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Moral decision-making: Personality Type as influence on Moral Intuitionism

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A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Business Administration.

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Abstract

This study is focused on improving understanding around moral decision-making as a critical component of managerial decision-making, considering that many decisions involve a basic conflict between selfishness versus fairness (Forgas & Tan, 2013). Changing factors in the business environment is influencing managerial decision-making, making this 'the perfect time' for increased research into managerial decision-making (Milkman, Chugh, & Bazerman, 2009).

As this working environment within which managerial decisions are being made is changing, understanding decision-making is increasingly becoming fundamental to the study of management in organisations (Taggart et al., 1985). Within such a changing economy, the key factor is the increased reliance on intellectual abilities over either physical effort, or natural resources. Yet, 'where there is effective management, that is, application of knowledge, we can always obtain the other resources' (Drucker, 1993). When then considering such management actions and specifically the role of employees within such an economic structure, the primary deliverable of a *knowledge worker* is a good decision (Milkman et al., 2009).

The importance of a 'good decision' is therefore paramount in the current knowledge economy, and those industries which depend heavily on the 'application of knowledge'. In exploring this topic, this research study explores predominantly four fields of study.

The first is decision-making in the most fundamental sense, by understanding the different systems whereby decision-making occurs. This is contextualised by focussing on managerial decision-making and highlighting a particular instance of moral decision-making. The premise is that although moral decision-making is a subset of managerial decision-making, the human processes involved in the decision making is universal and findings should accordingly be transferrable to the whole discipline of decision-making.

In expanding the area of moral decision-making the notion of fairness, norm violations and negative reciprocity is explored. This provides a context within which to study moral decision-making. Concepts such as the universal acceptance of fairness are discussed, as well as an equally universal desire to punish norm violations through negative reciprocity. Existing research on this disconnect between the intent to punish and the physical execution of this intent is explored with the conclusion that personality type offers some indication, but that additional research around this topic is required. It is in

addressing this weakness in current academic research that this research study aims to make a contribution.

The approach to this research is to do personality type assessments of voluntary subjects where after a moral decision is posed to them and their responses captured. By studying the relationship between these personality types, and traits, as well as the decision made inferences can be drawn on the extent to which personality type is an influence on moral decision-making.

Finally the environment of management consulting is introduced. This working environment exhibits many of the characteristics which define the knowledge economy.

The study concludes by answering the research question, '**Is Personality Type, or its decomposed traits, an accurate predictor of moral decision-making'**?, in the positive: **Yes, there is statistically significant proof that a strong, linear relationship exists between moral decision-making,** as defined by the decision to enact revenge**, and the Sensing personality trait,** as measured by the Jung Typology Test™.

Keywords

Decision science, Fairness, Personality, Game theory, Trust, Revenge

Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

LEN MARAIS

DATE

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To my research supervisor, lecturer and Russian 'guide', Dr Gavin Price. I owe you a tremendous amount of gratitude for the impact you've had on my life over the past two years. You are an *educator* in the truest sense of the word and have supported my growth, by challenging my thoughts. I am privileged to have been humbled.

ipse se nihil scire id unum sciat

To my wife, Christelle. Thank you for all your support and encouragement with not only my studies over the past two years, but all factors of our shared life. You are the single greatest contributor to the completion of this document. Thank you for inspiring me to be the person that I know you deserve. In all I do, you are the one I try to impress.

To my daughter, Lisa. Thank you for showing me that the word can be enjoyed for all its simple pleasures, and for reminding me to grasp each day with the enthusiasm it deserves!

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Moral decision-making: Personality Type as influence on Moral Intuitionism

1.2 Overview

> *"Never let your sense of morals prevent you from doing what is right!"*
>
> Isaac Asimov in Foundation

Moral decision-making is a far more prevalent event in our lives, and our world, than what one would imagine at first thought. The complexity lies not in 'being moral', but rather in understanding 'what is right', as many decisions involve a basic conflict between selfishness versus fairness (Forgas & Tan, 2013). Such moral decision-making is not restricted to dilemmas of moral or social conflict, but fills our working environments on a daily basis. Moral decision-making, in the context of this study, can therefore be considered to be a managerial decision of a moral nature.

A number of changing factors in the working environment make this 'the perfect time' for increased research into managerial decision-making, as decision-making errors 'are costly' and 'are growing even more costly' (Milkman, Chugh, & Bazerman, 2009). This is understandable when considering the impact of globalisation and the role of managerial decision-making in such expanding organisations. Any decision which is now made within an organisation could potentially affect far wider geographies and stakeholder groups (Milkman, Chugh, & Bazerman, 2009). Making the *right* decision is therefore becoming increasingly important.

A current trend for large organisations is to 'delayer', where organisational structures are flattened and the decision-making responsibility is forced down closer to where the decision will impact. However, the opposite is happening. As organisational structures are flattened, many business leaders are broadening their spans of control in an attempt to get closer to business (Guadalupe, Li, & Wulf, 2013). This results in decision making increasingly being centralised, placing further strain on decision makers.

Such additional decision-making burdens, combined with the presence of 'too much information' and 'increasing time pressure', results in decision makers becoming

increasingly biased in their decision making (Milkman et al., 2009) and are relying more on mental heuristics and intuitive decision-making (Bazerman & Moore, 2009; Chugh, 2004).

An environment is therefore being created where a small group of decision makers have an increased amount of decisions to make, with less time to do it in and in an environment where the impact of incorrect decisions is widely distributed and increasingly costly. It is therefore understandable that as this environment is developing the importance of understanding decision-making is increasingly becoming fundamental to the study of management in organisations (Taggart, Robey, & Kroeck, 1985).

Within such a changing business environment, there is an increased reliance on intellectual abilities over either physical effort or natural resources. Considering that 'where there is effective management, that is, application of knowledge, we can always obtain the other resources' (Drucker, 1993). When then considering such management actions and specifically the role of employees within such an economic structure, the primary deliverable of a *knowledge worker* is a good decision (Milkman et al., 2009). The reality is however far more daunting as there's a long way to go before science offers a clear-cut method for thinking through decisions perfectly (Nobel, 2011).

1.3 Research study

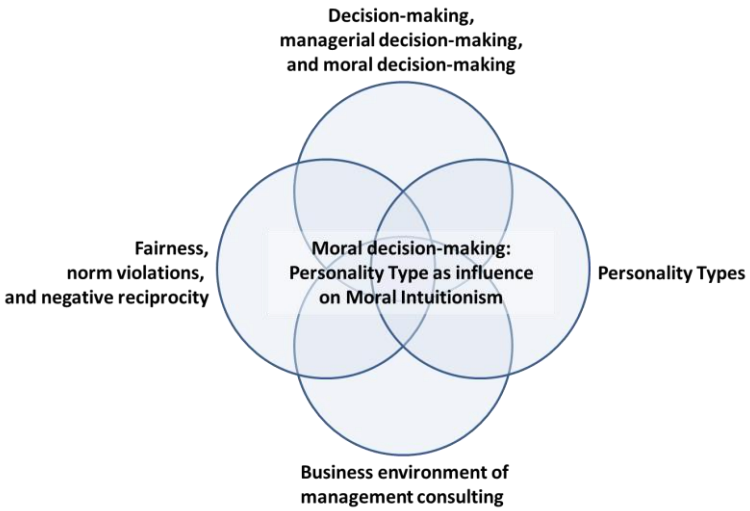
This research study explores predominantly four fields of study. The first is decision-making in the most fundamental sense, by understanding the different systems whereby decision-making occurs. This is contextualised by focussing on managerial decision-making and highlighting a particular instance of moral decision-making. The premise is that although moral decision-making is a subset of managerial decision-making, the human processes involved in the decision making is universal and findings should accordingly be transferrable to the whole discipline of decision-making. The focus on moral decision-making is in part as a limiting factor to the study, but also has increased relevance as businesses are increasingly engaging wider stakeholder groups on issues beyond the financial statements.

In expanding the area of moral decision-making the notion of fairness, norm violations and negative reciprocity is explored. This provides a context within which to study moral decision-making. Concepts such as the universal acceptance of fairness are discussed, as well as an equally universal desire to punish norm violations through negative reciprocity. Existing research on this disconnect between the intent to punish and the

physical execution of this intent is explored with the conclusion that personality type offers some indication, but that additional research around this topic is required. It is in addressing this weakness in current academic research that this research study aims to make a contribution.

The approach to this research is to do personality type assessments of voluntary subjects where after a moral decision is posed to them and their responses captured. By studying the relationship between these personality types, and traits, as well as the decision made inferences can be drawn on the extent to which personality type is an influence on moral decision-making.

Figure 1 Research study conceptual overview



Finally the environment of management consulting is introduced. This working environment exhibits many of the characteristics which define the knowledge economy. This inclusion provides more focus to the study by serving as a limiting factor to the statistical sampling, whilst the results achieved would still be applicable to the knowledge economy, as a whole.

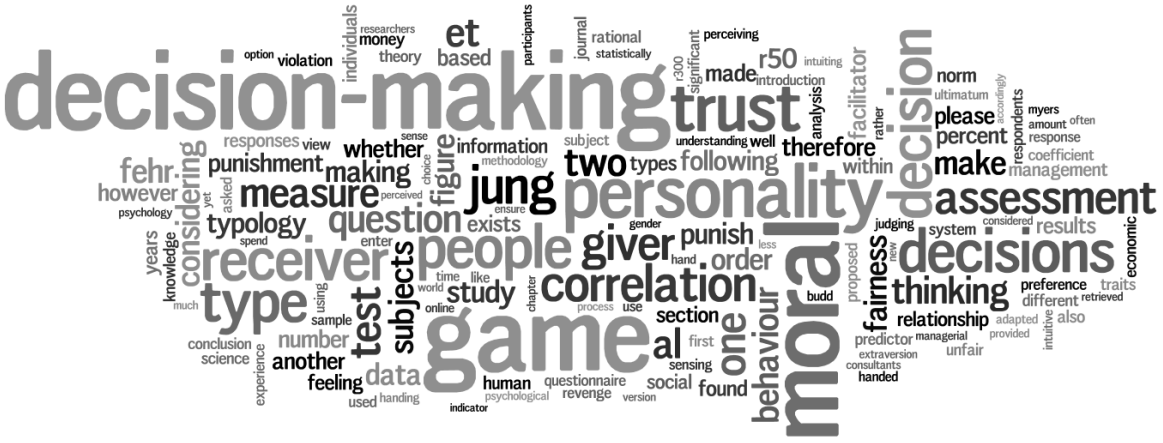
The conceptual overview of the research study, as discussed above, can be seen in Figure 1.

Once the above described literature foundation has been established in Chapter 2, the research question and supporting hypotheses are introduced within Chapter 3. This is further supported by the research methodology as detailed in Chapter 4. Chapter 5 provides an overview of the statistical methods employed and the results obtained,

whereas Chapter 6 provides a discussion on these obtained results. Finally Chapter 7 provides a summarised overview of findings.

A ‘word cloud’ of the content of this research document is displayed in Figure 2, below.

Figure 2 Research document 'word cloud'



This graphical representation of the research document content provides a very quick overview of the focus of this study, as depicted in the scale of the lettering. In summary, this is a study into ‘**decision-making’** by using a customisation of a well establish ‘**game**’ to test the notion of ‘**trust**’ and ‘**punishment**’ within ‘**moral decision-making**’ and to compare the gathered results against ‘**personality types**’.

As summary, and incentive, to this research study the research conclusions of Nobel (2011) provide useful insights:

> *"We are hopeful that people will continue to conduct research in this area, as we still don't know the right amount to think for any given decision, which is a fascinating decision yet to be solved”.*

1.4 Conclusion

This chapter introduced the research title as well as the impetus for undertaking this research. This was contextualised by providing a view on the fields of study involved. Finally an overview of the remainder of this document was provided as base to the literature review in Chapter 2.

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2. Literature Review

2.1 Introduction

An investigation into the domain of moral decision-making, focussed around personality types and the influence on moral intuitionism, required the study of a number of separate, although related fields of study. The remainder of this chapter provides an overview of these fields of study, and their relevance to this research topic.

In order to provide the required context for the remainder of this research document the area of managerial decision-making is first explored and how this discipline has evolved. Thereafter, the decision making systems which humans employ was considered, focussed especially on our intuitive decision-making. Thereafter, as subset of decision-making the field of moral decision-making was investigated, especially focussed on 'moral intuitionism'. This study into moral decision-making lead to the exploration of concepts such as 'fairness' and 'trust', which in turn required an investigation into, and understanding of, 'norm-violations' and humans' willingness to 'punish'. This chapter ends with an overview of the role of personality types, common personality traits, and the measurement thereof.

This investigation provided sufficient context on current academic research within these domains and provided a foundation for the remainder of this study.

2.2 Managerial decision-making

The knowledge economy has been defined as an environment where production and services, based on 'knowledge-intensive activities', contribute to 'an accelerated pace of technical and scientific advance, as well as rapid obsolescence' (Powell & Snellman, 2004). Within such an economy, the key factor is the increased reliance on intellectual abilities over either physical effort, or natural resources. Yet, 'where there is effective management, that is, application of knowledge, we can always obtain the other resources' (Drucker, 1993).

When then considering such management actions and specifically the role of employees within such an economic structure, the primary deliverable of a *knowledge worker* is a good decision (Milkman et al., 2009). The importance of a 'good decision' is therefore paramount in the current knowledge economy, and those industries which depend heavily on the 'application of knowledge'.

Additionally, considering the increased trend of 'corporate flattening', with the intent of delayering organisation in order to move the decision-making process further down to where the decisions impact, research has however indicated that as firms flatten an increasing number of decisions are pushed to the top (Guadalupe et al., 2013). This is done predominantly because decision makers want to 'get closer to business' by expanding their spans of control.

These two trends result in a managerial environment where managers are required to make more decisions, and these decisions being increasingly important.

2.3 System 1 and System 2 thinking

Considering the increased, and increasing, importance of decision making it is not surprising that the study of *how* decisions are made is a 'major issue for research' (Tinghög et al., 2013).

Exploring human decision-making, and more broadly, human cognition has been described as 'one of the greatest scientific quests of all time' (M. Mather, Cacioppo, & Kanwisher, 2013), which until recently, there was a somewhat limited understanding of. This has however changed with the advent of advanced technologies and the collaborative efforts of previously separate areas of research. In increasing the understanding of human cognition the 'best approach' has been a 'synergistic combination of behavioural and neuroimaging methods' complemented by additional techniques within cognitive neuroscience (M. Mather et al., 2013).

Such research led to the discovery that humans have two decision-making systems within the brain, the first an *intuitive* one, and the second a more *reflective, analytical* one (Bakken, 2013; Tinghög et al., 2013). This dual system of decision-making is a physiological reality within all human. And although a particular individual might have a preference for one system, over another, it is not a matter of either/or (Bakken, 2013).

The decision-making system generally related to managerial decision-making is the reflective, analytical decision style. This is the slow, deliberate approach to working thoroughly a problem in a systematic manner. This style of decision-making is typically employed when tasks can be solved through predetermined steps, like 'math problems' or similar 'structured problems' (Dane, Rockmann, & Pratt, 2012). To those knowledge workers with less experience such structured analysis is a necessary tool in decision-making (Bakken, 2013).

When considering the alternate decision-making system, or our 'gut feeling', we often make decisions based on intuition, without really understanding why. It now appears that our ability to make such 'hunch decisions' varies considerably, and hence can be either a useful asset, or lead to significant mistakes (B. D. Dunn, 2011). Such intuitive decisions, and our ability to make them correctly, depends on, and is based on, previous experience (Bakken, 2013).

Research has shown that intuition can help people make 'fast and effective decisions', particularly in areas where they have some level of expertise. In addition, even for individuals with a high level of expertise on a topic, intuitive decision-making is better for some problems (Dane et al., 2012).

It is important to note that because the intuitive decision-making style is developed through experience, this system of thinking is not simply arbitrary (Bakken, 2013). Both systems have rational components and 'integrate with each other in decision-making situations'. In support of this, when considering intuitive type decision-making the concept of 'rationality grounded intuition' has been proposed (Tinghög et al., 2013).

Both of these decision-making systems have applicability in decision-making, and considering the existence, and usage, within all humans (Bakken, 2013), when selecting decision-makers an advantage is offered by those that are able to switch between the different styles of decision-making (Heskett, 2011).

2.4 Implications to rational decision-making

The traditional view on decision-making, and especially economic decision-making, relies on the belief that human beings are acting rationally (Kenrick, Li, Griskevicius, & Neuberg, 2011) - the notion of a 'Homo Economicus' where people have the infinite ability to make rational decisions. Applying this traditional view, rationalist thinkers argued that individuals' self-interest would guide people's social and economic decisions (Forgas & Tan, 2013). Accordingly, economic models are based on the assumption that 'people are exclusively pursuing their material self-interest' (Fehr & Schmidt, 1999).

However, over the past number of years, cognitive psychologists have challenged these assumptions by empirically demonstrating that many economic decisions are quite often irrational (Kenrick et al., 2011). Researchers have also proposed that 'human beings are limited information processors' and that we are, at best, only 'intendedly rational'. As such,

decisions frequently reflect the use of heuristic methods rather than formal analytical models (Taggart et al., 1985).

Bazerman and Moore (2009) reference prior research and re-introduce the concept of *bounded rationality* – the notion that individual judgement is 'bounded in its rationality' and that more benefit can be gleaned from studying the actual outcomes of decisions compared to the expected, or 'prescriptive' outcome. By studying and undertaking descriptive decision-making experiments the authors explore the *boundaries of our rationality* and the erroneous decisions that are made because of it.

In addition to the vast body of knowledge explored by Bazerman and Moore (2009), a number of researchers have furthered, or verified their research. Within this study it is therefore accepted that the concept of bounded rationality is a scientifically verified approach, and in conjunction with our irrational decision-making processes, offers an accurate reflection of human decision making. This was further supported by the mapping and studying of the functioning of the brain, where after researchers admit that 'there is ample evidence that we are not fully aware of the constituent brain processes leading to a conscious decision' (Lindsen, Jones, Shimojo, & Bhattacharya, 2010).

Whilst studying decision-making processes under different conditions, it was found that 'gut feelings influence our decisions, overriding rational thought' (B. Dunn, 2012). Which could, in part, explain why 'the accuracy and reliability of such everyday decision making can be tremendously variable for different people at different times' (Murphy, Vandekerckhove, & Nieuwenhuis, 2014). Similarly, when considering decisions under uncertainty, it was found that 'people tend to be more influenced by perceived risk than by objective risk' (Gärling, Kirchler, Lewis, & van Raaij, 2010).

Whilst investigating the response of decision makers under stress, it was found that stress had a direct effect on decision-making and that it affected men and women very differently – men became more willing to take risks and women became more conservative (Mara Mather & Lighthall, 2012). Further study on the effect of emotions on risk taking revealed that individuals can in fact be influenced to take more risk, based on an invoked emotional response. Interestingly they also found that 'people make decisions that are influenced by emotions that have nothing to do with the decisions they are making' (Yip & Côté, 2013).

In a different study on the effect of induced negative mood on subjects, researchers found that a negative mood state in subjects results in an increased belief in fairness (Forgas & Tan, 2013). In another study, by threatening the status of subjects, researchers found

these subjects made a conscious decision to take the lesser of two monetary prizes, an apparent irrational economic decision. They concluded that subjects adopted a 'less threatening' decision, which although apparently irrational, 'satisfies an important psychological need' (Gu, Bohns, & Leonardelli, 2013).

By studying the effects of 'a sense of power' in subjects it was found that subjects, with an increased sense of power, appeared to have far more 'moral clarity' and would more severely punish wrong-doers, in comparison to a control group lacking power (Wiltermuth & Flynn, 2012). Interestingly, a study into the effect of sleepiness on displaced aggression, found that there was a positive correlation between sleepier subjects and, amongst others, 'revenge planning' (Mastin, Steel, Berry, & Peszka, 2013). Finally, whilst investigating the ability to make rational financial decisions on behalf of other people, researchers found the subjects would make irrational decisions when it came to investment decisions of close family. They found that the decisions became 'less impulsive' and 'more rational' as the family connection became more distant. They concluded that the 'most rational' financial decisions were made when done on behalf of complete strangers (Ziegler & Tunney, 2012).

Based on the discussed examples above, there is compelling evidence to support the notion that human decision-making is more irrational than what traditional economic models, and the notion of *Homo Economicus*, proposed. Within this study it is therefore accepted that the concept of bounded rationality is a scientifically verified approach and offers an accurate reflection of human decision making.

2.5 Moral intuitionism

Similar to the field of economic decision-making, the field of moral psychology, and moral decision-making, had for many years focussed on the *belief in reasoning* in order to make moral judgements. Again, similar to the field of economic decision-making research increasingly emphasised 'the role, and prevalence, of emotionally based moral intuition' (Paxton & Greene, 2010).

Detractors of this traditional view argued against the causality of reasoning in moral judgements and proposed that there are 'two processes at work – *reasoning* and *intuition* – and the reasoning process has been overemphasised'. Similarly, they claim that moral actions are far more closely aligned to moral emotion, than what they are with moral reasoning (Haidt, 2001).

In response to this increasing body of evidence, moral philosophers have adopted one of two views on the mental process of moral decision-making. These two opposing groups have polarised into either being *Rationalists*, or *Intuitionists*.

Rationalists propose that moral knowledge is gained, and moral judgement is made, through a process of 'reasoning and reflection'. Accordingly, although 'moral emotions' such as sympathy can be inputs to the process, they are not the direct cause of moral judgments (Haidt, 2001).

Intuitionists propose that there are universal moral truths which are reached not by a process of structured cognitive processing, but rather a process comparable to *perception.* As such, moral intuitionists believe that 'moral intuitions' come first and these then cause moral judgements (Haidt, 2001).

As case and point of this phenomenon, Haidt (2001) sketches a fictitious scenario where a brother and sister engage in a sexual act. The scenario is established in such a manner as to clearly communicate that no harm befell either of the two, both where willing participants and that both were happy they had had the experience despite agreeing not to do it again. In support of the moral intuitionist view Haidt reports that 'most people' immediately comment that the sketched scenario is 'wrong', then defend this view with a number of unsupported reasons, most of which can be refuted, and finally respond with 'I don't know, I can't explain it, I just know it's wrong!'.

The moral intuitionist model suggests that moral decisions are the result of 'quick, automatic evaluations' or *intuitions*. These intuitions result in moral decisions being made, and only then is it followed by moral reasoning. In a sense, 'one becomes a lawyer trying to build a case rather than a judge searching for the truth' (Haidt, 2001).

When considering the research undertaken in the field of moral decision-making and the norms established around the intuitionists' 'quick automatic evaluations' in comparison to the rationalists' 'reasoning and reflection', there is a striking similarity between similar conclusions within the broader field of managerial decision-making. These views by the moral philosophers are, conceptually, closely aligned to the views of System 1 and System 2 thinking.

It therefore follows, based on the parallels drawn, that moral decision-making can be seen as a subset of general and managerial decision-making. This in turn would imply that

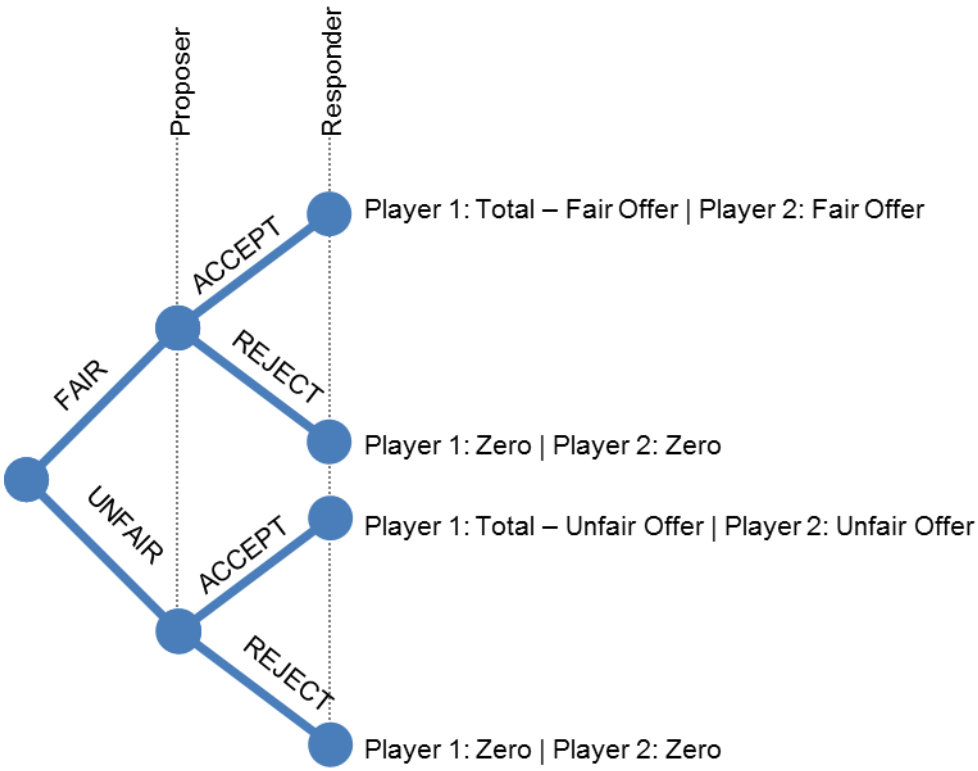
those rules which apply to decision-making in general would be equally applicable to decisions around morality.

2.6 Moral decision-making around fairness and trust

Exploring the concepts of 'fairness' and 'moral decision-making' raises an ethical question on the methodology to employ and the impact of such a study. For this reason, this research study adopted the approach of using a game theory experimental scenario. As proxy, game theory has been proven to be a 'reliable method for studying interpersonal decisions', especially when studying interpersonal decisions involving fairness, selfishness, trust and cooperation (Forgas & Tan, 2013).

The Ultimatum Game has been the subject of intense scrutiny, and extensive usage, since first being documented in the mid-1980s (Webster, 2012). The game provides a context wherein two players have to agree on the division of an allocated amount of some form of reward. The subtlety in the game setup resides in that the one player needs to define the allocation of the reward and the other has to agree to it, in order for either player to get their share.

Figure 3 The ultimatum game options



The game flow, as depicted in Figure 3, is as follow. Both players are advised of the total reward offered whilst having the rules explained to them. The first player, or *Proposer*, has to make a decision on the percentage split of the total reward that will be kept by the Proposer, with the remainder handed over to the second player, or *Responder*.

Once an offer has been made to the Responder, this player can decide to either Accept or Reject the offer. Upon acceptance both players keep their respective shares, whilst on rejection both players forfeit their shares.

The expected outcome, assuming rational behaviour would be for the proposer to act in their own self-interest and offer the smallest possible share. And in turn, for the responder to also act in their own self-interest and accept whatever offer has been made. However, empirical results, from a number of ultimatum game experiments, revealed that proposers routinely give a share that is 'significantly greater' than the minimum predicted by purely rational behaviour. Experimental data revealed that respondents typically reject offers which are less than 30 to 40 per cent of the total share (Webster, 2012).

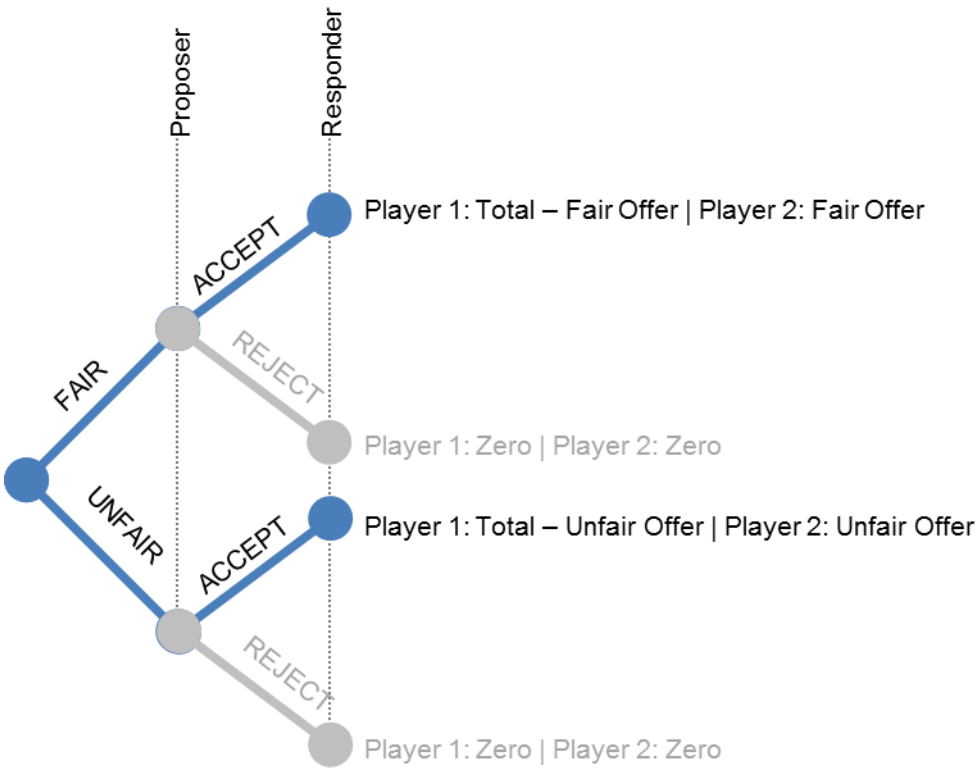
Despite traditional economic theory predicting that a responder should accept any offer made, responders refute this theory by rejecting offers which do not appear to be fair. Experimental data suggest that proposers make generous offers because they have an innate sense of fairness (Webster, 2012).

The ultimatum game is a two player game where the responder can still affect the outcome of the game. It could therefore be that this option to 'punish' an unfair offer is in fact a game parameter, or lever, used to ensure 'fair behaviour' by the proposer.

The Dictator Game is similar to the ultimatum game in structure and flow. The fundamental difference is that the role of the responder becomes passive. So, similar to the ultimatum game, both parties would be aware of the total reward and the proposer would decide on the percentage allocation of the total reward between the two players. At this point, unlike the ultimatum game, the responder would only have the option to accept the offer made, and not reject it.

Within this game format, as depicted in Figure 2, the parameter to ensure fair behaviour has been removed as the responder no longer has the ability to affect the outcome of the game and has to simply accept whatever offer is made.

Figure 4 The dictator game options



With no input to question or influence the offer made by the proposer, the expected behaviour in the dictator game would be for the proposer to make the smallest possible offer to the responder. The responder, in this instance becomes only a *Recipient*, and would have to receive the offer made. However, experimental data from the dictator game revealed that, contrary to the expected behaviour, the 'vast majority' of proposers make an offer of around 20 percent (Forsythe, Horowitz, Savin, & Sefton, 1994; Novakova & Flegr, 2013).

From the evidence presented above it follows that proposers in both the ultimatum game, as well as the dictator game, exhibit behaviour which is aligned with an unspoken notion of 'fairness'. Fairness, as used here, can be explained by the following definition 'An action is perceived as fair if the *intention* that is behind the action is kind, and unfair if the intention is hostile' (Rabin, 1993). Additionally, researchers have proposed that people are aware of 'the expectation to treat others fairly' with fairness being a 'universal norm' (Forgas & Tan, 2013).

In testing the robustness of these statements, additional studies have been done with the ultimatum and dictator games as focus. An investigation into the effect of the monetary

value of the total reward found that 'strong positive reciprocity is not diminished if the monetary stake is rather high' (Fehr, Fischbacher, & Gächter, 2002; Fehr & Schmidt, 1999). When investigating the applicability of the findings across different geographies, and cultures, the researchers found that the above mentioned behaviour is uniform across different geographies with all participants behaving in a 'similarly reciprocal manner' (Fehr & Schmidt, 1999; Gintis, Bowles, Boyd, & Fehr, 2003).

It is furthermore interesting to note that within different bargaining games the number of subjects who exhibit a high level of fairness in one shot games is 'relatively high' (Fehr & Gachter, 2000). This is a game setup where only a single iteration is played and there is therefore no incentive to behave fairly. Again this supports the proposition that there is no self-serving behaviour and participants respond to their inherent sense of fairness. Research further suggests that this can be easily explained as there is in fact a predisposition in human behaviour to cooperate with others (Gintis et al., 2003).

These findings directly challenge the assumptions of self-interest which dominated behavioural sciences and evolutionary thinking, as people have a naturally inclination towards voluntary cooperation, when treated fairly (Fehr et al., 2002). Additionally, this notion of cooperation, without clear benefit to the individuals involved, transgress traditional economic models which assume that participants should, and would, exclusively pursue their material self-interest without caring for social goals (Fehr & Schmidt, 1999).

Some authors have gone so far as to explain such cooperation as 'an evolutionary puzzle' (Fehr & Gächter, 2002), as traditional evolutionary models do not sufficiently explain why people cooperate with genetically unrelated strangers, whom they will not see again, and where this is very little, or no, reputational gains (Fehr & Gächter, 2002). Some propose that such reciprocal behaviour is, in part, due to a sophisticated sense of justice and fairness, which humans have evolved to, as adaptive strategy to constrain selfishness and promote social cohesion (Forgas & Tan, 2013).

From all the evidence presented above, it follows that people have an innate understanding of, and desire for, fairness. Additionally, based on research undertaken to date, this behaviour appears to be fairly 'universal' and motivates the behaviour of many people' (Fehr & Schmidt, 1999).

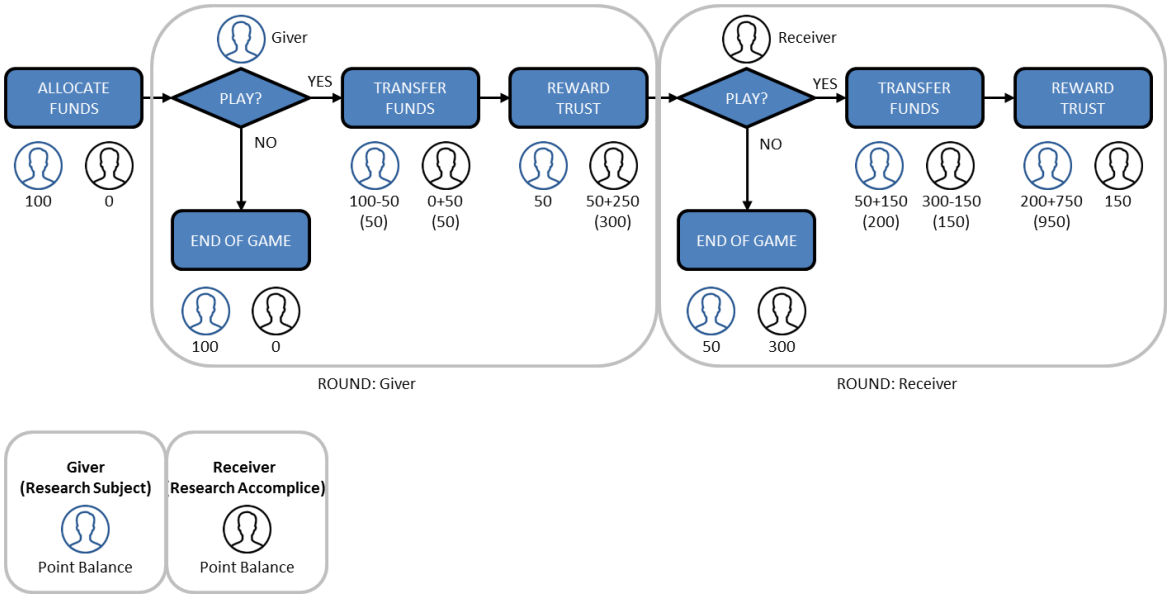
2.7 Trust violations and punishment

A universal belief in, and common understanding of, the notion of fairness would imply that people *should* naturally trust one another. If people have a shared understanding of what is considered fair, and as per the presented research, people willingly align themselves to such norms, then there can be no reason not to trust. An extension of the dictator game, known as the Trust Game, or Gift Exchange Game, provides a useful proxy to test the willingness of subjects to trust one another. The trust game flow is graphically depicted in Figure 5, and can be explained as follows.

The trust game is a two person game. The purpose of the game is for both players to try and maximise their share of money. In order to maximise their respective shares of money, the two players need to trust each other. This trust is confirmed and rewarded by a *Facilitator*. These two participants are respectively known as the *Giver* and the *Receiver*.

The giver is handed an amount of money by the facilitator, which is also known to the receiver. The giver then has the choice to either take all of this money and end the game, leaving the receiver with nothing. Or the giver can decide to trust the receiver, by handing them half of their money.

Figure 5 The trust game flow



As trust is rewarded in this game, any money handed over by the giver to the receiver is multiplied by a factor of five by the facilitator, and then added to the funds of the receiver.

The giver, by having handed over a portion of money, now trusts that the receiver will do the same and hand over a share of their accumulated money. Upon receipt of the money from the giver in the first step, the receiver does however also have the choice to stop the game, take their accumulated money and leave the giver with half of what they started off with.

Should the receiver decide to continue with the game it would be their turn to hand over half of their money, with the facilitator again multiplying this amount by a factor of five and handing over the total to the giver. Therefore, the giver, by having trusted the receiver, and *vice versa*, has increased the amount available to both the players.

Following this exchange the game is considered to be over and each party keeps their respective share.

Based on the described game flow, the following three examples illustrate the possible outcomes:

Game Option 1:

i. The giver is handed R100 by the facilitator.
ii. When asked whether the giver wants to trust the receiver and hand over R50, the giver decides NO.
iii. The game ends with the giver having R100 and the receiver having R0.

Game Option 2:

i. The giver is handed R100 by the facilitator.
ii. When asked whether the giver wants to trust the receiver and hand over R50, the giver decides YES.
iii. The facilitator takes the R50 and adds another R250 (R50x5), handing over R300 to the receiver.
iv. When asked whether the receiver wants to trust the giver and hand back R150, the receiver decides NO.
v. The game ends with the giver having R50 and the receiver having R300.

Game Option 3:

i. The giver is handed R100 by the facilitator.
ii. When asked whether the giver wants to trust the receiver and hand over R50, the giver decides YES.

iii. The facilitator takes the R50 and adds another R250 (R50x5), handing over R300 to the receiver.
iv. When asked whether the receiver wants to trust the giver and hand back R150, the receiver decides YES.
v. The facilitator takes the R150 and adds another R750 (R150x5), handing over R900 to the giver.
vi. The game ends with the giver having R950 and the receiver having R150.

Gathered empirical data from multiple trust game iterations reveal that only 20 to 30 percent of participants behave in a self-serving, selfish manner (Fehr & Gachter, 2000). Accordingly, the remaining 70 to 80 percent of research subjects do in fact trust their *opponents*.

These games are designed to reward participants who are prepared to exhibit trusting behaviour, yet allow for those same participants to reap even greater benefit by abusing such trust. A proportion of only 20 to 30 percent of participants abuse such trust, to serve their own benefit, behaviour which supports the notion of an inherent, and innate, sense of fairness and willingness to trust.

The presented evidence therefore supports the notion that not only is there a universal understanding of, and belief in, fairness, but people are prepared to support this belief by trusting one another.

When accepting that an action is perceived as fair if the intention behind that action is kind (Fehr & Schmidt, 1999), it follows that an action would be considered unfair if there is a violation of these intrinsic norms. Understandably, in addition to the common belief in fairness, and the willingness to trust, people are equally ‘attuned to unfairness’ (B. Dunn, 2012).

Fairness, and the accompanying reciprocity, implies that people respond in kind to kindness, yet in response to hostile actions are possibly ‘nasty and even brutal’ (Fehr & Gachter, 2000; Rabin, 1993). This was found to be true in a ‘wide variety of cultures’ (Fehr et al., 2002). Such ‘nasty and even brutal’ behaviour in response to hostile actions can be defined as an ‘action taken in response to perceived harm or wrongdoing by another person that is intended to inflict harm, damage, discomfort, or injury to the party judge responsible’ (Bobocel, 2013), or simply ‘revenge’.

Considerable research has been done around revenge and punishment, clearly indicating that revenge is associated with numerous immediate and long-term negative consequences for both the offender and the victim (Bobocel, 2013). Yet people still voluntarily incur such costs to punish violations of social norms (de Quervain et al., 2004), even if this provides neither present nor future material rewards for the punisher (Fehr et al., 2002; Fehr & Fischbacher, 2004; Fehr & Gachter, 2000; Gintis et al., 2003; Krasnow, Cosmides, Pedersen, & Tooby, 2012; Skarlicki, Folger, & Tesluk, 1999).

In understanding why people are prepared to punish it has been proposed that by punishing those who violate social norms a very high level of cooperation within society can be enforced (Boyd, Gintis, & Bowles, 2010; Fehr & Gachter, 2000). In support of this view researchers have found the extent to which a society uses punishment to enforce norms increases and decreases with the number of people in the society (Henrich et al., 2010).

Alternatively, a partially self-serving explanation has been offered following the recognition that people derive pleasure when punishing norm violations (de Quervain et al., 2004). In response to this research it has however been proposed that punishment is only satisfying to victims if the offenders change their attitude as a result of the punishment (Funk, McGeer, & Gollwitzer, 2014). It has also been found that it is easier for people to forgive offenders, is some form of punishment is involved (Strelan, 2014).

Researchers have also proven that subjects who ‘feel more powerful’ are less tolerant about social norm violations and are prepared to punish more severely (Wiltermuth & Flynn, 2012). This view has been refined in that those who are ‘inexperienced power-holders’ where more vengeful, where those accustomed to holding power where found to be more tolerant (Strelan, Weick, & Vasiljevic, 2014). As an additional variable, research into the gender of punishers found that men behaved more retaliatory than women (Brebels, De Cremer, & Sedikides, 2008).

As studied within bargaining games, an alternate pragmatic variable was included revealing that the greatest predictor of whether participants will punish one another is the difference in benefit obtained from the interaction (Gintis et al., 2003; Raihani & McAuliffe, 2012). Accordingly, ‘how unfairly’ the participant was treated.

Despite the divergent views on why people are prepared to punish, this too appears to be universally accepted behaviour. For even in instances, with a third person observer, the observer is inclined to punish a ‘norm violation’ even if such an action is costly to them

(Fehr & Fischbacher, 2004) and they have not been affected directly. This view is further supported by the proof that norm violations trigger strong negative emotions, which trigger a willingness to retaliate (Brebels et al., 2008; Fehr et al., 2002).

Based on the above, it can be deduced that similar to a universal belief in fairness, and willingness to trust, people are equally motivated to punish norm violations. The fairness game has been used previously as indicator of norm violation with an expected desire to punish (de Quervain et al., 2004). Additional research has shown that within the trust game, subjects are *willing* to punish a defecting opponent, as such a defection is viewed as an unfair norm violation (Fehr et al., 2002).

However, despite a willingness to punish a norm violation research findings indicate that such perceived unfairness is however an inconsistent predictor of retaliation (Brebels et al., 2008), and that researchers lack a clear understanding of when perceived unfairness, and willingness to punish, translates into retaliation and why the sufferer of a norm violation pursues or inhibits retaliation (Brebels et al., 2008).

2.8 The adapted trust game

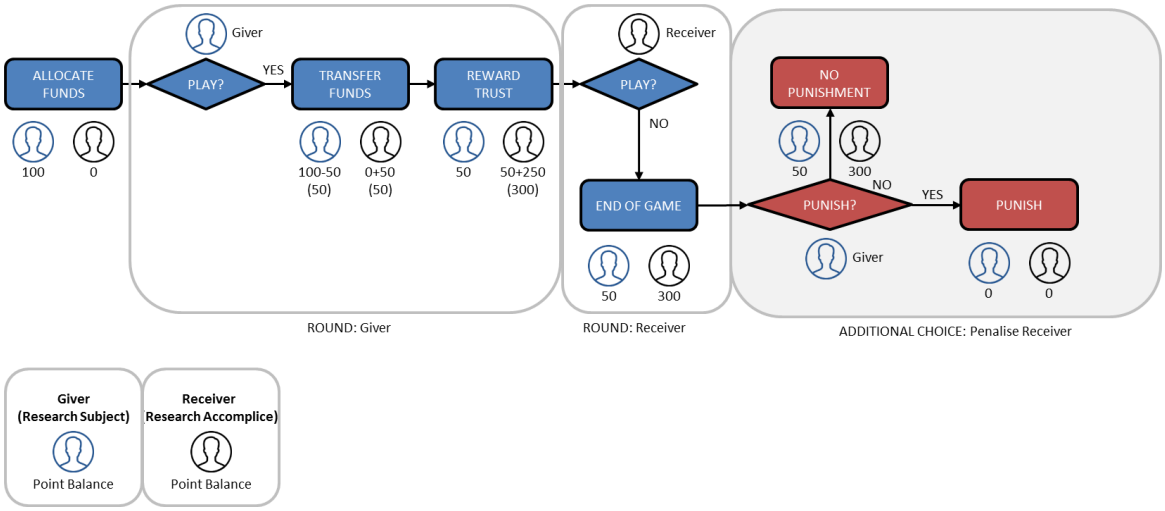
The research undertaken by Fehr et al. (2002) established the trust, or gift exchange, game as an accurate proxy to test the violations of universal norms. Within their standard format of the game such norm violations are however only one to the possible game outcomes.

For the purposes of this study, the trust game was slightly adapted in order to ensure that all research subjects would get to experience a norm violation. This modified version of the trust game is depicted in Figure 6.

The standard format of the game affords the first participant, or giver, to make a choice as to whether they would like to engage in the game, or not. Within the modified version of the game, the narrative dictates that the giver has already made that decision to trust. This applies to the research subject and accordingly, the subject is ‘forced’ into trusting the receiver and ‘forced’ into handing over half of their R100 starting balance.

The flow of the game then continues, as per the standard version, where the giver is now left with R50 and the receiver receives R50 from the giver, as well as an additional R250 from the game facilitator. At the end of this interaction the giver is therefore left with R50 and the receiver with R300.

Figure 6 The adapted trust game



The next step in the standard version of the game is to offer the receiver a similar choice as to whether they would like to play, or not. In the adapted version of the game the subject is advised that the receiver has decided not to continue the game. Therefore, the subject has been asked to trust the receiver by handing over half of their funds, yet the receiver does not reciprocate and is left with an amount which is six times more than that of the subject.

This adapted format of the trust game has therefore forced the research subjects to place their trust in their game 'partners', whilst these partners, as receivers violate that trust. Based on the research discussed in preceding sections, the expectation is for the research subjects to note this 'unfair behaviour' and to want to punish this norm-violation.

As per Gintis et al. (2003), the greatest predictor of whether participants will punish one another is the difference in benefit obtained from the interaction. In this adapted version of the trust game the subject is left with R50 whereas the receiver is left with R300, a difference of R250, or 500 percent. It therefore follows that such a difference should contribute to the desire for punishment.

In order to determine which of the subjects were willing to act on this desire for punishment, and additional option was offered to the research subjects. The subjects were offered the choice as to whether they would like to punish the receivers for their 'norm-violation, or unwillingness to continue the game.

As per the definition of 'revenge' or 'negative-reciprocity' utilised by Bobocel (2013) such actions have to have negative consequences for both the offender and the victim.

Therefore, in the adapted version of the trust game, the option offered to the subject (in this case the victim), was for the subject to spend their remaining R50 in order for the receiver's full amount of R300 to be taken away.

Subjects who made use of this choice could therefore exercise their willingness for punishment, but by exercising this choice the receiver, or transgressor, as well as the subject themselves would be worse of. Those subjects who decided not to make use of the punishment option were left with R50, whereas their partners, the receivers, were left with R300.

As explored in Section 2.3 and 2.4, the traditional view on decision-making relies on the belief that human beings are acting rationally (Kenrick et al., 2011). The 'rational decision' in the adapted version of the trust game would be for the subject to decline the offer to punish the norm violator. Considering only their individual self-interest, by selecting not to punish the subject would end the game with R50 compared to having nothing.

It therefore follows that in the instances when the subjects decided to punish the norm violators, they are acting irrationally. These subjects were therefore using the decision-making system which relies on rapid, intuitive decision making. As the decision to punish another, or not, is a moral decision it would imply that such subjects did in fact use the moral intuitionist model.

Following the outcome of this moral decision, this study could further explore whether the subjects who decided to punish, have similar personality types, or traits. The conclusions from a prior study, which had a broader area of focus, suggested that personality is an important indicator for predicting responses to unfairness, yet has not been sufficiently researched (Skarlicki et al., 1999).

2.9 The role of personality

Within preceding sections the concept of two different systems of thinking where explored, and how these systems are applicable to moral decision-making. Within moral decision-making the concept of Intuitionism was explored and evidence presented to support this model. Accepting this model as an accurate reflection of moral decision-making implies that people do not make conscious moral decisions, but rather have intuitive responses and then find evidence to support their foregone conclusion. These intuitive responses are based on past experience, as well as, 'personal preferences'.

When considering the definition of 'personality' as, a collection of characteristics which uniquely influence a person's thoughts, feelings, motivations, and behaviours in various situations – predicting reactions to people, problems and stress. And which distinguishes one person from another and persists over time and situations (Winnie & Gittinger, 1973). It follows that these 'personal preferences' can more accurately be described as personality types and traits.

Such personality traits can be explained as talents, something one is good at, or alternatively, they can reflect vulnerabilities or more specifically behaviours one is stuck in (Arnulf, 2012). As example, extraverted people might have difficulty being quiet, whereas introverted people might have difficulty keeping a conversation going. Alternatively, extraverted, high sensation seeking, people are 'likelier to tame more and higher financial risks' (Gärling et al., 2010).

Research into the effect of personality types has indicated that unfair treatment does not affect everyone in the same way (Skarlicki et al., 1999). The emotional response of subjects was shown to differ based on personality type. However, no research has investigated whether personality explains unique variance in retaliatory behaviour, as the relationship between personality and retaliation has not been studied directly (Skarlicki et al., 1999).

In exploring whether personality does explain 'variance in retaliatory behaviour', it is essential to understand different personality types through assessment.

2.10 Personality type and assessment

The study around personality types dates back to philosophers such as Hippocrates who postulated that there are four basic temperamental types. This view was so pervasive that subsequent philosophers such as Immanual Kant based much of his psychology on this theory of four psychological types (Budd, 2006).

Despite continued contributions by a number of 'thinkers', the next significant contribution was that made by Carl Jung in the 1920s. At this time Jung developed his theory of Psychological Types. There were two key factors to his theory, the first of which was the belief that his measurement categories where dimensional and not categorical, with individual scoring existing on a continuum (Lewis, 1993). The second key factor was the belief by Jung that this model was to be used to focus internally for 'self-understanding', and not to measure others (Mosley, 2001).

Following the work by Jung many contributed to improving the understanding of the model, but the next major contributors where the mother-daughter team of Katherine Cook Briggs and Isabel Briggs Myers, in designing the Myers-Briggs Type Indicator™ (MBTI™). They started developing their model in the 1940s with the aim of making Jung's theory of human personality more understandable and useful in everyday life (Mosley, 2001).

Their model leverages the work of Jung's typological combination of traits (Extraversion-Introversion) and predominant "functions" (thinking, feeling, sensing, and intuiting) (Barenbaum & Winter, 2008), but focusses on categorising and classifying individuals into one of 16 types. These 16 types are the same as those originally proposed in Jung's model, yet include the category of 'Judging-Perceiving', which although not explicitly stated as part of Jung's typology, was nevertheless implicit in his theory of types (Budd, 2006).

There are reportedly around 2 500 personality tests used globally (Gladwell, 2005). Of these, the Myers-Briggs Type Indicator assessment is the 'most popular and widely used' with about 2.5 million tests given each year and with roughly 89 of the Fortune 100 companies using it (Barenbaum & Winter, 2008; Myers, 1997; Shuit, 2003).

This assessment is however not without critique. A number of authors have weighed in and commented that preference scores are captured onto a continuum and them simply expresses as types in terms of the closest pole (Carlson, 1985); similarly, the focus of the assessment is on single letter and not the value underpinning it (Pittenger, 2005); and, the belief that a person doesn't fit into binary categories (Gladwell, 2005). Additionally, and more objectively, as this is a self-reporting assessment it is subject to manipulation by test takers (Shuit, 2003).

However, a number of studies have reported that the MBTI is an adequately reliable self-report inventory (Marcia, 1977) and that it yielded generally satisfactory correlations on all scales (Carlson, 1985).

The Myers-Briggs Type Indicator™ and MBTI™ are however registered trademarks, and proprietary of CPP Inc. of Palo Alto, California. In 1975, CPP became the exclusive publisher of the Myers-Briggs instrument™ ("CPP - The people development people," 2014). In South Africa, any individual who wants to apply this assessment method needs to be certified by CPP Inc. and also needs to be a registered psychologist with the Health Professions Council of South Africa. The MBTI™ although popular was therefore not a suitable assessment methodology to use.

Further development, around the core principles of Jung's typology have however resulted in the development of the Jung Typology Test™.

2.11 The Jung Typology Test™

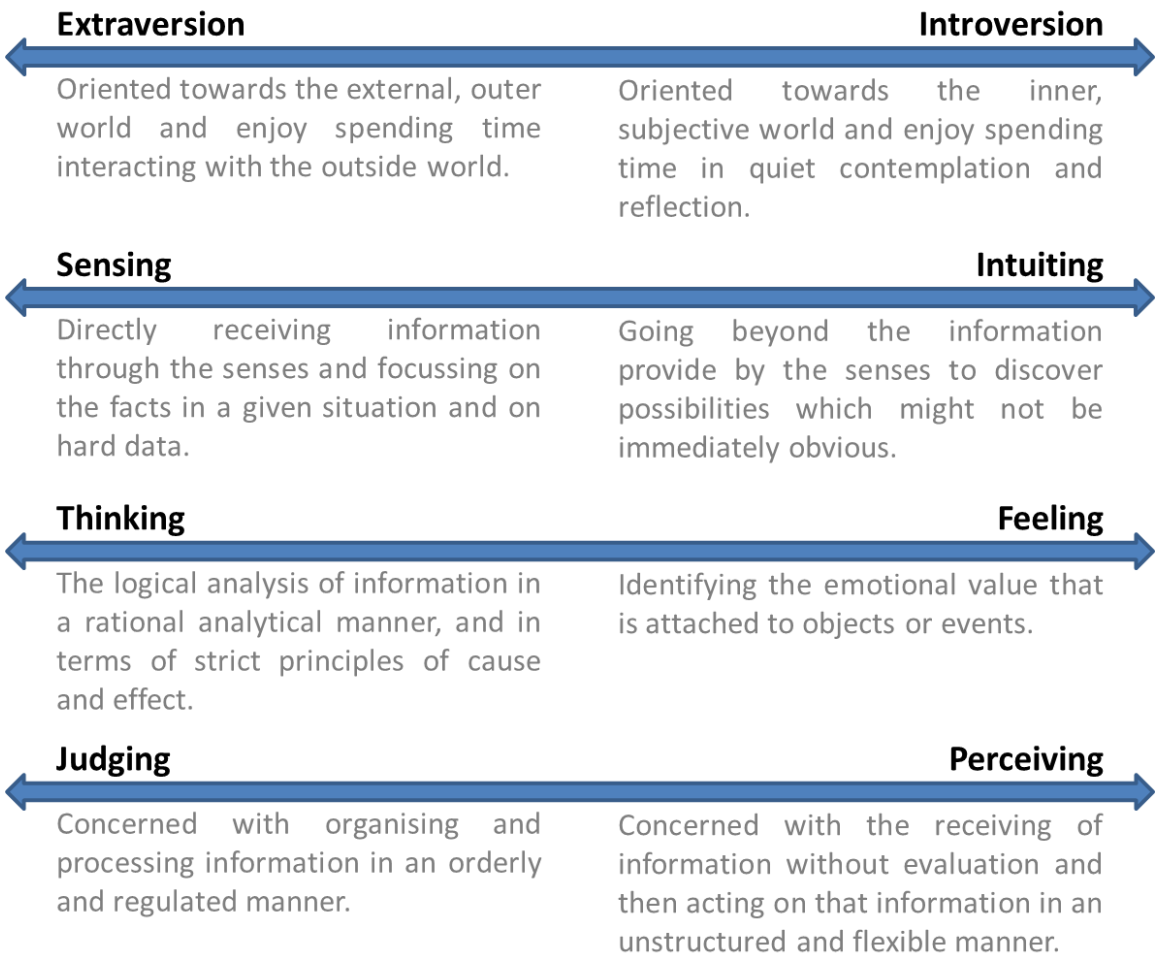
This measurement techniques is 'firmly rooted' in Jung's psychological theory, yet has been developed using 'modern psychometric techniques' (Budd, 2006).

The Jung Typology Test™ is an attempt at maintaining the original core of Jung's personality typology, whilst incorporating subsequent research. As such, the model incorporates some modifications as suggested by Myers and Briggs, most evident the inclusion of the Judging- Perceiving category (Budd, 2006).

The Jung Typology Test™ therefore consists of the following four personality categories, the Extraversion-Introversion dichotomy, the Sensing-Intuiting dichotomy, the Thinking-Feeling dichotomy, and the Judging-Perceiving dichotomy. These are briefly described below and graphically depicted in Figure 7.

The Extraversion-Introversion dimension focusses on whether one's general attitude toward the world is oriented outward to other persons and objects, or is internally oriented to thoughts. The Sensing-Intuiting dimension reflects whether a person prefers to rely primarily on observable facts detected through one or more of the five senses or intuition which relies on insight. The Thinking-Feeling dimension contrasts the logical thinking and decision processes with a more subjective, interpersonal feeling approach. Finally, the Judging-Perceiving dimension distinguishes between making prompt decisions, a preference for planning and organizing activities, versus a preference for flexibility and spontaneity through perception (Capraro & Capraro, 2002).

Figure 7 Personality type dimensions



Considering these axes in more detail:

Extraversion. Oriented towards the external, outer world of 'objects', things that we perceived to be external to us (Lewis, 1993). People with this preference prefer to spend time interacting with the outside world more than considering the inner world of 'subjective experiences' and 'mental events'. Extraverts spend time in the company of other people, where they draw energy, and enjoy converting their ideas to tangible behaviour and action (Budd, 2006; Myers, 1997).

Introversion. Oriented towards the inner, subjective world of values, images and feelings (Lewis, 1993).People with this preference like to spend time in quiet contemplation. Introverts are naturally quiet and introspective without the need for contact with the outer world of people and events (Budd, 2006).

Sensing. The practical function, focussed on the facts in a given situation, and on hard data (Budd, 2006). This function involves directly receiving information through the senses, preferring concrete data and facts. And is focussed on 'external world of things' rather than people (Lewis, 1993). This type is pragmatic, lives in the here and now, and becomes impatient with long, detailed, in-the-future solutions (Bringhurst, 2001)

Intuiting. Removed from concrete reality and focussed on overall patterns and meaningfulness (Lewis, 1993), with a preference for focusing on theoretical issues and hidden patterns of meaning (Budd, 2006). Goes beyond information provided by the sense to discover hidden meaning. Can ignore facts which do not fit in with intuitive visions (Lewis, 1993).

Thinking. Looks for logical and rational analysis in terms of strict cause and effect, and approaches life in a rational, analytical way (Budd, 2006). Activities and choices are though through and the world organised according to universal truths and principles (Lewis, 1993).

Feeling. Concerned with values, such as fairness, honour and trust, rather than emotions - logic is 'in direct contrast to the use of this function (Lewis, 1993). Reliance on emotional intelligence and feeling means that they hold strong values that are central to their personal identity (Myers, 1997). More concerned with what they feel about a person or event, rather than, with what they can learn about it through logical, rational analysis.(Budd, 2006)

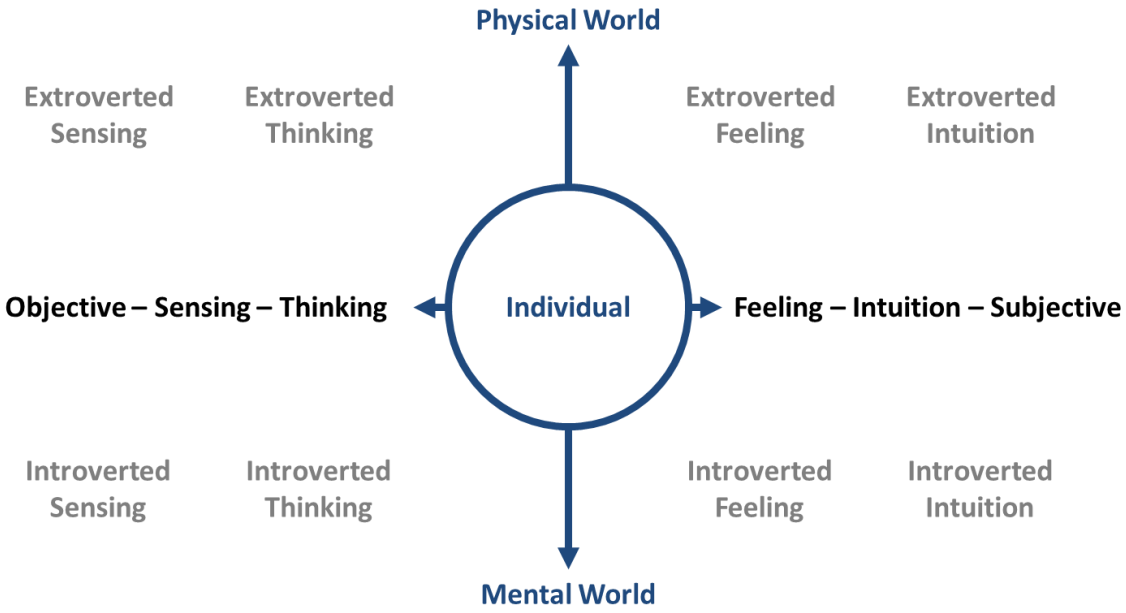
Judging. Regulate and control their lives by organising and processing information. Like to plan ahead and organise (Budd, 2006). Have a high need to complete and 'close' decisions, and hence make decisions quickly with the available data (Myers, 1997).

Perceiving. Preference to be more flexible and open-minded by directly receiving information without evaluation and accordingly, not making quick decisions (Myers, 1997). Like to put off decision making in order to gain as much information as possible. When they do decide to act they will do so in an unstructured and flexible manner, without detailed prior categorising of events (Budd, 2006).

The above decomposed personality categories provide insight into the 'preferred' responses and actions of individuals.

The Jungian function in relation to the world, as depicted in Figure 8, groups these 'preferences' together and highlights a few common traits.

Figure 8 Jungian function in relation to the world



Considering these personality classifications, and the behaviour which they influence, the following assumptions can be made as to how these different categories could influence decision-making.

Extraversion-Introversion. These categories measure and reflect the source of an individual's mental energy. As such, it is assumed that neither of the traits depicted on this axis are an influencer on which decision is made during moral decision-making.

Sensing-Intuiting. The sensing attribute is considered to be 'practical', 'focussed on facts', 'hard on data', and 'focussed on things rather than people'. As such, it is assumed that the sensing trait is an influencer on moral decision-making.

The intuiting attribute is more theoretical, seeks 'hidden meaning', can ignore contrasting facts, and is 'removed from reality'. Accordingly, when considering moral decision-making it is assumed that the intuiting trait will influence such decisions.

Thinking-Feeling. These traits measure how one makes decisions, once the data has been gathered. It would therefore follow that these factors will have an impact on the manner in which moral decision-making occurs. More specifically, thinking types have a

preference for weighing the facts, judging impersonally, and organising. When considering moral decision-making it is assumed that the thinking trait will influence such decisions.

In contrast, feeling types have a preference to consider other people's feelings, and make judgements based on personal values. When considering moral decision-making it is assumed that the feeling trait will influence such decisions.

Judging-Perceiving. These traits measure how slowly or rapidly one comes to a decision, as well as the amount of data to be used in the decision-making process. As such, it is assumed that neither of the traits depicted on this axis will not be an influencer on *what* decision is made during moral decision-making.

Having considered the nature of decision-making, the relevance of moral decision-making in the knowledge economy, the application thereof and relevance is to be considered.

2.12 Management consulting

'In a knowledge based economy, a knowledge worker's primary deliverable is a good decision' (Milkman et al., 2009). The field of Management Consulting epitomises this view, as outputs are primarily intangible 'knowledge pieces', where decision-making is required.

Beyond only making decisions, the nature or Management Consulting is such that consulting staff often has to make quick decisions. This 'frantic pace' suggests that consultants 'often rely on System 1 thinking' (Chugh, 2004). Understanding *why* decisions were therefore made is critical.

There are a number of additional factors which make decision-making in management consulting, and especially modal decision-making, critical.

- Management consultants often work in environments where autonomy is required and decisions cannot be confirmed with other colleagues or managers.
- In many instances management consultants work in environments where contracts have not been established and considerable trust is required between the consulting team and the client.
- Management consultants need to define the best balance between what is good for the client versus their own company. These two are quite often at odds with one another.
- Management consultants are typically employed in a position of power.

Understanding *what* outcomes might be reached in the above scenarios is therefore critical and in support of this, *who* would make such decisions.

2.13 Conclusion

This chapter provided an overview of the different fields of study explored within this research study. This overview is sufficient to serve as foundation for the remainder of this study. Within Chapter 3 this study is progressed by formalising the research question.

3. Research question and supporting hypotheses

3.1 Introduction

Within Chapter 2 the increased need to understand decision-making was discussed, as decision-making has become the key output of the knowledge economy. Similarly, with increased global connectedness, the impact of decision-making impacts a much wider geography. Also, the topic of moral-decision making was explored and the existing uncertainties in the research community as to what extend an individual's personality type affects, and hence can serve as predictor, of moral decision-making.

This section merges these topics into a single research question, in order to provide focus to this research topic. This research question is further supported by eight hypotheses which were tested, and reported on, in a subsequent section of this document.

3.2 Research question

This study aims to answer the following research question:

Is Personality Type, or its decomposed traits, an accurate predictor of moral decision-making?

In order to answer the above question, the following eight hypotheses are proposed in order to test the dimensions of the Jung Typology Test™.

3.3 Extraversion

Extraversion is a measure of the preference of individuals to gain mental energy, by focussing on the outer world.

The following hypothesis is proposed to measure Extraversion as predictor of moral decision-making.

$H_{0\text{-Extraversion}}$: There exists no linear correlation between the Jung Typology Test™ measure of Extraversion and moral decision-making.

$H_{1\text{-Extraversion}}$: There exists a statistically significant linear correlation between the Jung Typology Test™ measure of Extraversion and moral decision-making.

3.4 Introversion

Introversion is a measure of the preference of individuals to gain mental energy, by focussing on the inner world of thoughts and ideas.

The following hypothesis is proposed to measure Introversion as predictor of moral decision-making.

$H_{0\text{-Introversion}}$: There exists no linear correlation between the Jung Typology Test™ measure of Introversion and moral decision-making.

$H_{1\text{-Introversion}}$: There exists a statistically significant linear correlation between the Jung Typology Test™ measure of Introversion and moral decision-making.

3.5 Sensing

Sensing is a measure of how dependent individuals are on their five primary senses to absorb information.

The following hypothesis is proposed to measure Sensing as predictor of moral decision-making.

$H_{0\text{-Sensing}}$: There exists no linear correlation between the Jung Typology Test™ measure of Sensing and moral decision-making.

$H_{1\text{-Sensing}}$: There exists a statistically significant linear correlation between the Jung Typology Test™ measure of Sensing and moral decision-making.

3.6 Intuiting

Intuiting is a measure of how individuals use perceptions, patterns and hunches to absorb information.

The following hypothesis is proposed to measure Intuiting as predictor of moral decision-making.

$H_{0\text{-Intuiting}}$: There exists no linear correlation between the Jung Typology Test™ measure of Intuiting and moral decision-making.

$H_{1\text{-Intuiting}}$: There exists a statistically significant linear correlation between the Jung Typology Test™ measure of Intuiting and moral decision-making.

3.7 Thinking

Thinking is a measure of individuals' preference for weighing facts and judging impersonally when making decisions.

The following hypothesis is proposed to measure Thinking as predictor of moral decision-making.

$H_{0\text{-Thinking}}$: There exists no linear correlation between the Jung Typology Test™ measure of Thinking and moral decision-making.

$H_{1\text{-Thinking}}$: There exists a statistically significant linear correlation between the Jung Typology Test™ measure of Thinking and moral decision-making.

3.8 Feeling

Feeling is a measure of individuals' preference for making decisions based on personal values.

The following hypothesis is proposed to measure Feeling as predictor of moral decision-making.

$H_{0\text{-Feeling}}$: There exists no linear correlation between the Jung Typology Test™ measure of Feeling and moral decision-making.

$H_{1\text{-Feeling}}$: There exists a statistically significant linear correlation between the Jung Typology Test™ measure of Feeling and moral decision-making.

3.9 Judging

Judging is a measure of individuals' preference for making quick decisions in order to obtain closure.

The following hypothesis is proposed to measure Judging as predictor of moral decision-making.

$H_{0\text{-Judging}}$: There exists no linear correlation between the Jung Typology Test™ measure of Judging and moral decision-making.

$H_{1\text{-Judging}}$: There exists a statistically significant linear correlation between the Jung Typology Test™ measure of Judging and moral decision-making.

3.10 Perceiving

Perceiving is a measure of individuals' preference for gathering and assimilating information when making decisions.

The following hypothesis is proposed to measure Perceiving as predictor of moral decision-making.

$H_{0\text{-Perceiving}}$: There exists no linear correlation between the Jung Typology Test™ measure of Perceiving and moral decision-making.

$H_{1\text{-Perceiving}}$: There exists a statistically significant linear correlation between the Jung Typology Test™ measure of Perceiving and moral decision-making.

3.11 Conclusion

In order to investigate these hypotheses, with the goal of answering the stated research question, the following chapter expands on the research methodology utilised.

4. Research Methodology

4.1 Introduction

The purpose of this chapter is to discuss the research methodology employed and argue its merits for application to this study. In doing so, the chapter will discuss three key components to this study. The first is the method of personality assessment which was utilised and the categories of evaluation it offers. The next section discusses the experimental setup developed in order to create an environment where norm violation can be ethically tested. The final section then discusses the general research methodology parameters and methods used.

4.2 The Jung Typology Test™

As explored in Section 2.11, this measurement technique is 'firmly rooted' in Jung's psychological theory, yet has been developed using 'modern psychometric techniques'. This test has been statistically verified to be significantly robust for personality assessments, despite the inherent shortcoming of any form of self-evaluation (Connelly & Hülsheger, 2012).

This assessment is not as widely used as the MBTI™, yet the MBTI™ assessment method has more restrictive rights of use. An available test, namely, the Jung Typology Test™ was therefore selected as a comparable substitute.

This assessment is available online on the HumanMetrics website and was accessed at http://www.humanmetrics.com/. The restrictions and rights of use, as per the website are "the Jung Typology Test™… including questionnaires and results, are provided free of charge only for personal non-commercial use or educational purposes."

4.3 The adapted trust game

The trust game, as described in Section 2.8, was proven to be an accurate proxy for studying cooperative behaviour and norm-violations. The adapted version of this game, described in the same section, was proven to be a suitable simulation to expose research subjects to norm-violations and to provide an opportunity for retaliatory behaviour.

It is therefore this version of the trust game which was used to test responses to moral decision-making.

4.4 Research methodology parameters

The purpose of this research paper is to investigate intended or planned moral decision-making, as per Section 2.5, and more specifically, instances where research subjects behave in an irrational manner, similar to that proposed by Haidt (2001) and discussed in Section 2.6 and 2.7. By considering those subjects who behaved in a manner predicted by the moral intuitionist model and considering the personality traits of subjects based on their behaviour we can investigate whether there are personality traits which can serve as predictors for such behaviour.

Methodology

This research studied the relationship between personality traits and the intended or planned behaviour of research subject when posed with a fictitious scenario designed to simulate moral decision-making. As such, the study required the results from both an existing test instrument, as well as, new primary data as captured through a questionnaire.

As discussed in a preceding section, the Jung Typology Test™ was used as personality assessment tool. This was an online test with respondents being provided their test scores immediately upon completion. These test scores where then captured into a SurveyMonkey online questionnaire along with some basic biographical information as well as the response to the moral decision-making scenario.

The online questionnaire was made available for the period from 10 to 24 October 2014, at which point the data for all completed responses was extracted and imported into IBM SPSS (Version 22) a statistics software tool. In order to investigate the previously defined hypotheses, a quantitative analysis on the correlation of variables was done, as well as, general descriptive statistics and additional crosstabs. While the response to the moral decision-making scenario was captured in a dichotomous response set, namely ‘Yes’ or ‘No’, this was treated subsequently as an ordinal metric, allowing for correlation analysis.

The population

The posed research question is an investigation into the dynamics of personality types and moral decision-making. As such, this topic has relevance to all people whenever they’re faced with any moral decision. The required sample, to provide relevance to such a study, is however too vast and well beyond the scope of this study.

In order to still be able to make a worthwhile research contribution, the population was therefore limited by only considering the impact of moral decision-making on the work of consultants. This was discussed in a preceding section. In addition to this, and in order to have relevance to South Africa, the geography of these consultants where limited to South Africa.

The sample

When considering the research sample size the 'issue at stake' is 'generalisability' (Pallant, 2011). 'Generalisability' can be described as the ability to repeat results obtained, when using a different sample. This is of course critical to scientific research in order to ensure any conclusions drawn have relevance to not only that sample, but the population in its entirety. The danger with smaller sample sizes is that results are obtained which cannot be replicated.

Pallant (2011) in quoting prior researchers recommends that for 'social science research' a sample of 15 subjects is required, per predictor. As the Jung Typology Test™ reports on dichotomy categories, the eight categories can be considered to be four predictors. As such, a sample size of at least 60 was required. In addition, this number would imply that the gathered biographical descriptors are equally represented within all predictors. In order to ensure sufficient coverage, a sample size of 80 was planned for.

Given the scope of the study and the generally unavailability of a commercial and comprehensive list of management consultants, the sampling process started with the compiling of a list of potential respondents known to the researcher that are currently working as management consultants in medium to large firms across South Africa. No bias was given to gender or age. The entries on the list were, henceforth, contacted and requested to provide the contact details of other consultants that could be included as part of the sampling frame. This process could be described as purposive and snowball. The final list formed the sampling frame for the study.

Data collection method

In order to investigate and answer the research question two sets of data were required. The first of these was an analysis of the personality types of the research subjects and the second a response from the amended trust game, as detailed in a preceding section.

The first of these, the personality assessment, was conducted using the Humanmetrics Jung Typology Test™. The Humanmetrics Jung Typology Test™ uses methodologies, questionnaires, scoring metrics and software which are proprietary to Humanmetrics. Accordingly, the exact scoring mechanisms are available only to their affiliates. A free, online version of the assessment is however available for use. For the purpose of this study, all entries on the sampling list that was compiled by the researcher were invited to participate in the study. Subjects received a web link to the Humanmetrics page where they were requested to complete the 72 point questionnaire. For a view on the questionnaire, please see Appendix A: Jung Typology Test™.

The subjects were asked to make a note of the scoring received on this assessment. Once completed, the respondents were redirected to the online survey tool, SurveyMonkey, to complete the rest of the questionnaire. For a view on the full online questionnaire, please see Appendix B: Online questionnaire.

The first page of the questionnaire consisted of a brief overview of the process involved as well as five questions on respondents' biographical information.

The second page provided text boxes where the respondents had to type in their Jung Typology Test™ results. In alignment with the test results, respondents had to type in the percentage score received for each of the personality categories, i.e. Extraversion, or Introversion; Sensing, or Intuition; Thinking, or Feeling; Judging, or Perceiving. Very basic form validation confirmed that the typed values fall within the allowable ranges and that all fields are completed. This section consisted of four questions.

The third page provided an overview of the trust game, explained the rules as well as the intent of the game. Additionally, examples of the three possible game outcomes where provided in a step by step manner to ensure that all respondents understood the game dynamics. The final section of the document provided a scenario to respondents where they were asked to imagine themselves participants of the (amended) trust game.

Respondents where provided a detailed narrative on the flow of the game, as discussed in a preceding section. The final question of the questionnaire was: 'Would you like to spend your remaining R50 in order to penalise the Receiver?' which required a Yes/No answer.

All the above collected data was housed on the SurveyMonkey website and extracted for analysis.

4.5 Data analysis

All extracted data was imported into the IBM SPSS Statistics (Version 22) software tool. The primary intention was to use the tool to examine the relationship between the personality *predictors* and the answer to the moral decision. When statistically considering the relationship between two variables a correlation analysis can be used to measure the strength, and direction, of such a linear relationship (Pallant, 2011; Walpole, Myers, & Myers, 1998).

The final question, question 10, asked "Would you like to spend your remaining R50 in order to penalise the Receiver"? This question required a 'Yes' or 'No' response, which was treated for the analysis as an ordinal metric as recommended by Howell)2010).

Considering the non-parametric nature of the data, the decision was made to calculate *Spearman's rank-order correlation coefficient*. This test is the equivalent of the parametric statistics' *Pearson product moment correlation coefficient*, both of which test the strength of linear relationships between two variables (Pallant, 2011).

4.6 Research limitations

There were a number of limitations to this research; some of which were due to the methodology used, whilst another component was due to the nature of the topic investigated. These are discussed below:

The Jung Typology Test™. This test uses methodologies and metrics which are proprietary to Humanmetrics. For the purpose of this study, the free online assessment was used. As there was no way to interrogate the scoring mechanism and calculation of this assessment, there could be misrepresentation of type here.

In order to mitigate the above risk, and considering the close alignment between the Jung Typology Test™ and the MBTI™, a group of five individuals familiar with their MBTI™ scores were asked to complete the Jung Typology Test™. Four out of the five individuals reported that the tests yielded similar results to previous MBTI™ assessments, whereas the fifth individual highlighted that previously he was an ENTJ, whereas the Jung Typology Test™ reflected a categorisation of ENTP. Upon further questioning, it was however revealed that the Perceptive-scoring was 11%, a relatively low score, which might indicate a slight shift, or variance in responses.

Personality assessments. The researcher is not a trained psychologist, or MBTI™ or Jung Typology Test™ practitioner. As such, the interpretation of the personality traits was based on self-study on these topics.

Data gathering. The responses gathered for the adapted trust game were done online, and not through real experimentation. The outcome could therefore be regarded as intended or planned behaviour given the scenario. Furthermore, a case could also be made that behaviour could differ in a practical experiment, versus an online assessment.

When considering the nature of the question posed, it was sketched in a scenario and requested the subject to make a moral judgement. This assessment is very similar to the requirements made of subjects when completing a Jung Typology Test™, or similarly an MBTI™ assessment. Prior research have indicated that any form of self-assessment has its limitations, yet these are 'still the norm at organisations that use personality tests' (Connelly & Hülsheger, 2012).

Accordingly, if such self-assessments were still considered 'the norm', the usage in this context was no different.

Accounting for gender differences. In the ultimatum game, within a previous study, it was shown that levels of testosterone does affect the outcome. Males with higher levels of testosterone would more readily respond to unfair offers in the ultimatum game, in comparison to the lower levelled participants (Fehr & Gachter, 2000). Similarly, research into the gender of punishers found that men behaved more retaliatory than women (Brebels et al., 2008).

Accordingly, the role of gender in explaining variation in outcomes had to be considered in order to understand this limitation.

Definition of 'consultant'. The research questionnaire for this study was circulated to current and former consulting colleagues. These colleagues either currently are, of where previously employed at one of the major global management consulting firms. The roles of these individuals do however differ significantly with the job description 'consultant' being the only common denominator. As such, in attempting to contain the scope of this research it could be that the requirement for 'consultants' was not sufficient.

4.7 Conclusion

The preceding chapter provided an overview of the research methodology which included the sampling size, method and rationale, as well as, the statistical test done on the data. The following chapter provides an overview of the generated results.

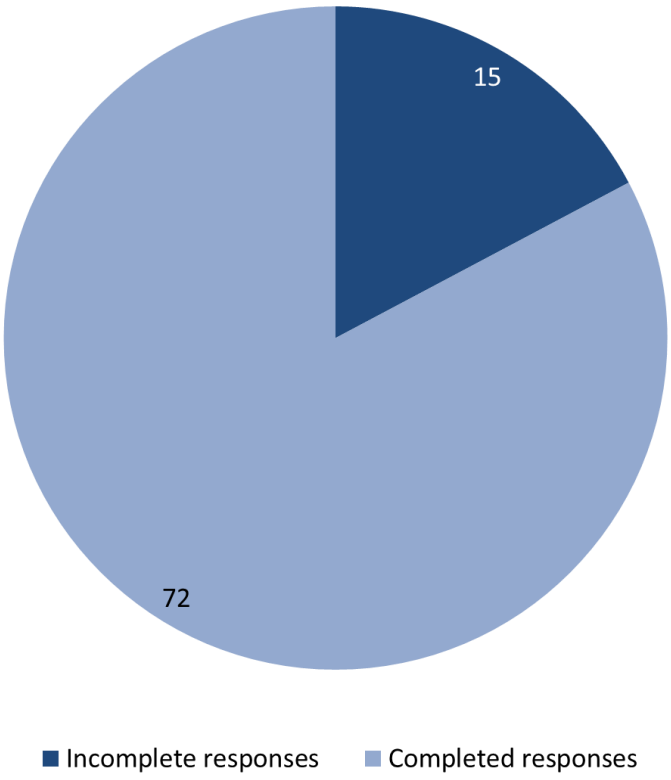
5. Results

5.1 Introduction

The following data was collected online through a SurveyMonkey questionnaire, over the period 10 to 24 October 2014.

A total of 87 responses where received over this period, of which 15 were partially completed, as per Figure 9. The remainder of this section provides a view on the analyses completed on the 72 completed responses.

Figure 9 Number of responses received



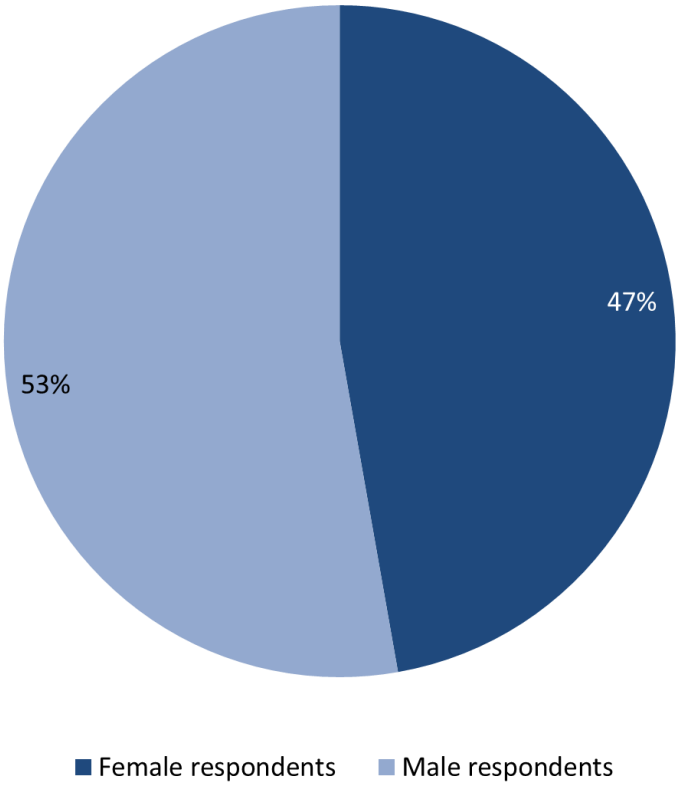
5.2 Biographical information responses

The first section of the questionnaire consisted of five questions pertaining to general biographical information of respondents. A representation of these responses is provided below.

When considering the proportion of male versus female respondents the contribution to the sample is almost equal, with male respondents representing 53 percent and female

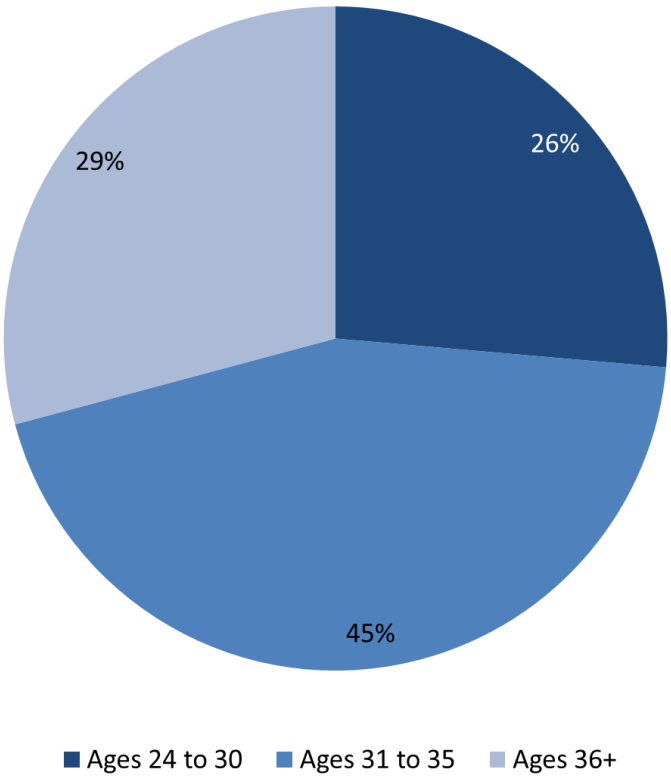
respondents 47 percent, as per Figure 10. Given the scope of this study, which focussed in particular on investigating the impact of moral decision-making on the work of consultants, the inclusion of both males and females respondents were expected. The sample distribution also allowed for further comparison of the moderating effect of gender on the study variables.

Figure 10 Question 1 - Please select your gender



The next biographical question enquired about the age of the respondents. As the range of ages differed from 24 years of age to management consultants in their late-fifties, the data was binned in order to make it more insightful. The bins where allocated on the assumption that 'junior consultants' would be below the age of 30, then 'senior consultants' in their early- to mid-thirties and 'managing consultants' older than that.

Figure 11 Question 2 - Please enter your age

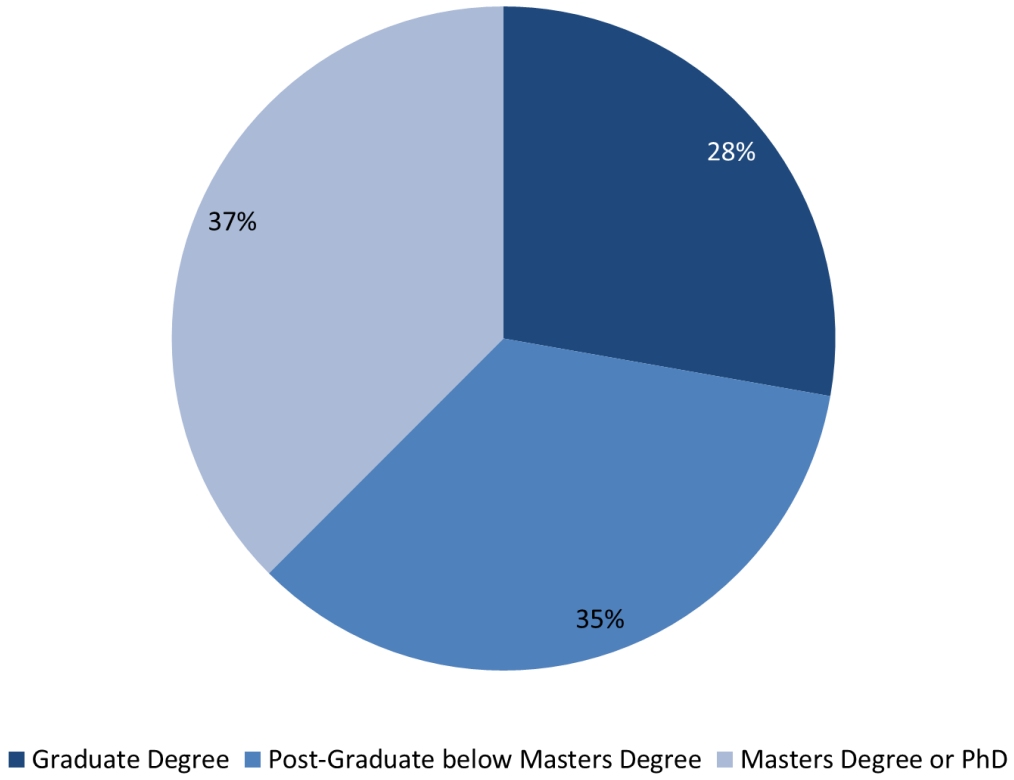


When considering the proportional contribution of these three binned age groupings, it is clear that the bin for 'Ages 31 to 35' contributes roughly 44 percent, as per Figure 11. Intuitively this is not aligned with the perception that consulting companies employ larger numbers of young people. It could however be explained by the fact that this grouping of respondents forms part of the author's peer group, and as such would represent the consultants to which access is more readily available.

The third biographical question enquired about the educational background of the respondents. The nature of the work requires, at the very least, a degree, or if possible a degree with at least some form of post-graduate education. A Master's Degree of PhD is considered very desirable.

When considering the gathered data the contributions for these three education groups are fairly comparable with Graduate Degrees representing 28 percent, Post-Graduate Degrees below Masters Degrees 35 percent and Master's Degree and PhDs representing 38 percent, as per Figure 12.

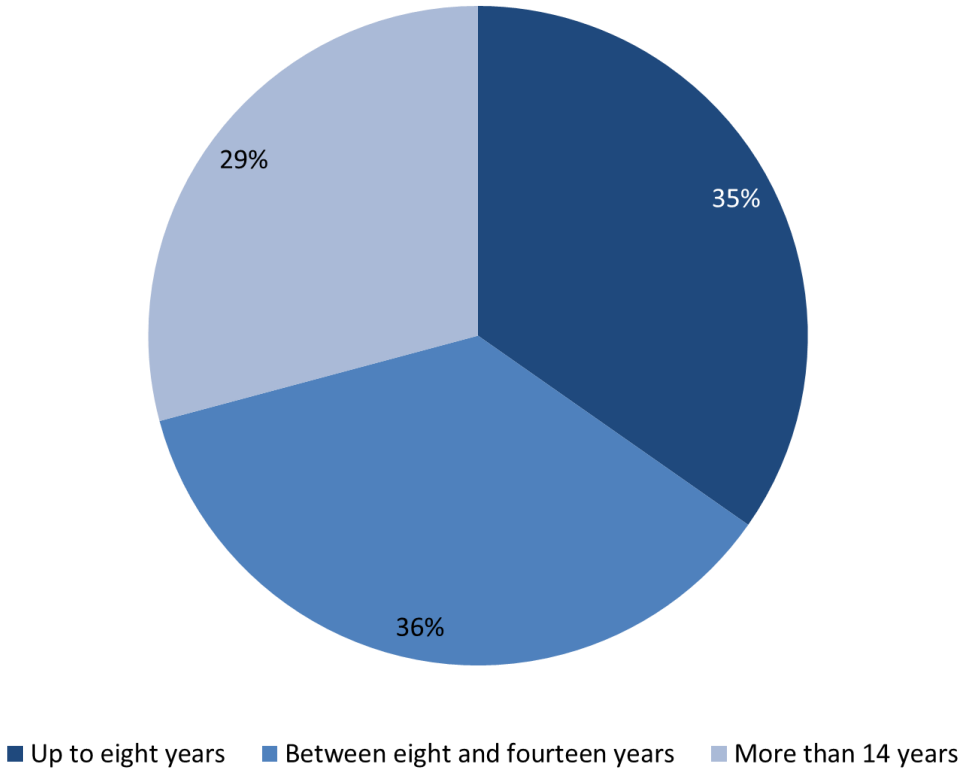
Figure 12 Question 3 - Please enter your highest qualification achieved



Accordingly, intuitively the representation of academic qualifications appears to be aligned with the management consulting industry.

The fourth biographical question enquired about the number of years of work experience the respondents had. These gathered responses where again grouped into bins for reporting purposes.

Figure 13 Question 4 - Please enter your number of years of work experience

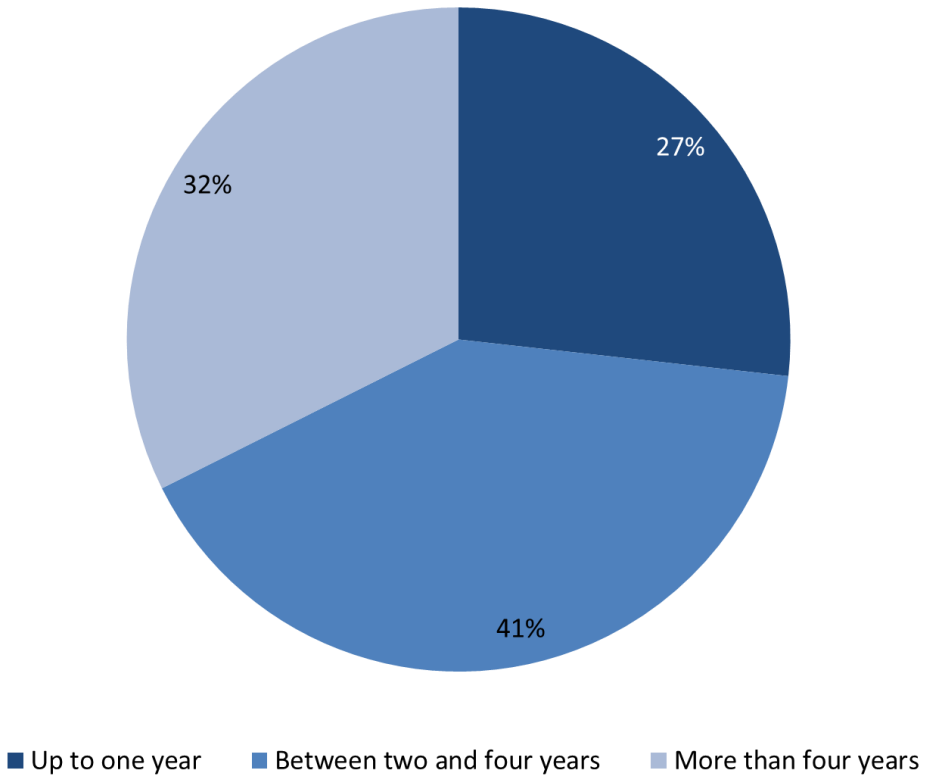


The contributions across these groupings are of course partially dependent on the manner in which the groups are created. The second factor, of course, being the spread of the actual collected responses.

When considering this gathered data, whilst partially ignoring the groupings, it is however apparent that there is significant contributions from all years of experience from less than eight years to more than 14 years, as per Figure 13. Therefore, despite the possible argument that can be had for changing the ranges of the bins by a year or two, the general shape of the data will not change. As such, the spread of the collected responses are deemed to offer sufficient granularity across different levels of experience.

The final biographical question, Question 5, enquired about the duration of the respondent's employment at their current employer. This general information again serves the purpose to moderate results gathered. The distinction between years of total employment versus that of employment at a current employer was included as the research topic considered moral decision-making. As moderator, the question was asked whether years of service would explain variation in behaviour.

Figure 14 Question 5 - Please enter the number of years you have been at your current employer



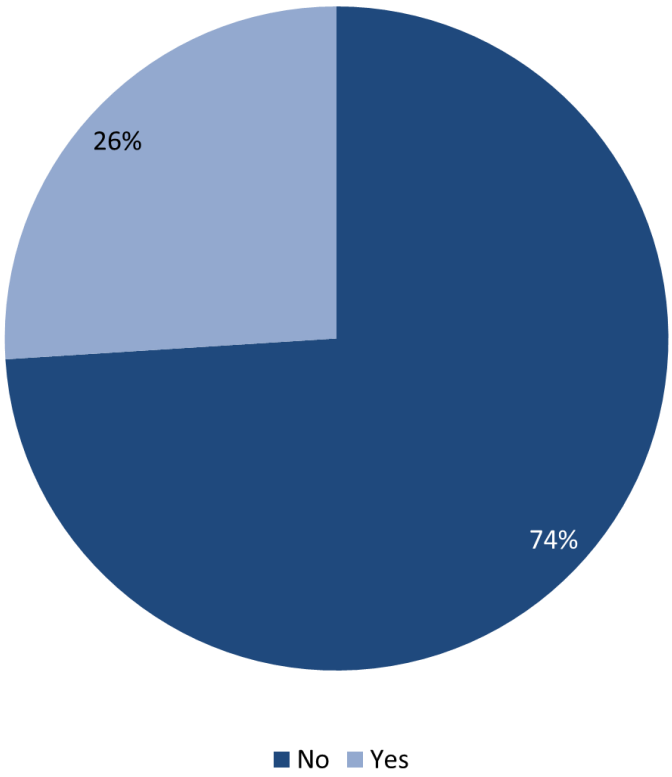
When considering the gathered data it can be seen that respondents represent a wide range of employment periods, as per Figure 14.

When considering all of the biographical information gathered, and applying a judgement assessment thereof, the general sense is that none of the sampled data is in stark contrast to the *expected* results. As such, the sampled data provided a sufficient level of comfort to proceed with the remainder of the analyses.

5.3 The adapted trust game outcomes

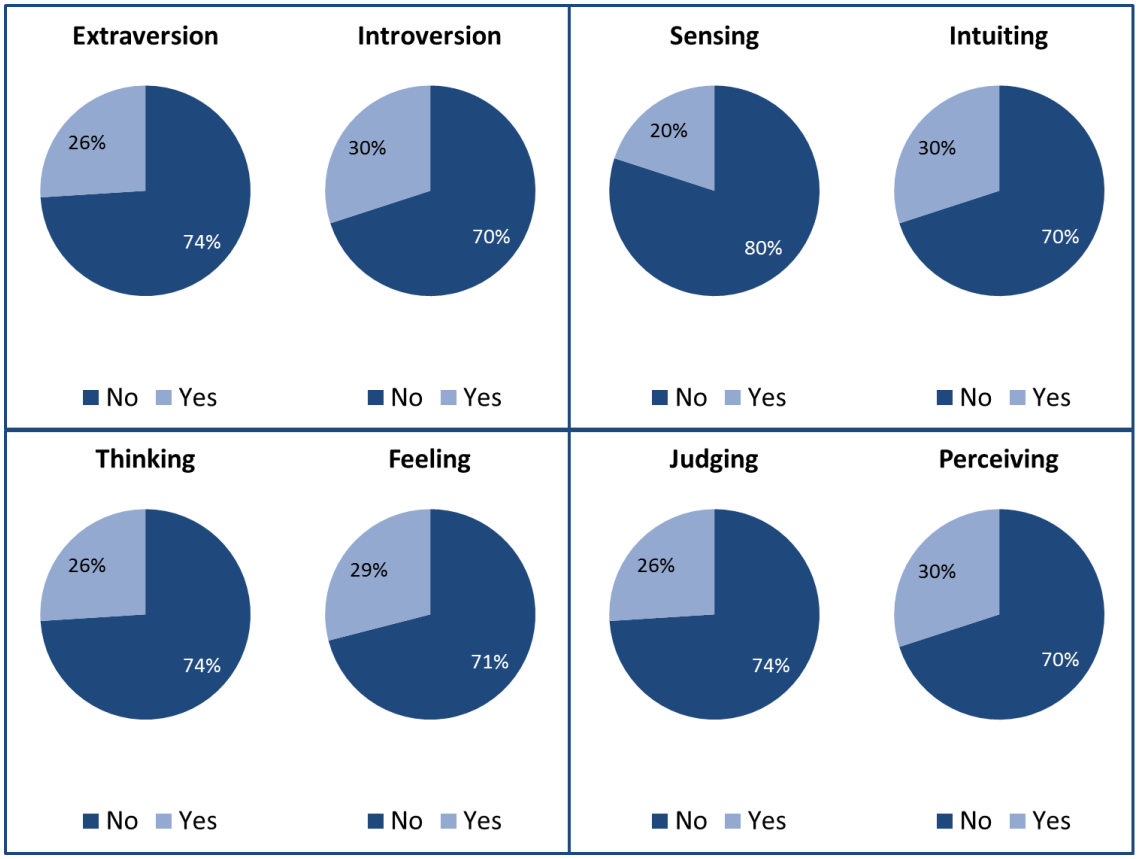
When considering the combined responses to Question 10, 'Would you like to spend your remaining R50 in order to penalise the Receiver?', as depicted in Figure 15, the responses can be seen to have been overwhelmingly not to punish the norm-violation, with 74 percent of the respondents selecting this. Accordingly, only 26 percent of respondents decided to punish the norm-violation, at a cost to themselves.

Figure 15 Combined outcome of the adapted trust game



Disaggregating these responses, based on personality trait, it was found that this trend continued across all the categories, as per Figure 16.

Figure 16 Outcome of the adapted trust game by personality trait

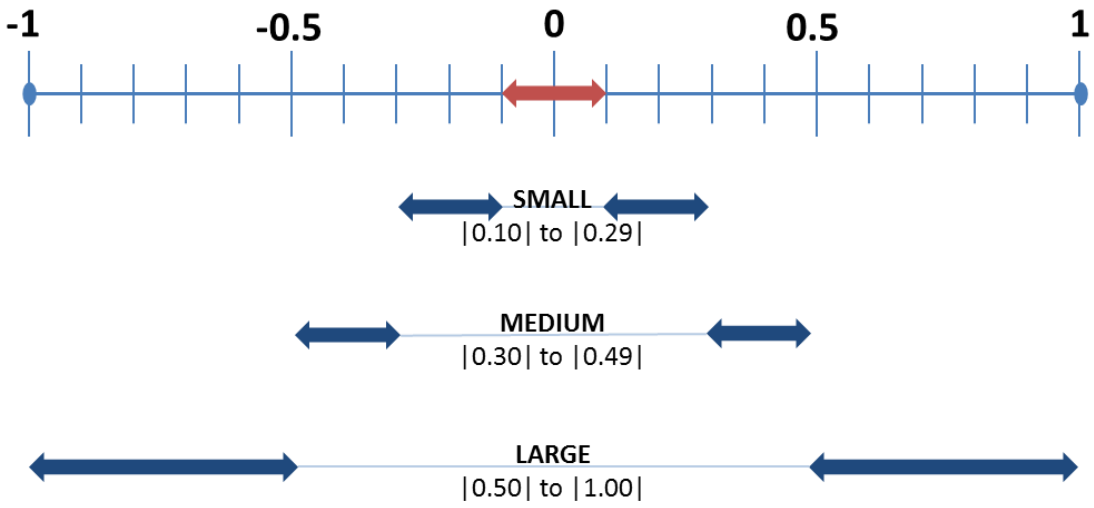


This analysis indicated that the majority of respondents decided not to punish the norm-violation. Subsequent to this finding, the next step of the analysis was to consider those cases where respondents *were* willing to punish the norm-violation and to determine whether there was a relationship between those cases and personality traits.

5.4 Correlation statistics

Correlation analysis is used to describe the strength and direction of the linear relationship between two variables (Pallant, 2011). When using Spearman's rank-order correlation the correlation coefficient, *rho*, can take on a value between -1 and 1. When interpreting this value, firstly consider the strength of the relationship, as reflected in the numeral. A graphical representation is provided in Figure 17 below. A correlation coefficient in the range [-0.10;0.10] indicates no correlation.

Figure 17 Interpreting *rho*



Following the interpretation of the strength of the relationship, consider the direction of that relationship. The correlation can be either positive or negative, as depicted in the sign. A positive relationship would imply that as the one variable increases, so too does the other. An example could be the dial on a thermostat and the temperature in a room, as the dial is turned up so too does the temperature go up.

A negative relationship then is when one variable increases while another variable decreases. An example could be again the dial on a thermostat and the thickness of an ice deposit on a window. As the dial is turned up the temperature would go up and the thickness of the ice deposit would decrease.

The final statistic for consideration is the significance level, as denoted by the p-value, or *Sig. 2 tailed* in the output tables. The significance level provides a view on the extent to which one can have confidence in the results obtained. This threshold, or 'rejection level', is determined ahead of time, and depends on the field of study, but is typically set at 0.05, with 0.01 also utilised often. Simply put, if a difference is 'statistically significant at the 0.05 level', it implies that a difference that large would occur less than five percent of the time, if the null hypothesis were true (Howell, 2009). This in turn implies that if the p-value was found to be less than 0.05 then the results are statistically significant and the null hypothesis would be rejected.

Considering the results from Spearman's rank-order correlation analysis few statistics stand out.

1. The relationship between **'Years experience'** and **'Age'** was investigated using Spearman's rank-order correlation coefficient. There was a **large, positive linear correlation** between the two variables, ***rho* = 0.869, n = 72, p <0.01**.

The coefficient of determination in this instance is 75 percent, implying that 75 percent of the variability in these two dimensions is attributable to one another. This would make sense as one would expect that a consultant that is older would have more years of experience.

2. The relationship between **'Intuiting'** and **'Gender'** was investigated using Spearman's rank-order correlation coefficient, with gender considered as a ranked measurement of 0 and 1 for female and male respectively. There was a **medium, positive linear correlation** between the two variables, ***rho* = 0.347, n = 47, p <0.05**.

The coefficient of determination in this instance is 12 percent, implying that 12 percent of the variability in these two dimensions is attributable to one another. The result therefore suggests that as gender code changes or increases from 0 to 1 (i.e. female to male) higher levels of Intuiting are predicted.

3. The relationship between **'Feeling'** and **'Gender'** was investigated using Spearman's rank-order correlation coefficient. There was a **medium, negative linear correlation** between the two variables, ***rho* = -0.445, n = 21, p <0.05**.

The coefficient of determination in this instance is 20 percent, implying that 20 percent of the variability in these two dimensions is attributable to one another. Similarly as in the case of the previous result, as gender code changes or increases from 0 to 1 (i.e. female to male) higher levels of Feeling are predicted.

Table 1Spearman's Rank-Order Correlation

Spearman's Rank-Order Correlation		Gender	Age	Highest qualification	Years work experience	Years at current employer	Extraversion	Introversion	Sensing	Intuition	Thinking	Feeling	Judging	Perceiving	Would you like to spend your remaining R50 to penalise the Receiver?
Gender	Correlation Coefficient	1.000													
	Sig. (2-tailed)														
	n	72													
Age (Binned)	Correlation Coefficient	.185	1.000												
	Sig. (2-tailed)	.119													
	n	72	72												
Highest qualification	Correlation Coefficient	.051	-.113	1.000											
	Sig. (2-tailed)	.673	.346												
	n	72	72	72											
Years work experience	Correlation Coefficient	**.247***	**.869****	-.148	1.000										
	Sig. (2-tailed)	.037	.000	.214											
	n	72	72	72	72										
Years at current employer	Correlation Coefficient	-.144	.178	-.060	.136	1.000									
	Sig. (2-tailed)	.231	.138	.621	.257										
	n	71	71	71	71	71									
Extraversion	Correlation Coefficient	-.186	.107	.248	.155	-.054	1.000								
	Sig. (2-tailed)	.263	.523	.133	.352	.750									
	n	38	38	38	38	38	38								
Introversion	Correlation Coefficient	.102	.026	.171	.128	.027	-1.000**	1.000							
	Sig. (2-tailed)	.550	.879	.313	.450	.877									
	n	37	37	37	37	36	3	37							
Sensing	Correlation Coefficient	-.052	-.101	.261	-.103	-.252	.198	.072	1.000						
	Sig. (2-tailed)	.784	.597	.163	.588	.180	.390	.824							
	n	30	30	30	30	30	21	12	30						
Intuition	Correlation Coefficient	**.347***	-.169	.224	-.159	-.230	.061	.154	-.250	1.000					
	Sig. (2-tailed)	.017	.256	.130	.285	.125	.793	.426	.685						
	n	47	47	47	47	46	21	29	5	47					
Thinking	Correlation Coefficient	.222	-.059	.221	-.074	-.087	.133	.097	-.220	.196	1.000				
	Sig. (2-tailed)	.107	.673	.109	.593	.538	.537	.592	.301	.265					
	n	54	54	54	54	53	24	33	24	34	54				
Feeling	Correlation Coefficient	**-.445***	-.314	.052	-.233	-.036	.443	-.456	-.388	-.044	-1.000**	1.000			
	Sig. (2-tailed)	.043	.166	.824	.310	.877	.066	.364	.302	.873					
	n	21	21	21	21	21	18	6	9	16	4	21			
Judging	Correlation Coefficient	0.000	.028	.123	-.116	.066	.082	-.112	.060	.024	-.091	-.047	1.000		
	Sig. (2-tailed)	1.000	.822	.326	.354	.603	.651	.514	.762	.877	.531	.849			
	n	66	66	66	66	65	33	36	28	43	50	19	66		
Perceiving	Correlation Coefficient	**.705***	.375	.467	.375	.359	**.735***	.316	.462	.025	.609	-.585	-1.000**	1.000	
	Sig. (2-tailed)	.023	.286	.174	.286	.308	.024	.684	.356	.953	.109	.222			
	n	10	10	10	10	10	9	4	6	8	8	6	4	10	
Would you like to spend your remaining R50 in order to penalise the Receiver?	Correlation Coefficient	.061	-.107	-.006	-.037	-.172	.006	.014	**.525****	-.047	-.037	-.266	-.126	.274	1.000
	Sig. (2-tailed)	.609	.369	.957	.757	.151	.973	.935	.003	.755	.790	.244	.314	.443	
	n	72	72	72	72	71	38	37	30	47	54	21	66	10	72

4. The relationship between **'Perceiving'** and **'Gender'** was investigated using Spearman's rank-order correlation coefficient. There was a **large, positive linear correlation** between the two variables, ***rho* = 0.705, n = 10, p <0.05**.

The coefficient of determination in this instance is 50 percent, implying that 50 percent of the variability in these two dimensions is attributable to one another. Higher levels of Perceiving are therefore correlated with male respondents.

5. The relationship between **'Perceiving'** and **'Extraversion'** was investigated using Spearman's rank-order correlation coefficient. There was a **large, positive linear correlation** between the two variables, ***rho* = 0.735, n = 9, p <0.05**.

The coefficient of determination in this instance is 54 percent, implying that 54 percent of the variability in these two dimensions is attributable to one another. Higher levels of Perceiving are associated with higher levels of extraversion.

6. The relationship between **'Sensing'** and '**Question 10 - Would you like to spend your remaining R50 in order to penalise the Receiver?**' was investigated using Spearman's rank-order correlation coefficient. There was a **large, positive linear correlation** between the two variables, ***rho* = 0.525, n = 30, p <0.01**.

The coefficient of determination in this instance is 54 percent, implying that 54 percent of the variability in these two dimensions is attributable to one another. The result therefore suggests that as responses change or increases from 0 to 1 (i.e. no to yes) higher levels of Sensing are predicted.

These results provide statistical proof that the null hypothesis **can be rejected** in favour of the alternate hypothesis, which stated:

$H_{1\text{-Sensing}}$: There exists a statistically significant linear correlation between the Jung Typology Test™ measure of Sensing and moral decision-making.

7. The relationship between '**Extraversion**'**, 'Introversion', 'Intuiting', 'Thinking', 'Feeling', 'Judging',** and **'Perceiving'** where all individually investigated against '**Question 10 - Would you like to spend your remaining R50 in order to penalise the Receiver?**' using Spearman's rank-order correlation coefficient. In all of these instances **no significant linear correlation was found**.

These results provide statistical proof of these null hypotheses:

$H_{0\text{-Extraversion}}$: There exists no linear correlation between the Jung Typology Test™ measure of Extraversion and moral decision-making.

$H_{0\text{-Introversion}}$: There exists no linear correlation between the Jung Typology Test™ measure of Introversion and moral decision-making.

$H_{0\text{-Intuiting}}$: There exists no linear correlation between the Jung Typology Test™ measure of Intuiting and moral decision-making.

$H_{0\text{-Thinking}}$: There exists no linear correlation between the Jung Typology Test™ measure of Thinking and moral decision-making.

$H_{0\text{-Feeling}}$: There exists no linear correlation between the Jung Typology Test™ measure of Feeling and moral decision-making.

$H_{0\text{-Judging}}$: There exists no linear correlation between the Jung Typology Test™ measure of Judging and moral decision-making.

$H_{0\text{-Perceiving}}$: There exists no linear correlation between the Jung Typology Test™ measure of Perceiving and moral decision-making.

5.5 Conclusion

The preceding chapter provided a detailed view on the statistical results generated through the analysis of gathered primary data. This chapter also provide context to this data and the analyses undertaken.

Within the subsequent chapter the implications of these findings are discussed.

6. Discussion of Results

6.1 Introduction

This chapter provides additional context to the analysis undertaken, and reported on in, chapter five. This covers obtained statistics on the moderating variables, a view on the validity of the adapted trust game and then detailed discussions on the hypotheses as well as the research question and research title.

6.2 An overview of the moderating variables

Age

Budd (2006) reported that whilst studying the correlations between age and each of the personality traits, the correlations where close to zero, indicating that age was not associated with personality traits in the Jung Typology Test™. This conclusion can be confirmed, as per the presented results in Table 2. There is no significant, linear correlation between any of the personality traits and 'Age'.

Gender

Budd (2006) studied the relationship between gender and the Jung Typology Test™ personality traits. This study reported that the only personality traits which show a significant mean difference between men and women is Thinking-Feeling. Apparently, women demonstrate a small mean preference for Feeling over Thinking. This study references a similar observation in MBTI™ assessment, and postulates that this 'may reflect a real difference between men and women, rather than a test bias' (Budd, 2006).

Table 2 Comparison of the means of Thinking-Feeling by Gender

	Female	Male
Thinking	28.26	41.23
Feeling	52.00	36.00

This gender based phenomenon was also noted in this study, as depicted in Table 2. In addition, 'Gender' was also found to have medium and large linear relationships with Intuiting and Perception, respectively, as can be seen in Table 1.

6.3 The adapted trust game

Prior academic research has shown that within the trust game, subjects show a willingness to punish a defecting opponent, if such a defection is viewed as a norm-violation (Fehr et al., 2002). However, despite a willingness to punish a norm violation, academic research findings indicate that such perceived unfairness is however an inconsistent predictor of retaliation (Brebels et al., 2008), and that researchers lack a clear understanding of when perceived unfairness, and willingness to punish, translates into retaliation and why the sufferer of a norm violation pursues or inhibits retaliation (Brebels et al., 2008).

When accepting the postulation that there is a universal sense of fairness (Fehr & Schmidt, 1999; Forgas & Tan, 2013; Gintis et al., 2003), whilst then noting that only 26 percent of respondents were willing to act on this norm-violation, it follows that this study confirms the findings of Brebels et al. (2008), in that perceived unfairness is an inconsistent predictor of retaliation.

The results do however confirm the postulation of Kenrick et al. (2011) that many economic decisions are quite often irrational. In the setup of this game there would be no long-term benefit to punishing norm-violations and that purely selfish subjects will never punish in a one-shot context (Fehr & Gächter, 2000).

6.4 $H_{0\text{-Extraversion}}$: There exists no linear correlation between the Jung Typology Test™ measure of Extraversion and moral decision-making.

The Spearman's rank-order correlation coefficient statistic confirmed that there is no significant linear relationship between 'Extraversion' and 'Moral decision-making', as defined within this study.

Extraversion, as measure of personality trait, provides an indication into the world we prefer, or feel most comfortable in. In the case of extraversion, that world is the outer world 'of people and things' (Martin, 2001). This personality trait is an indicator of the extent to which an individual likes to 'make things happen', 'engage with other', 'like working in groups', 'jump too quickly into an activity', and 'don't allow enough time to think' (Martin, 2001).

Based on this research, it was shown that these Extraversion traits do however not influence moral decision-making, as defined in this study.

6.5 $H_{0\text{-Introversion}}$: There exists no linear correlation between the Jung Typology Test™ measure of Introversion and moral decision-making.

The Spearman's rank-order correlation coefficient statistic confirmed that there is no significant linear relationship between 'Introversion' and 'Moral decision-making', as defined within this study.

Introversion, as measure of personality trait, provides an indication into the world we prefer, or feel most comfortable in. In the case of introversion, that world is the world of ideas, pictures, memories, and reactions internal to a person.(Martin, 2001) This personality trait is an indicator of the extent to which an individual likes to do things alone, 'take time to reflect', 'have a clear idea of planned actions', and 'work with mental models (Martin, 2001).

Based on this research, it was shown that these Introversion traits do however not influence moral decision-making, as defined in this study.

6.6 $H_{0\text{-Intuiting}}$: There exists no linear correlation between the Jung Typology Test™ measure of Intuiting and moral decision-making.

The Spearman's rank-order correlation coefficient statistic confirmed that there is no significant linear relationship between 'Intuiting' and 'Moral decision-making', as defined within this study.

Intuiting, as measure of personality trait, provides an indication into how people gather information. People with a preference for Intuiting prefer to pay intention to impressions or the meaning and patterns of information and enjoy 'symbols or abstract theories', 'new and novel ideas', like to understand the 'big picture', and leap from one idea to another (Martin, 2001).

Based on this research, it was shown that these Intuiting traits do however not influence moral decision-making, as defined in this study.

6.7 $H_{0\text{-Thinking}}$: There exists no linear correlation between the Jung Typology Test™ measure of Thinking and moral decision-making.

The Spearman's rank-order correlation coefficient statistic confirmed that there is no significant linear relationship between 'Thinking' and 'Moral decision-making', as defined within this study.

Thinking, as measure of personality trait, provides an indication into how people make decisions, once they have gathered data. Those who prefer the Thinking trait prefer to look at logic and consistency and place more emphasis on objective principles and impersonal facts (Martin, 2001).

These traits closely align to the description of System 2 type thinking, as discussed in chapter 2. This system of thinking was described as being ‘a slow, structured system of decision-making’ (Bakken, 2013; Bazerman & Moore, 2009; Milkman et al., 2009; Tinghög et al., 2013). Or similarly, when considering moral decision-making, the beliefs put forward by Rationalists, wherein they propose that moral judgement is made, through a process of ‘reasoning and reflection’ (Haidt, 2001).

It therefore follows that there is an expectation that there should be a relationship between this personality trait and the manner in which moral decision-making occurs, and hence the outcome of such moral decisions. One would expect that such slow and deliberate thinking over a choice would result in making a decision not to punish a norm-violation. This would be the rational decision. However, based on this research, it was shown that these Thinking traits do not influence moral decision-making, as defined in this study.

6.8 $H_{0\text{-Feeling}}$: There exists no linear correlation between the Jung Typology Test™ measure of Feeling and moral decision-making.

The Spearman’s rank-order correlation coefficient statistic confirmed that there is no significant linear relationship between ‘Feeling’ and ‘Moral decision-making’, as defined within this study.

Feeling, as measure of personality trait, provides an indication into how people make decisions, once they have gathered data. Those who prefer the Feeling trait prefer to look at the people involved and the presence of special circumstances, placing more weight on personal concerns of the people involved. Additionally, those who prefer the Feeling trait are ‘concerned about values’, establishing and maintaining harmony’, and are ‘caring, warm and tactful’ (Martin, 2001).

Considering these characteristics one could argue that there is the posibility that those with a Feeling preference will not punish a norm-violation, as the punishment would disrupt the ‘harmony’. However, considering the inverse, one could argue that those with a Feeling preference would decide to punish a norm-violation, as this is an inringement of a commonly understood value.

Therefore, althought not having a preconceived idea on the decision, which those with a Feeling preference would make, it was expected that this trait will have a significant relationship to the final decision made. However, based on this research, it was shown that these Thinking traits do not influence moral decision-making, as defined in this study.

Although only conjecture, potentially this internal conflict between maintaining harmony and making value based decisions, affects everyone with a Feeling preference. This could result in such individuals considering these two opposite poles during each decision-making process. The role of emotions in influencing an individual's riks appeatite (Yip & Côté, 2013) or affecting the belief in fairness (Forgas & Tan, 2013) could then be factors which influence decision-making. This would result in respondents with similar preferences to the Feeling trait to make different moral decision, as was found in this study.

6.9 $H_{0\text{-Judging}}$: There exists no linear correlation between the Jung Typology Test™ measure of Judging and moral decision-making.

The Spearman's rank-order correlation coefficient statistic confirmed that there is no significant linear relationship between 'Judging' and 'Moral decision-making', as defined within this study.

Judging, as measure of personality trait, provides an indication into the need, or willingness, of individuals to make decisions. Those who have a preference for the Judging trait like to 'have things settled', 'feel comfortable when decisions are made', and like to 'bring life under control' (Martin, 2001).

The Judging-Perceiving traits apply only to the 'preference in the outer world', and not 'internal decision making' (Martin, 2001). The results obtained during this research, showning that these Judging traits do not influence moral decision-making, as defined in this study, are therefore in alignement with the expectation of the outcome.

6.10 $H_{0\text{-Perceiving}}$: There exists no linear correlation between the Jung Typology Test™ measure of Perceiving and moral decision-making.

The Spearman's rank-order correlation coefficient statistic confirmed that there is no significant linear relationship between 'Perceiving' and 'Moral decision-making', as defined within this study.

Perceiving, as measure of personality trait, provides an indication into the need, or willingness, of individuals to make decisions. Those who have a preference for the Perceiving trait like to 'consider the options', 'prefer to take in information', and 'prefer a flexible and spontaneous way of life'. It does however not mean 'being perceptive' in the sense of having quick and accurate perceptions about people and events (Martin, 2001).

The Judging-Perceiving traits apply only to the 'preference in the outer world', and not 'internal decision making' (Martin, 2001). The results obtained during this research, showning that these Judging traits do not influence moral decision-making, as defined in this study, are therefore in alignement with the expectation of the outcome.

6.11 $H_{0\text{-Sensing}}$: There exists no linear correlation between the Jung Typology Test™ measure of Sensing and moral decision-making.

The Spearman's rank-order correlation coefficient confirmed that there is a large, positive linear relationship between 'Sensing' and 'Moral decision-making', as defined within this study.

Sensing, as measure of personality trait, provides an indication into how people gather information. People with a preference for Sensing prefer to focus on the basic information at hand as gathered through their five senses. They are interested with what is 'actual, present, current, and real' and do not enjoy 'interpreting' or trying to 'add meaning' to observations. Additionally they like to adopt a 'pragmatic' approach and place trust in experience over words (Martin, 2001).

Based on this research, it was shown that those individuals with a strong preference to Sensing are also more likely to make a decision to punish a norm violation.

Although only conjecture, this finding could be due to the 'no nonsense', practical approach that those with a Sensing preference adopt. After experiencing a norm-violation and viewing it from a perspective of what is 'actual, present, current, and real', the simple, non-interpretative response is to punish such a violation. This could be why this group of respondents where the most likely to convert from a feeling of wanting to punish, to actual action.

6.12 Research question

Is Personality Type, or its decomposed traits, an accurate predictor of moral decision-making?

In answering the above question a number of separate, yet related fields of study where explored. Within Chapter 2, existing academic research on human decision-making was discussed. Through this research we postulated that humans employ two different systems of thinking, a rapid, intuitive systems and a slow, structured system of decision-making (Bakken, 2013; Bazerman & Moore, 2009; Milkman et al., 2009; Tinghög et al., 2013). We have also came to realise that 'due to the frantic pace of managerial life' that many decision-makers in organisations 'often rely' on rapid, intuitive system one type thinking (Bazerman & Moore, 2009; Chugh, 2004).

Exploring the domain of moral decision-making revealed that such decisions exhibit similar characteristics, with researchers describing such rapid, intuitive system one type thinking under the concept of moral intuitionism (Haidt, 2001; Paxton & Greene, 2010). It therefore followed that considering the 'frantic pace of managerial life' and the suggestion that decision-makers in such environments rely heavily on rapid, intuitive system one thinking, the same holds true for moral decision-making in such environments. The environment explored in this study was the field of management consulting.

In order to consider one such example of a moral decision, the notion of a universal sense of fairness (Fehr & Schmidt, 1999; Forgas & Tan, 2013; Gintis et al., 2003) was first explored. This lead to the understanding that there is an equally universal desire to punish those who violate the norms around the universal sense of fairness (Bobocel, 2013; de Quervain et al., 2004). When considering the responses to such norm violations, it was found that there is an inconsistency between the universal desire to punish, and the willingness to act on this desire (Brebels et al., 2008).

Existing research indicated that personality type is an important indicator for predicting responses to norm-violations, yet this has not been sufficiently researched (Skarlicki et al., 1999). Additionally, the focus of current research focussed on whether subjects experienced a desire to punish norm-violations and not whether they acted on it.

This was considered to be an opportunity for a beneficial contribution to the field of study, and directly relates back to the research question on moral decision-making. In order to investigate this topic an adaptation of the trust game was developed. It had already been shown that in order to establish an environment where a norm-violation can be tested, the trust game is an accurate proxy (Fehr et al., 2002).

In order to compare the responses from the adapted trust game to a personality profile the Jung Typology Test™ was used. This measurement techniques is 'firmly rooted' in Jung's

psychological theory, yet has been updated using 'modern psychometric techniques' (Budd, 2006). This assessment provided a view on the strength of preference of subjects over four scales, consisting of eight personality traits.

By investigating the relationship between these eight personality types and the willingness of subjects to act on their desire to punish, it was found that the Sensing trait is a statistically significant indicator of such behaviour.

Therefore, as answer to the research question, '**Is Personality Type, or its decomposed traits, an accurate predictor of moral decision-making'**?, the answer is: **Yes, there is statistically significant proof that a strong, linear relationship exists between moral decision-making,** as defined by the decision to enact revenge**, and the Sensing personality trait,** as measured by the Jung Typology Test™. The reasons for this relationship fell beyond the scope of this study and would be conjecture.

6.13 Research title

Moral decision-making: Personality Type as influence on Moral Intuitionism

The title of this study is focused on improving understanding around moral decision-making as a critical component of managerial decision-making. A number of factors are influencing managerial decision-making, as well as moral decision-making within a managerial context, which warrants research within these fields of study.

As companies become increasingly socially aware, and engage far wider with their stakeholders, the prevalence of decision-making as conflict between selfishness and fairness (Forgas & Tan, 2013) will only increase. This, although a managerial decision, is more accurately a moral decision within a managerial context. Understanding the behaviour to such moral decisions therefore is, and will increasingly become, more important.

In addition to this changing manner of engagement, the geographic footprint and organisational structure of companies are also changing, which affects the scope of decision-making. Increased globalisation and South Africa's inclusion in the BRICS group of countries, results in decision-making having an impact on an increasingly wider group of society (Milkman et al., 2009). This decision making is increasingly been made centrally, as CEOs are broadening their spans of control in an attempt to get closer to business (Guadalupe et al., 2013).

Such centralised decision making places further strain on decision makers, in addition to the presence of too much information and increasing time pressure. Decision makers are increasingly becoming biased in their decision making (Milkman et al., 2009) and are relying more on mental heuristics and intuitive decision-making (Bazerman & Moore, 2009; Chugh, 2004).

As the working environment within which managerial decisions are being made is changing, understanding decision-making is increasingly becoming fundamental to the study of management in organisations (Taggart et al., 1985). Within such a changing economy, the key factor is the increased reliance on intellectual abilities over either physical effort, or natural resources. Yet, 'where there is effective management, that is, application of knowledge, we can always obtain the other resources' (Drucker, 1993). When then considering such management actions and specifically the role of employees within such an economic structure, the primary deliverable of a *knowledge worker* is a good decision (Milkman et al., 2009).

The importance of a 'good decision' is therefore paramount in the current knowledge economy, and those industries which depend heavily on the 'application of knowledge'. Through the study of 'personality type as influence on moral intuitionism' additional light is shed on the topic of decision-making.

6.14 Conclusion

The purpose of this research study was to investigate whether a relationship exists between the manner in which decisions are made and the personality type of those decision makers. As summarised within this chapter, it was found that there is such a relationship.

7. Conclusion

7.1 Introduction

This final chapter provides a summarised account of the research findings, the implications thereof, and the opportunities for further research.

7.1 Research findings and implications

This research study demonstrated that there is statistically significant proof that a strong, linear relationship exists between moral decision-making, as defined by the decision to enact revenge, and the Sensing personality trait, as measured by the Jung Typology Test™. The implications hereof are that people with a strong preference for Sensing have a higher probability to make the choice to punish the perpetrator of a norm-violation.

Considering this in a broader context this study has proven that a personality trait can be an influence, and predictor, of moral decision-making outcomes. Therefore, by being aware of these traits within others, a prediction can be made on the possible outcome of a moral decision. This has relevance to broad political conversations where the possibility of imposing sanctions is considered. Similarly, in situations where formal engagement contracts don't exist, the behaviour of parties, following a norm-violation, can be anticipated. Finally, within management consulting, when considering which employees to expose to which clients, or projects, a more informed placement can be made when understanding the profile of the employee.

Considering that decision makers are increasingly becoming biased in their decision making (Milkman et al., 2009) and are relying more on mental heuristics and intuitive decision-making (Bazerman & Moore, 2009; Chugh, 2004), a personal awareness of this potential bias can make decision makers seek alternate inputs to decisions resulting in a mitigation of the bias.

7.2 Further research

Following the completion of this study a number of additional areas of study where identified, which could further contribute to the field of study.

Method of evaluation

The Jung Typology Test™ is an assessment method based on self-evaluation which has been statistically verified to be significantly robust for personality assessments, despite the inherent shortcoming of any form of self-evaluation (Connelly & Hülsheger, 2012). However, as an opportunity for further research, this postulation can be investigated by having respondents assessed by a close friend or relative.

Understanding the impetus for action

This study proved that there is a statistically significant relationship between a personality trait and moral decision-making, as defined in this study. However, beyond identifying this relationship, this study did not explore the reasons *why* such a relationship exists. Such a study, relying heavily on psychology, could provide additional insights into understand the *why*, which in turn could lead to studies around how to manage, or mitigate, such behaviour.

Physical experimentation

The research by Fehr et al. (2002) proved that the trust game is an accurate proxy to use, as an environment where a norm-violation occurs. However, considering the 'impulsive' and 'irrational' nature of people and our response to required decisions, the role of the environment as influence cannot be excluded. As such, a worthwhile further study could entail the establishment of a physical experiment where subjects can handle rewards and interact with competitors during their dealings. This more physical manifestation of a norm-violation could yield different results.

Response option

The adapted version of the trust game, as used within this study asked respondents whether they would like to enact punishment, or not. In order to increase the granularity of responses received and understand the willingness, or appetite, of respondents to punish an option could be provided to allow respondents to select the extent to which they would like to punish. This could be in the form of various monetary values from their own funds, which will similarly affect the monetary values of the norm-violator.

7.3 Conclusion

This final chapter provided an overview of the research findings, as detailed in previous chapters, as well as explore the implications thereof, and discussed the opportunities for further research.

Apparent throughout this research paper is the need for additional research within this field of study. Managerial decision-making, in the application of moral decision-making, and the underlying personality drivers are still areas which offer fertile ground for further research. In addition, this field of study is becoming increasingly important and will be critical to the future success of organisations.

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9. Appendices

9.1 Appendix A: Jung Typology Test

Jung Typology Test™

This free test is based on Carl Jung's and Isabel Briggs Myers' typological approach to personality.

Upon completion of the questionnaire, you will obtain your 4-letter type formula according to Carl Jung's and Isabel Briggs Myers' typology, along with the strengths of preferences and the description of your personality type

Instructions: When responding to the statements, of the two responses please choose the one you agree with most. If you are not sure how to answer, make your choice based on your most typical response or feeling in the given situation. To get a reliable result, please respond to all questions.

1. You are almost never late for your appointments
2. You like to be engaged in an active and fast-paced job
3. You enjoy having a wide circle of acquaintances
4. You feel involved when watching TV soaps
5. You are usually the first to react to a sudden event, such as the telephone ringing or unexpected question
6. You are more interested in a general idea than in the details of its realization
7. You tend to be unbiased even if this might endanger your good relations with people
8. Strict observance of the established rules is likely to prevent a good outcome
9. It's difficult to get you excited
10. It is in your nature to assume responsibility
11. You often think about humankind and its destiny
12. You believe the best decision is one that can be easily changed
13. Objective criticism is always useful in any activity
14. You prefer to act immediately rather than speculate about various options
15. You trust reason rather than feelings
16. You are inclined to rely more on improvisation than on prior planning
17. You spend your leisure time actively socializing with a group of people, attending parties, shopping, etc.

18. You usually plan your actions in advance
19. Your actions are frequently influenced by emotions
20. You are a person somewhat reserved and distant in communication
21. You know how to put every minute of your time to good purpose
22. You readily help people while asking nothing in return
23. You often contemplate the complexity of life
24. After prolonged socializing you feel you need to get away and be alone
25. You often do jobs in a hurry
26. You easily see the general principle behind specific occurrences
27. You frequently and easily express your feelings and emotions
28. You find it difficult to speak loudly
29. You get bored if you have to read theoretical books
30. You tend to sympathize with other people
31. You value justice higher than mercy
32. You rapidly get involved in the social life of a new workplace
33. The more people with whom you speak, the better you feel
34. You tend to rely on your experience rather than on theoretical alternatives
35. As a rule, you proceed only when you have a clear and detailed plan
36. You easily empathize with the concerns of other people
37. You often prefer to read a book than go to a party
38. You enjoy being at the center of events in which other people are directly involved
39. You are more inclined to experiment than to follow familiar approaches
40. You avoid being bound by obligations
41. You are strongly touched by stories about people's troubles
42. Deadlines seem to you to be of relative, rather than absolute, importance
43. You prefer to isolate yourself from outside noises
44. It's essential for you to try things with your own hands
45. You think that almost everything can be analyzed
46. For you, no surprises is better than surprises - bad or good ones
47. You take pleasure in putting things in order
48. You feel at ease in a crowd
49. You have good control over your desires and temptations
50. You easily understand new theoretical principles
51. The process of searching for a solution is more important to you than the solution itself
52. You usually place yourself nearer to the side than in the center of a room

53. When solving a problem you would rather follow a familiar approach than seek a new one
54. You try to stand firmly by your principles
55. A thirst for adventure is close to your heart
56. You prefer meeting in small groups over interaction with lots of people
57. When considering a situation you pay more attention to the current situation and less to a possible sequence of events
58. When solving a problem you consider the rational approach to be the best
59. You find it difficult to talk about your feelings
60. You often spend time thinking of how things could be improved
61. Your decisions are based more on the feelings of a moment than on the thorough planning
62. You prefer to spend your leisure time alone or relaxing in a tranquil atmosphere
63. You feel more comfortable sticking to conventional ways
64. You are easily affected by strong emotions
65. You are always looking for opportunities
66. Your desk, workbench, etc. is usually neat and orderly
67. As a rule, current preoccupations worry you more than your future plans
68. You get pleasure from solitary walks
69. It is easy for you to communicate in social situations
70. You are consistent in your habits
71. You willingly involve yourself in matters which engage your sympathies
72. You easily perceive various ways in which events could develop

Source:

HumanMetrics. (2014). *Jung Typology Test*™. Retrieved September 29, 2014, from http://www.humanmetrics.com/cgi-win/JTypes2.asp

9.2 Appendix B: Online questionnaire

Personality as predictor

As part of the MBA program at the University of Pretoria's Gordon Institute of Business Science (GIBS), I am conducting research on Personality type as predictor of behaviour.

This questionnaire consists of three pages and should not take more than 10 minutes. Your participation is voluntary and you can withdraw at any time without penalty. Of course, all data will be kept confidential.

By completing the survey, you indicate that you voluntarily participate in this research. If you have any concerns, please contact me.

Biographical Information (Page 1 of 3)

1. Please select your gender

2. Please enter your age

3. Please enter your highest qualification achieved

4. Please enter your number of years of work experience

5. Please enter the number of years you have been at your current employer

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Jung Typology Test™ (Page 2 of 3)

Please enter the results of your Jung Typology Test™ as completed on humanmetrics.com

6. Please enter your score for the first criterion, Extraversion versus Introversion, signifying the source and direction of a your energy expression

Extraversion, or [%]

Introversion [%]

7. Please enter your score for the second criterion, Sensing versus Intuition, representing the method by which you perceive information

Sensing, or [%]

Intuition [%]

8. Please enter your score for the third criterion, Thinking versus Feeling, representing how you process information

Thinking, or [%]

Feeling [%]

9. Please enter your score for the fourth criterion, Judging versus Perceiving, reflecting how you implement the information you have processed

Judging, or [%]

Perceiving [%]

The Trust Game (Page 3 of 3)

Please read the following description on the Trust Game before continuing.

The Trust Game is a two person game.

The purpose of the game is for both players to try and maximise their share of money. In order to maximise their respective shares of money, the two players need to trust each other. This trust is confirmed and rewarded by a Facilitator.

The two participants are respectively known as the Giver and the Receiver.

The flow of the game is as follows:

The Giver is handed an amount of money by the Facilitator. The Giver then has the choice to either take this money and end the game, leaving the Receiver with nothing. Or the Giver can decide to trust the Receiver, by handing them half of their money.

As trust is rewarded in this game, any money handed over by the Giver to the Facilitator is multiplied by a factor of five, and then added to the funds of the Receiver.

The Giver, by having handed over a portion of money, now trusts that the Receiver will do the same and hand over a share of money. Should the Receiver decide to continue with the game they would hand over half of their money, with the Facilitator again multiplying this amount by a factor of five and handing over the total to the Giver.

The Receiver does however also have the choice to stop the game at this stage with each party taking their respective share.

Therefore, the Giver, by having trusted the Receiver has increased the amount available to both the Receiver as well as the Giver.

Following this exchange the game is considered to be Over and each party keeps their respective share.

Examples:

Game Option 1:

The Giver is handed R100 by the Facilitator.

When asked whether the Giver wants to trust the Receiver and hand over R50, the Giver decides NO.

The game ends with the Giver having R100 and the Receiver having R0.

Game Option 2:

The Giver is handed R100 by the Facilitator.

When asked whether the Giver wants to trust the Receiver and hand over R50, the Giver decides YES.

The Facilitator takes the R50 and adds another R250 (R50x5), handing over R300 to the Receiver.

When asked whether the Receiver wants to trust the Giver and hand back R150, the Receiver decides NO.

The game ends with the Giver having R50 and the Receiver having R300.

Game Option 3:

The Giver is handed R100 by the Facilitator.

When asked whether the Giver wants to trust the Receiver and hand over R50, the Giver decides YES.

The Facilitator takes the R50 and adds another R250 (R50x5), handing over R300 to the Receiver.

When asked whether the Receiver wants to trust the Giver and hand back R150, the Receiver decides YES.

The Facilitator takes the R150 and adds another R750 (R150x5), handing over R900 to the Giver.

The game ends with the Giver having R950 and the Receiver having R150.

Imagine yourself a participant in a Trust Game.

You have just been handed R100 by the game Facilitator and asked whether you would like to trust the Receiver by handing them R50.

You decide that YES, you do want to try.

The Facilitator collects R50 from you, adds another R250 and hands over R300 to the Receiver.

The Facilitator now poses the same question to the Receiver.

The Receiver responds with NO, they do not want to continue with the game.

The Receiver has R300, you are left with R50 and the game is Over.

Considering the above outcome, the Facilitator now offers you an additional choice.

Would you like to spend your remaining R50 in order to penalise the Receiver? By handing over your R50, the Facilitator will take away R300 from the Receiver.

The game would be Over and you would be left with R0 and the Receiver would also have R0.

Alternatively, you can decide not to make use of this option. The game would be Over and you would be left with R50 and the Receiver would have R300.

10. Would you like to spend your remaining R50 in order to penalise the Receiver?