongly disagree,

b. Disagree
c. Neutral
d. Agree
e. Strongly agree

53. People have often told me that I have a good imagination.
   a. Strongly disagree,
   b. Disagree
c. Neutral
d. Agree
e. Strongly agree

54. I always try to be accurate in my work, even at the expense of time.
   a. Strongly disagree,
   b. Disagree
c. Neutral
d. Agree
e. Strongly agree

55. I am usually quite flexible in my opinions when people disagree with me.
   a. Strongly disagree,
   b. Disagree
c. Neutral
d. Agree
e. Strongly agree

56. The first thing I always do in a new place is to make friends.
   a. Strongly disagree,
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

57. I can handle difficult situations without needing emotional support from anyone else.
   a. Strongly disagree,
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

58. I would get a lot of pleasure from owning expensive luxury goods.
   a. Strongly disagree,
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

59. I like people who have unconventional views.
   a. Strongly disagree,
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

60. I make a lot of mistakes because I don't think before I act.
61. Most people tend to get angry more quickly than I do.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

62. Most people are more upbeat and dynamic than I generally am.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

63. I feel strong emotions when someone close to me is going away for a long time.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree
64. I want people to know that I am an important person of high status.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

65. I don't think of myself as the artistic or creative type.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

66. People often call me a perfectionist.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

67. Even when people make a lot of mistakes, I rarely say anything.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
68. I sometimes feel that I am a worthless person.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

69. Even in an emergency I wouldn't feel like panicking.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

70. I wouldn't pretend to like someone just to get that person to do favours for me.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

71. I find it boring to discuss philosophy.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
72. I prefer to do whatever comes to mind, rather than stick to a plan.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

73. When people tell me that I am wrong, my first reaction is to argue with them.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

74. When I'm in a group of people, I'm often the one who speaks on behalf of the group.
   a. Strongly disagree,
   b. Disagree
   c. Neutral
   d. Agree
   e. Strongly agree

75. I remain unemotional even in situations where most people get very sentimental.
   a. Strongly disagree,
   b. Disagree
c. Neutral
d. Agree
e. Strongly agree

76. I'd be tempted to use counterfeit money, if I were sure I could get away with it.
   a. Strongly disagree,
   b. Disagree
c. Neutral
d. Agree
e. Strongly agree
9 Appendix B – Writers guide for Personality and Individual Differences

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