

# **Individual Differences in Ethical Decision Making**

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## **Abstract**

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The aim of this study was to examine individual differences in ethical decision making. To test this, participants' Locus of Control and Machiavellianism scores were collected along with the frequency to which they sought different media sources for news, their knowledge of unethical and ethical situations that have occurred in New Zealand and Internationally within the last ten years, and individuals' decision times to ethical dilemmas. Participants were undergraduate and postgraduate students from the University of Canterbury, who ranged in age from 18 to 50. The study found that the frequency to which an individual seeks information from media sources is a good predictor of their decision time when responding to ethical dilemmas, and the amount of knowledge they had of unethical and ethical situations.

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## Introduction

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Corporate scandals like Enron, Lehman Brothers, WorldCom, and Arthur Anderson are becoming more prominent, and are putting businesses in the spotlight, which has resulted in a loss of trust from the public. These corporate scandals have contributed to severe economic, social and individual costs, consequently effecting employment, reputations, and financial security (Lefkowitz, 2006). Ethical scandals can cost businesses hugely, therefore making it essential to understand what influences an individual's ethical decision making, and what businesses can do to produce effective changes towards desired ethical behaviours (Lefkowitz, 2006). With the increasing availability of local and global information, individuals can now come together and combine their power of influence, and demand that corporations take their wider social responsibility seriously (Hellsten & Mallin, 2006). It is important for businesses to understand ethics, as unethical behaviour or loose ethics may lead to customers' refusal to buy particular products, to invest in particular fields of operations or certain companies, causing them to look at other companies, where their ethical visions and commitments are met (Jones, 1998). What we usually mean by ethics is a set of values and principles that set some moral guidelines for us (Hellsten & Mallin, 2006). Our personal and social ethics guide our behaviours and attitudes, while also informing us of an appropriate social order (e.g. concepts of justice, laws, and political and economic systems) (Hellsten & Mallin, 2006). The challenge now for businesses is to try and be profitable, while maintaining a reputation for being socially responsible.

Social responsibility is related to ethical behaviour and our moral agency, which assumes that we take responsibility of our own actions (Watson, Freeman &

Parmar, 2007). The latest concept that is being used to define social responsibility is the triple bottom line, which consists of three aspects; companies' policies, performance and reporting in relation to environmental and economic stability and social sustainability (Wojcikiewicz, 2008). Taking into account all of the three aspects allows companies to think in a structured manner about how they can add value to their business and in doing so impact their wider body of stakeholders, while still being socially responsible (Gray, Owen & Adams, 1996; Wojcikiewicz, 2008). While businesses focus on ethical practices and process within their company, they also participate in various kinds of social charity. Social charity benefits communities in numerous ways and tends to include sports sponsorship and various other activities that are designed to provide free advertising and reputation enhancement for businesses (Matten & Crane, 2005). It is important for companies to understand social responsibility and to recognize that their future profitability depends on their willingness to incorporate and demonstrate integrity in their processes and practices (Collier & Esteban, 2007).

When examining what influences an individual's ethical decision making, it needs to be taken into account that there is a common belief that individuals have the ultimate moral agency for their actions (Sugarman, 2005). Moral agency has been defined as an individual's responsibility for making moral judgements and partaking in actions that conform to the rules of right and wrong (Watson, Freeman & Parmar, 2007). It is argued that, as moral agents, individuals are able to implement changes in their lives through understandings of the "good" and have the capacity not only to adopt and use social and cultural moral practices, but also to modify and transform them (Sugarman, 2005). The implication of individuals being able to revise and transform social and cultural practices is that it liberates

one from being a passive victim (Sugarman, 2005). When considering the social, cultural, and economic implications of ethical decisions and assuming the principles underlying moral agency, the present study sought to examine the relationship among several individual differences (i.e., personality), media exposure, and knowledge level of ethical situations in relation to responses to ethical scenarios.

### ***Personality Characteristics***

The study of personality factors, whilst complex, is an area with enormous possibilities for ethics research (Ford & Richardson, 1994). Research has consistently identified two personality characteristics that influence an individual's ethical behaviour and decision making style: Machiavellianism and Locus of Control (Kish-Gephart, Harrison & Trevino, 2010). These personality characteristics and how they relate to an individual's ethical behaviour will be discussed in the following sections.

#### ***Machiavellianism***

The first personality characteristic that has been found to help predict unethical behaviour in individuals is Machiavellianism. Machiavellianism is defined as a measure of deceitfulness and duplicity (Stead, Worrell & Stead, 1990). Singhapakdi and Vitell (1990) study found that Machiavellian individuals perceive ethical problems as less serious than others and are less likely to take action to correct the problem. They perceive ethical problems as less serious as they typically detach themselves from consideration of ethics and perform actions that benefit themselves (Robinson & Shaver, 1973). It is not a lack of ethics as such,

but rather the ability to be very calculating and use other individuals and situations for one's benefit (Ghosh, 2008).

Consequentialist theories (i.e. utilitarian and egoism) can further our understanding of Machiavellianism and other individual differences in the context of ethical decision-making (Shultz & Brender-Ilan, 2004). According to consequentialist theories, the morality of an act can be judged according to its consequences. Utilitarianism claims that individuals should always act to produce the greatest possible balance of good over bad for those affected by their actions. Therefore, whether the act is measured as morally right is determined by the act's results. Conversely, Egoism theory argues that an act is morally right if it best promotes an agent's (individual or group) long term interests. Whether the act is right is measured by the personal long-term advantage provided by the action (Shultz & Brender-Ilan, 2004). This conceptual distinction suggests that higher Machiavellianism scores may be indicative of a propensity to make decisions motivated by the pursuit of long term interests for the individual, rather than the common good.

### ***Locus of Control***

The second personality characteristic that has been found to explain significant variance in ethical behaviour is Locus of Control. The Locus of Control scale is designed to assess how much an individual believes he/she has control over outcomes or consequences in their life (Hume & Smith, 2006). An individual with an internal Locus of Control believes that outcomes are the result of his or her own efforts, while an individual with an external Locus of Control believes that life events are beyond their control and are due to fate, luck or destiny (Zahra, 1989). Research has found that an external is less likely to take personal responsibility for

the consequences of ethical/unethical behaviour and is more likely to ascribe blame to external forces, while an internal is more likely to take responsibility for consequences and rely on their own interpretation of right and wrong to determine their behaviour (Hume & Smith, 2006; Trevino, 1986). Therefore, it is thought that internals will supply a more ethical response to surveys and dilemmas and would prefer to participate in the decision process, as they recognise their stake in decisions and actions (Chiu, 2003). Internals faced with pressure or opportunity to act unethically will be more likely to see that such an action will bring about potentially negative outcomes (i.e., harm to others) and thus they will be more likely to avoid it, even in cases where they could easily transfer a part of the guilt to another person (Hume & Smith, 2006).

### ***Media Exposure***

Beyond the impact of personality, a factor that could affect an individual's ethical decision making is the frequency with which they are exposed to media sources and their amount of knowledge of ethical and unethical situations that have occurred during their life time. Research has found that exposure to media accounts for a significant proportion of variance in current events knowledge ( $R^2 = .24$ ) (Hambrick, Pink, Mainz, Pettibone & Oswald, 2008). It has been suggested that these differences could be due to an individual's interest in a particular topic, as they are more focused and invested in the acquisition of that knowledge (Ackerman, 1996; Hambrick, Mainz & Oswald, 2007). Studies have further found a substantial relationship between interest and prior knowledge. Interest contributes to the learning of new information by invoking deeper comprehension processes, greater use of imagery and may stimulate a more emotional, personal and extensive network of relevant associations (Tobias, 1994).

When examining media exposure, caution must be taken as information that is reported in the news is often greatly influenced by the socio-political system, which affects both the content of news pieces and which news pieces are delivered to viewers and/or readers (Baron, 2006). The relationship between the view of the manager of a news organisation and the slant to which the reporter chooses to take the news story (which could be the opposite of how the reporter sees the story) shows how bias can occur over the way stories are reported (Groseclose & Milyo, 2005). These biases that occur are important to understand, as information that is delivered through media sources creates focal points in society which in turn creates social conventions (Kim & Choi, 2007). Social conventions affect individual rationality, which causes lapses of judgement, and problems of self control. If individuals were totally rational, then the media would just be a vehicle of information and knowledge. However, they are not, so as a result they are easily influenced and swayed by the stories that the media reports, even if they are socially biased (Ainslie, 1992). It is also worrying that with the development of technology, such as the internet, the scale and speed at which corporate scandals are reported by the media has greatly increased (Ainslie, 1992). This has resulted in the delivery of biased information that can be quickly accessed and is available to a wider range of people. The idea of the media creating social conventions that are influenced by the socio-political system, is further supported by research showing that individuals may behave unethically, if a particular behaviour is perceived as culturally or traditionally acceptable or not perceived to be morally wrong (Tourangeau, Rasinski & D'Andrade, 1991). Therefore, the media reflects social conventions in regards to ethical and unethical behaviour and this can determine an individual's decision making process, as what is conveyed through



the media to be ethical or unethical is seen to be culturally or traditionally right or wrong. Hence, news media, especially television and newspapers, occupy an influential position in society and individual lives and in this respect, media sources need to be mindful of their responsibility (Kim & Choi, 2007). In a Westernised culture, such as the one used to test this study's theoretical assumptions, most media channels censure morally reprehensible decisions in corporations, exhibiting a positive stance towards socially responsible actions. In turn this will influence the manner in which an individual processes information and makes decisions when faced with an ethical issue. Yet, research has found that some individuals do realise that the press have their own version of how the world should be, that of a middle class, white suburban, and university educated society (Groseclose & Milyo, 2005). Some individuals understand that there is a chance that a particular story that is reported could be biased and as a result they adjust their beliefs based on the biases that they perceive (Baron, 2006).

Additionally, a factor that could affect an individual's ethical decision making is the degree to which they are exposed to different media sources. This idea is supported by research that has found that individuals process the information in advertisements, react to it mentally, and assign valence (positive, negative or neutral) to these cognitive responses, which contributes directly to attitude change. Additionally, research has found that the more that an individual is exposed to the information the more their attitude changes (Tourangeau, Rasinski & D'Andrade, 1991).

As has been discussed, the media (e.g., radio, television, internet, and newspaper) are almost unlimited in their reach and potential (Kazdin, 2009). So which type of media source has the most influence on individuals and provides the

best information? Hoffman and Wallach (2007) found that during the 1950s, society relied almost completely on newspapers to receive information regarding current events, with close to every household subscribed to a newspaper. By 2000 this had dropped by half. Research has established that printed media has higher amounts of information, approaches the issue from multiple angles, conducts more thorough research, reports on a broader range of issues and has a greater understanding of the issues that are important to local communities compared to verbal media (Clarke & Fredin, 1978; Smith & Reinhardt, 2003).

Although newspapers do not reach as many people now as they did in the past, a major advantage of the newspaper is that the public does not have access to it at the moment a story breaks. As a result there is more power in the content of newspaper reporting, as they have more time to choose headings and to research the differing views, compared to media sources that are almost instant (Smith & Reinhardt, 2003). It is unlikely that non-printed media communicate sufficient information about events to make the common person conscious of any of their implications. This is further supported by research that has found that individuals who are interested in world affairs use analytic commentary, magazines and newspapers to get the information they require, rather than radio or television news (Robinson, 1967). When individuals want a quick update on the news, television, the internet and the radio should be sufficient, but if they want more in-depth information newspapers and magazines are more adequate (Land & Schaupp, 1992). In conclusion, news media represent powerful vehicles of information – and importantly of opinion – that will expectedly influence their audience's ethical stance and subsequent behaviours.

### ***Schemas***

Schemas have been defined as higher-order structures that underlie many aspects of human knowledge and skill, which exert a strong influence on what is remembered from a given set of information (Schank & Abelson, 1977). It seems that an understanding of schemas is important in the understanding of an individual's decision-making processes. Over a lifetime, an individual is exposed to a large amount of information, and to deal with this they need to make sense of the information and organise it. Individuals make sense of and organise information through the use of schemas. Stereotypes and impressions can be thought of as schemas that determine what we interpret, evaluate, and remember about particular behavioural events (Cole & Green, 1984). Research into schemas gives insight into cognitive processing and how prior knowledge interacts with new knowledge in perception, language, thought and memory (McVee, Dunsmore & Gavelek, 2005). It has focused on how consistent or inconsistent information affects an individual's decision time and how individuals with more knowledge in comparison with individuals with less knowledge differ in their decision times.

Research has found that information that is consistent with a schema will be better remembered than information inconsistent with the schema. Therefore, this suggests that when individuals are presented with information consistent with their existing schemas, they should have quicker decision times than if they were presented with inconsistent information (Cole & Green, 1984). This idea is explained through research into cognitive psychology examining cognitive processing. It is suggested that behaviours that are inconsistent with a given impression receive deeper or more extensive processing than behaviours that are either consistent or neutral in relation to the impression and therefore it takes

longer to process inconsistent information (Cole & Green, 1984). Due to this idea, it is thought that longer decision times in response time studies, indicate more extensive processing (McVee, Dunsmore & Gavelek, 2005). This is further explained by the finding that when answering an attitude question, individuals consider their beliefs, feelings, and related values and integrate these to make a decision (Tourangeau, Rasinski, & D'Andrade, 1991). When an individual is presented with inconsistent information, they do not have a schema present to help with the decision process, so as a result they take longer to respond, as they have to scan more of their beliefs, feelings and values than they would have to have done, if the information was consistent with a previous schema. The amount of cognitive effort in processing a sentence is dependent on the relevance of the sentence to a particular schema (Hashtroudi, Mutter, Cole & Green, 1984).

This idea is further supported by research suggesting that expert teachers have information rich schemas that allow them to represent the complexities of the classroom in meaningful ways. Conversely, novice teachers have less well elaborated schemas, as they have less experience and knowledge than experts (Calderhead, 1983). Like experts in other fields, expert teachers possess well elaborated schemas that provide a frame work for the meaningful interpretation of information. Expert teachers have an information-rich understanding of what to expect in the classroom and as a result can set up procedures and rules for student behaviour, unlike novice teachers who struggle with this. Therefore, information rich schemas assist experts in problem solving and decision making (Westerman, 1991).

There is evidence for a snowball effect in knowledge acquisition, whereby individuals' past knowledge itself facilitates the acquisition of new knowledge.

Thus, pre-existing knowledge can provide a meaningful organising framework for assimilating new information. Research had found that differences in prior knowledge between experts and novices produce differences in the probability of problem solution, the time taken to solve problems, and the quality of the problem solution. There have been mixed research findings into whether individuals with less knowledge take longer to make decisions than individuals with more information. Britton and Tesser (1982) found that higher prior knowledge is associated with longer response times. In addition Cole and Green (1984) found that the more facts learned about a particular concept, the longer it takes an individual to recognise correctly the information as appearing before or as not having appeared before. This is further supported by research by Sentis and Burnstein (1979) who found that an increase in knowledge about a topic hinders an individual's ability to answer questions about the topic readily or that an expert will answer questions more slowly than a novice. However, they also found that when individuals learned a set of facts that could be combined as a meaningful unit by reference to knowledge about the world, this difference between novices and experts could be reduced (Sentis & Burnstein, 1979). Therefore, if information is stored in memory in a more integrated fashion, individuals with lots of prior knowledge should have faster response times for questions than they would have done previously (Sentis & Burnstein, 1979). However, Heerwegh (2003) found that individuals with vague schemas (individuals with little knowledge of a particular subject) change their minds when confronted with a counterargument and take longer to respond to questions than individuals with fixed schemas (individuals with a lot of prior knowledge and more rigid beliefs), who do not change their view when challenged and take less time to respond to questions. This

research supported that both unstable attitudes and lack of knowledge tend to result in longer response time (Heerwegh, 2003). This idea is continued by Otter, Allenby and Van Zandt (2008) who found that shorter response times have typically been associated with readily accessible memory structures, more firmly held attitudes and decisions that are free of conflict. Therefore, indicating that individuals with fixed schemas take less time to make a decision as they have better access to memory structures and their decisions are likely to be free of conflict as they have firmly held beliefs.

How exactly schemas affect individuals' ethical decision making is essential to the understanding of business ethics. Most individuals (whether they are aware of it or not) over the years develop schemas for dealing with ethical issues and dilemmas (Ferrell & Gresham, 1985). In business ethics, individuals generally make decisions on the basis of recognisable similarities between problematic situations and known schemas. Thus, schemas help to develop ways of resolving ethical dilemmas among the ambiguities and competing priorities that life often throws at us (DeVries, 1986).

### ***Response Times***

As has been discussed, a common method of examining individuals' schemas is through measuring response times. The collection of response times is one of the most significant means for investigating hypotheses about mental processing (Otter, Allenby & Van Zandt, 2008). The belief is that an individual analyses, stores, records then uses information in a variety of ways. One way to measure these processes is through unconscious thinking, typically through response time measurement (Neisser, 2009). Response time is used as it is a function of (a) the amount of deliberation or diligence; (b) the cognitive capacity allocated to the task,

which translates into fluency of processing and, thus the accessibility of attitudes; (c) the difficulty of a choice task; and the overall attractiveness of alternatives in a choice task (Otter, Allenby & Van Zandt, 2008).

### ***Link to Current Research***

The purpose of this research is to examine whether an individual's prior knowledge of ethical and unethical events, amount of media exposure and personality have an effect on their decision times (response time) to ethical dilemmas. To examine this, a student sample was used to examine the role of personality characteristics (Machiavellianism and Locus of Control), current events knowledge (knowledge checklist) and media exposure (frequency of use of media sources) on individuals' decision times to ethical dilemmas. Research has found that individual differences affect an individual's ethical behaviour and decision making. A meta-analysis found that Machiavellianism ( $r = .12, p < .05$ ), and Locus of Control ( $r = .13, p < .05$ ) significantly correlated with unethical behaviour, while gender, age and education level did not (Kish-Gephart, Harrison & Trevino, 2010). Research has found that schemas are useful in ethical decision making but there is no research that could be found that has examined whether the amount of ethical knowledge affects an individual's decision making time. However, there has been research examining individuals' response time to general information and the factors that affect response times. When making the hypothesis for schemas, it was chosen to go with the findings found in cognitive research, in regards to how prior knowledge relates with an individual's decision time. The literature on how media exposure affects an individual's decision making does not specifically look at how this affects an individual's ethical decision making. While taking into account the previous research on individuals'

decision making, assumptions were made that individuals' ethical decision making would be affected by media exposure. With this research in mind, the below hypotheses were developed.

H1: An individual's total knowledge score will be positively and significantly related to their decision time (response time) when responding to ethical scenarios.

H2 (a): An external Locus of Control will be positively and significantly related with individuals' decision time (response time) when responding to ethical scenarios.

H2 (b): Machiavellianism scores will be positively and significantly related with individuals' decision time (response time) when responding to ethical scenarios.

H3: The frequency to which individuals use media sources will be negatively and significantly related to their decision time (response time) when responding to ethical scenarios.



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## Method

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### *Participants*

There were a total of 80 participants recruited for this study, all from the University of Canterbury, with 55 undergraduates and 25 postgraduates. The participants ranged in age from 18 to 50 with 54 females and 26 males. None of the participants had any known disabilities or conditions that could affect their performance in this study. Participants volunteered to participate in this research project and there was an incentive of either two credits for the 100 level Psychology students, or the chance to win a \$200 Westfield voucher for all other participants. Participants were recruited through posters, word of mouth, class email and the 100-level credits program.

### *Apparatus*

The Qualtrics survey program was used for the response time task. It needs to be considered that due to the lack of control of this program, the accuracy of each participant's decision time could range from 1 ms to 1 second or worse with machines, which "lock up", due to running virus scans at the time.

The computer that was used for the study was a View Sonic monitor with a Cyclone computer hard-drive, with an Intel core2 duo processor.

### *Measures*

The Machiavellianism scale that was chosen was the Mach-IV, developed by Christie and Geis (1970a). The Mach-IV scale measures deceitfulness and duplicity (Christie & Geis, 1970a) (Appendix A). The test-retest reliability for the Mach-IV over nine months was 0.64 ( $N = 1593$ ), which was deemed satisfactory

because of the long test-retest interval. The internal consistency coefficient was  $r = 0.71$ , which meets the required .70 reliability level (Gunnthorsdottir, McCabe & Smith, 2002). There are a total of 20 items in the Mach-IV scale, including “*Never tell anyone the real reason you did something unless it is useful to do so*”, and “*The best way to handle people is to tell them what they want to hear*”.

Participants responded on a 7-point scale, 1 (strongly agree) to 7 (strongly disagree). When calculating participant’s scores, items were reverse coded if necessary and their responses to all questions were totalled to get an overall score. Items that were required to be reversed coded can be found in Appendix A.

The Locus of Control measure that was used was the Levenson (1974) scale (Appendix B). The Levenson (1974) scale measures the degree to which people believe that life outcomes are controlled by each of three sources: (1) their own actions or characteristics, (2) powerful others, and (3) chance or fate (Levenson, 1974). Each of the three scales consists of 8 items. For the 3-factor model, the reported alpha coefficients were for internal control ( $\alpha = .72$ ), chance control ( $\alpha = .80$ ), and powerful others control ( $\alpha = .83$ ) (Christopher, Saliba, & Deadmarsh, 2009). There are a total of 24 items in the Locus of Control measure, and participants responded on a 7-point scale, 1 (strongly agree) to 7 (strongly disagree). When calculating participants scores, items were reverse coded if necessary (refer to Appendix B) and their responses to all questions were totalled to get an overall score.

The Knowledge Checklist that was used was made up of 20 unethical and 20 ethical situations, which represented real life cases reported in the news media that had occurred in the last 10 years. These situations were found by searching Google and were made into statements that consisted of the same type of information and

were of the same length (Appendix C). The anchors for this were, 0 (Never heard of this) to 7 (Very familiar). Participants were also asked the frequency to which they read the newspaper, or the news on the internet, watched the news, and listened to the news on the radio. The anchors for this were, 0 (Never) to 4 (Everyday). The checklist and media exposure questions were piloted on ten post-graduate Psychology students, to ensure that the situations were appropriate and relevant. After looking at the responses from these ten individuals, five of the situations were swapped for situations that merited more media coverage. The new situations were given to the individuals and seemed to be more appropriate.

The situations depicted in the scenarios, that individuals were asked to read and decide how they would act, were written by the experimenter so they would all be similar in the amount of information and sentence structure. (Appendix D).

### ***Ethical Considerations***

This research was conducted with approval from the University of Canterbury Human Ethics Committee. This research received low ethics approval as it was viewed as having no risk to participants. Using a participant number ensured the anonymity and only authorised individuals were able to view the data to uphold confidentiality. Participants' names were only required on the entry form for the draw for the gift vouchers, which was kept in a locked drawer in the investigator's office.

### ***Procedure***

1. Before recruited participants were invited to complete the computer-based questionnaire, the primary investigator and a post graduate student ran through the questionnaire to make sure everything made sense and was working properly.
2. Participants that were left handed were asked to inform the primary investigator before completing the computer-based questionnaire, so that the mouse could be arranged accordingly.
3. All participants were asked to read an information sheet on the computer. This information informed participants about how they had to complete the task, and conditions of participation and withdrawal. Participants were made aware that it was voluntary and that all responses would remain confidential. Each individual was asked to tick the “accept” box if they gave their consent to participate in the study.
4. Participants were then asked to fill out demographic questions (Appendix E).
5. All participants were then instructed to read the instructions on the computer screen.

Example:

*“There will be 20 different scenarios, you will be asked to read and then asked to think about what you would do if you were in this particular situation. Please read the scenario and think about how you would act, as fast as possible. Your reading and decision time will be recorded. Please click the arrow to continue.”*

*“Please click the arrow as soon as you start reading the scenario below and press it again after you have finished reading the scenario. Please read the scenario below.”*

*Please think about what you would do if you were in this particular situation.*

*Please click the arrow as soon as you start thinking about what you would do and click the arrow again once you have made a definite decision of what you would do.”*

Participants were instructed to do this for all 20 scenarios.

6. The reading time for each scenario and the decision time for each question were separately recorded on the computer.
7. After the 20 decision tasks were completed by the participants, they were asked to fill out two personality measures on the computer. The two measures were Locus of Control (Appendix B) and Machiavellianism (Appendix A).
8. Following this, participants were instructed to fill out a knowledge checklist consisting of 40 questions, 20 unethical questions and 20 ethical, and to answer questions regarding their frequency of use of different media sources (Appendix C).
9. Participants were then given a debrief sheet (Appendix F). The debrief sheet explained the purpose of the study, how the variables were measured, and the implications and expected contributions of this study for ethics research and practice.

10. Participants were then asked to fill out information for the prize draw of a \$200 Westfield Voucher or if they were 106 Psychology students, they were asked to answer three questions to obtain their credit (Appendix G).

### *Design*

This was a within subjects design. This design was chosen as it allowed the collection of a lot of data with a limited amount of participants. The hypotheses were directional, as previous research allowed predictions to be made regarding the direction of the correlations between decision time and the three main variables (Media Frequency, Personality Characteristics and Knowledge). The dependent variable was participants' decision time when responding to scenarios and the independent variables were participants' total knowledge of ethical and unethical situations, Locus of Control and Machiavellianism scores and Media use. Reaction time was chosen as the dependent variable as it can reduce bias and access subconscious processing as explained earlier (Otter, Allenby & Van Zandt, 2008).

### *Analyses*

First, participants' answers to the checklist were totalled to get a knowledge score and then averaged. After this, a total score for each participant was calculated for each personality scale and then averaged. Following this, descriptive statistics were calculated. Next, average decision time and reading time were calculated for each participant and a log transformation was performed to ensure there was a normal distribution of times. A reliability analysis and factor analysis were performed on both the Locus of Control and Machiavellianism scales. Potential relationships were assessed using one-tailed correlations, to test the initial hypotheses. Following this, correlations were performed on all remaining data to

examine any relationships. Additionally, factor analysis was performed on the media frequency scale to examine whether the scale was measuring one factor or more.

## Results

All of the survey data was entered into SPSS 17.0. Initially 82 individuals' data was entered, but two (2.4%) participants had to be excluded due to incomplete data.

### *Descriptive Statistics*

Descriptive statistics for all of the main variables were computed. The overall means, standard deviations, minimums and maximums of all variables are displayed in Table 1. The mean for Locus of Control was low, which indicates that a majority of the participants have an internal Locus of Control. The mean for Machiavellianism is around the middle of the range. Table 1, also shows that knowledge of the unethical and ethical situations was limited, with a majority of participants scoring less than half of the knowledge score available. Additionally it shows that a majority of participants check media sources quite regularly for news. Table 1, also shows that participants generally have similar knowledge of ethical and unethical situations that has been reported in the media.

**Table 1.**  
*Mean Score, Standard Deviation and Range of Scores for all main variables.*

Variables	Mean	Std. Deviation	Possible Range
Knowledge	2.52	0.83	0-7
Decision Time (ms)	1.98	0.25	
Locus of Control	3.20	0.58	0-7
Machiavellianism	3.61	0.41	0-7
Media	4.68	1.23	0-7
Ethical Knowledge	2.57	0.95	0-7
Unethical Knowledge	2.46	0.86	0-7
Reading Time (ms)	2.68	0.10	



### ***Reliability Analysis***

The Locus of Control scale had a Cronbach's alpha co-efficient of  $\alpha=.80$  (Appendix H). Therefore, the scale seems to be reliable as it is above the required acceptable score of .70. The reliability of the Locus of Control scale conforms to what was found in previous research. The Machiavellianism scale had a Cronbach's alpha co-efficient of  $\alpha=.24$ , and therefore did not meet the required minimum score, so the scale was not used in further analysis as none of the items, if deleted, would increase the Cronbach's alpha (Appendix I). This finding of low reliability goes against previous research, the reason why this occurred will be discussed later.

### ***Factor Analysis***

The Locus of Control scale was analysed using factor analysis in order to determine that there were three factors being measured as found in previous research. The principle component method was used and upon examination of the factor matrix it seems evident that the scale was measuring only one factor, as the eigenvalue was dramatically higher than the ones preceding. Factor one accounted for 42.48% of the variance. This goes against previous research indicating that this scale measured three factors; this will be further discussed later. Due to this when getting a Locus of Control score for each individual a total score was calculated instead of a separate score for each of the three factors.

After examining the Locus of Control scale, the media frequency scale was examined to determine its factor structure. Factor analysis showed that the scale is actually measuring two factors. It seems that the scale measures both traditional media sources (Newspaper, TV, and Radio) and non traditional media sources

(Internet). Traditional media sources accounted for 47.64% of the variance and non-traditional accounted for 25.18%.

### ***Log Transformation***

Next a log transformation was performed to explore whether decision times and reading times had a normal distribution. Analysis of the results showed that decision times and reading times did not have a normal distribution as they were negatively skewed. To view histograms of reading times before and after transformation, refer to appendix J (decision times) and appendix K (reading times). Due to this, the log of decision time and reading time was used in further analysis.

### ***Correlations***

One tailed correlations were performed on all of the main variables to test the three hypotheses, as the independent variables were hypothesized to be either positively or negatively correlated with decision time. Hypothesis 2(b) was not tested as the scale was found not to be reliable. Further correlations were performed to test relationships among the remaining variables. The outcomes of the correlations are shown in Table 2. Hypothesis one predicted that an individual's total knowledge score would be positively and significantly related to their decision time (response time) when responding to ethical scenarios. Hypothesis 2(a), predicted that an individual's personality characteristics (Locus of Control) would be positively and significantly related to their decision time when responding to ethical scenarios. As Table 2 shows, hypotheses one and 2(a) were rejected as decision time does not significantly correlate with either knowledge or Locus of Control for this sample. Conversely, hypothesis three is supported as

decision time significantly and negatively correlates with media frequency ( $r = -.19, p < .05$ ). Hypothesis three predicted that the frequency to which individuals use media sources would be negatively and significantly related to their decision time when responding to ethical scenarios. Therefore, as an individual's exposure to media sources increases, their decision time regarding ethical dilemmas decreases. Additionally, it was found that media exposure also significantly and negatively correlated with an individual's Locus of Control score ( $r = -.23, p < .05$ ) and significantly and positively correlated with knowledge of unethical/ethical situations ( $r = .40, p < .01$ ).

Table 2 shows a number of other significant relationships among variables that merit further discussion. For instance, Locus of Control was positively and significantly correlated with sex ( $r = .29, p < .01$ ), negatively and significantly correlated with year of study ( $r = -.20, p < .05$ ), positively and significantly correlated with reading time ( $r = .23, p < .05$ ), and negatively and significantly correlated with unethical knowledge ( $r = -.22, p < .05$ ). It was also found that sex was negatively and significantly correlated with reading time ( $r = -.20, p < .05$ ), negatively and significantly with decision time ( $r = -.19, p < .05$ ), and positively and significantly correlated with unethical knowledge ( $r = .21, p < .05$ ). Additionally, year of study positively and significantly correlated with unethical knowledge ( $r = .26, p < .01$ ), and reading time positively and significantly correlated with decision time ( $r = .36, p < .01$ ). A interesting finding from splitting media sources into traditional and non-traditional, was that traditional negatively and significantly correlated with decision time ( $r = -.19, p < .05$ ), but non-traditional did not. Additionally, both frequency of traditional ( $r = .34, p < .01$ ) and non-traditional media exposure positively and significantly correlated with

unethical knowledge ( $r = .26, p < .01$ ), but only frequency of exposure to traditional media sources significantly correlated with ethical knowledge ( $r = .32, p < .01$ ). These findings will be further discussed in the next section.

**Table 2.**  
***Correlations of variables***

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. Decision Time	-											
2. Locus of Control	-.07	(.80)										
3. Media Frequency	-.19*	-.21*	-									
4. Total Knowledge	.05	-.12	.40**	-								
5. Unethical	.06	-.22*	.40**	.90**	-							
6. Ethical	.03	-.01	.33**	.92**	.66**	-						
7. Reading Time	.36**	.23*	-.02	-.03	-.03	-.03	-					
8. Under/Post	.02	-.02	.15	.18	.20*	.13	.05	-				
9. Sex	-.19*	.29**	.08	.04	-.15	.21*	-.20*	.07	-			
10. Year of Study	.01	-.20*	.15	.14	.26**	.01	-.20	.61**	.03	-		
11. Traditional	-.19*	-.16	.94**	.34**	.31**	.32**	-.02	.16	.12	.08	-	
12. Non-traditional	-.06	-.22*	.14	.26**	.36**	.13	-.01	.02	-.07	.23*	.14	-

**Note:** N=80; \* $p < .05$  \*\* $p < .01$

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## Discussion

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### *Purpose of research*

The aim of the present research was to investigate the link between media exposure, current events' knowledge, Locus of Control and individuals' response times to ethical decision making. A quantitative study sampling undergraduate and post graduate students was conducted using the Qualtrics survey program on a computer to examine the relationships among the variables of interest.

### *Summary of findings*

Reliability analyses found that the Machiavellianism scale used on this sample was not reliable and as a result was not used in further analysis. This finding was not expected as the Mach-IV is a well established scale and is frequently used when examining ethical behaviour in individuals (Gunnthorsdottir, McCabe & Smith, 2002). When examining responses, there were many of the participants that indicated they had a neutral position regarding the items, which could be indicative of a social desirability effect. Moreover, it seems that some participants did not read the reverse-coded questions properly, as they ascribed similar responses to normal and reverse coded items (i.e. choosing 2 for both when they should have indicated 2 then 6). These two factors could contribute to the low reliability of the Mach-IV scale.

The Locus of Control scale was found to be reliable, with a Cronbach's alpha of  $\alpha = .80$ . This is similar to previous research that has used the Levenson (1974) Locus of Control scale. Christopher, Saliba, and Deadmarsh (2009) found that the Cronbach's alphas ranged between .72 and .83. Factor analysis found that the

Locus of Control scale seems to be measuring one factor which goes against previous research indicating that this scale measures three factors. When examining the factor loadings all of the items loaded over .5 with factor one. There is no previous research indicating that the items of Levenson (1974) Locus of Control scale only loaded on one factor and when examining the individual responses it is not clear why this occurred.

As individuals can fatigue over time, it is possible that decision and reading times become skewed (Ratcliff, 1979). To ensure that times were normally distributed, a log transformation was performed. The transformation found that decision times and reading times were not normally distributed, so as a result log decision time and log reading time were used in further analysis. It is likely that decision and reading times were not normally distributed as research has found that when a response task is long, participants tend to get more distracted or bored. It has long been known that the variability in samples of reaction times tends not to be normally distributed, which had lead to the use of medians and logarithmic transformations (Ratcliff, 1979).

Correlation analysis found that decision time significantly and negatively correlated with frequency of media use. It was found that as an individual's media use increases their decision time to ethical dilemmas decreases, hence hypothesis three was supported. Hypothesis three predicted that an individual's media use would negatively and significantly correlate with decision time. When examining previous cognitive psychology research, this finding could indicate that the frequency to which individuals read/listen to the news, the greater their prior knowledge of current ethical issues, which as a result leads to decreased decision times compared to those with less prior knowledge or exposure to different media

sources. When media sources were split into traditional (Newspaper, Radio and TV) and non-traditional (Internet) only the traditional media sources significantly correlated with decision time. From these findings it seems that traditional media sources are relied on more than non-traditional media sources for information regarding unethical/ethical information. This is supported by previous research that indicated that individuals typically found media sources that were not instant in their reporting to be more reliable and provide more detailed information than sources that are instant (i.e. the internet) and therefore they are more likely to seek out traditional media sources for information on ethics (Smith & Reinhardt, 2003). As an individual's amount of knowledge of ethical/unethical situations significantly correlated with the frequency to which they seek media sources for information, this suggests that their level of knowledge may depend on the frequency to which they seek information.

Additionally, it was found that media exposure negatively and significantly correlated with an individual's Locus of Control score, thus indicating that individuals with an internal Locus of Control are likely to seek information more frequently than individuals with an external Locus of Control. This idea fits in with previous research that indicates that internals are more likely to seek out information in regards to ethics as they see themselves as responsible for their own behaviour (Chiu, 2003). An interesting finding was that an individual's Locus of Control score negatively and significantly correlated with knowledge of unethical cases, which suggests that individuals with an internal Locus of Control are likely to have greater knowledge of unethical dilemmas. This may be attributed to the combination of a greater level of exposure to media information by internals and the fact that unethical cases more frequently make the headlines.



It was also found that both traditional and non-traditional media sources significantly correlated with knowledge of unethical cases but only traditional media sources significantly correlated with knowledge of ethical cases. These results indicate that both traditional and non-traditional media sources provide information on unethical cases but it seems that traditional media sources may offer greater coverage of ethical exemplars. This is an interesting finding as there seems to be a bias in the kind of news that is reported on the internet.

There was no significant correlation between decision time and Locus of Control score. There is no previous research to explain why this occurred, but it could be that a response time task is not sufficient in this case to discern the relationship between an individual's ethical decision making and their Locus of Control score. Perhaps a content-based approach (e.g., individuals engaged in a dilemma resolution task wherein decision quality is measured), would reveal the role of Locus of Control in an ethical decision-making context.

Additionally, there was no significant correlation between decision time and knowledge. The reason for this could be that students have less of an interest in ethics and acquiring knowledge of unethical/ethical knowledge. As previous research has found, individual differences in prior knowledge can be the result of an individual's interest in a topic. When an individual has interest in a topic they are more likely to seek new information and spend more time acquiring that knowledge (Ackerman, 1996; Hambrick, Meinz, & Oswald, 2007). Future research could examine whether an individual that shows a greater interest in ethics has greater knowledge and as a result has quicker decision times than individuals who do not show an interest in ethics.

It was also found that an individual's Locus of Control score significantly correlated with sex, where more males than females displayed an internal Locus of Control. This is supported by previous research which found that males were more likely to have an internal Locus of Control compared to females (Knoop, 1981). Internals are more likely to work for achievements, to tolerate delays in rewards and to plan for long-term goals, whereas externals are more likely to lower their goals. After failing a task, internals re-evaluate future performances and lower their expectations of success, whereas externals may raise their expectations. It is therefore thought that the reason that males are more likely to have an internal Locus of Control as they are more responsive to successes with females more responsive to failures (Weiner, 1980).

This study found that Locus of Control negatively and significantly correlated with Year of Study. Thus, as individuals' progress through their study, their Locus of Control scores are likely to decrease and they become more internal. This idea is supported by previous research which found that better educated people had an internal Locus of Control (Smith, 2003). It is thought that this is because as individuals get older, they gain more experience, knowledge and competences and this is further emphasised through higher education (Knoop, 1981). It was also found that Year of Study was positively and significantly related to knowledge of unethical cases. This indicates that as individuals' progress through their study, their knowledge of unethical situations increases. It could be that as individuals' progress through University they become more interested in ethics and as a result seek more information or that advanced courses focus more on ethics.

Sex was significantly correlated with reading times and decision times, showing that females tended to have faster reading and decision times than males. Research has found that females on average have higher verbal abilities compared to men, which grows with age (Anderson, 2004; Galsworthy, Plomin, Dionne & Dale, 2000). It is thought that this is due to the fact that they typically have a deeper engagement in language related activities (Lynn & Mikk, 2009). The finding that females have faster reading times is supported by previous research but females' having faster decision times is not. A meta-analysis of studies over a 70 year period examining whether there are differences in response times between males and females, found that male participants have typically had faster response times compared to females (Silverman, 2006).

A major strength of this study was that it was done in a highly controlled environment; there was only one participant that undertook the study at one time, all participants received the same instructions and information and the same computer was used for all participants.

### ***Limitations***

One of the limitations was the sample size, the Christchurch earthquake on the 4<sup>th</sup> of September 2010, which closed the University for two weeks, seemed to have impacted participants' willingness to perform the task, and even task performance, as the students had multiple competing demands related to their academic role. Initially the aim was for 200 participants, but in the end there were only 80 participants. Another limitation was the incentive for participating, for this experiment the incentive was the chance to win a \$200 Westfield Voucher, however the feedback from people was that they would rather a small incentive that they were sure to get (e.g. a \$5 supermarket voucher).

With the majority of participants coming from the Psychology department, this could be seen as a limitation as it could be that ethical awareness is not as greatly focused on in undergraduate Psychology compared to say undergraduate Commerce papers. Future research could examine a wider set of study areas.

The exclusion of participants should have been more toughly enforced, with ensuring that each individual had been in New Zealand for at least two or more years, as some of the situations in the checklist referred to situations that occurred in New Zealand recently. This would have ensured that everyone had the same ability to access this knowledge.

A further limitation was the Survey software that was used. During the experiment, it would sometimes freeze during the reaction time task and would stop working. When it stopped working the experimenter would have to log back into the programme and it would start from where it froze, but the reaction time task was distributed. The computer froze around 10 times, over the duration of data collection.

### ***Theoretical and Practical Implications***

A theoretical implication of this study was that there are differences between media sources. It was found that there are differences between traditional (newspaper, radio and television), and non-traditional (internet) media sources. This is important to know as it was found that the frequency to which an individual seeks news from traditional media sources affects their decision time, but this was not found for non-traditional media sources. Additionally, the frequency to which individuals seek news from media sources determines the amount of knowledge

that they have in regards to unethical situations that have occurred in business and sporting world.

A practical implication is that it seems that students do not seem to have a lot of knowledge about ethical dilemmas and businesses' social responsibility initiatives that have occurred over the last ten years, locally in New Zealand and Internationally. This is a concern for Universities and there needs to be further initiatives by Universities to increase students' ethics knowledge and improve their ethical decision making processes. This should also be a concern for companies as students are the future professionals and it could save thousands of dollars in lawsuits if they encourage the improvement of knowledge of ethics and individual's ethical decision making process.

A further practical implication could be that if companies want their employees to be more ethical and develop their ethical decision making processes they should encourage them to seek out news from traditional media sources such as the newspaper, the news on the radio and television. This is supported by findings from this research that frequency to which an individual seeks media sources significantly correlated with an individual's decision time, as well as Locus of Control score and knowledge of current events. Therefore, as the frequency to which an individual seeks news increases, an individual's Locus of Control score decreases and they are more likely to develop an internal Locus of Control, which is associated with ethical behaviour (Hambrick, Mainz & Oswald, 2007).

### ***Directions for Future research***

This research has found some interesting results but there are many areas that can be further researched and examined. One area that could be examined is

whether individual differences determine the effectiveness of ethics training in the workplace. Individual differences could explain why there have been inconsistent findings in the ethics training literature. Although there appears to be a general consensus about the importance of ethics education, there is little agreement about the most effective approach to instruction, or even the most appropriate goals for these programs (Kalichman, 2007; Steneck & Bulger, 2007). To date, the literature has shown inconsistent results with regards to the effect of training on ethical attitudes and decision making (McDonald & Donleavy, 1995). Evaluation studies have reported mixed findings regarding the effectiveness of instruction. Some ethics courses have been shown to induce desired effects, whereas others indicate little or no effects of ethics instruction on learning outcomes (Kalichman & Plemmones, 2007). It could be that individuals with fixed schemas in regards to ethical behaviour in the workplace, do not respond as well to ethics training as they already have fixed ideas about what is right and wrong, compared to individuals with vague schemas, who are more likely to be influenced by ethics training as they do not have a lot of information in regards to ethics in the workplace. It could also be that ethical awareness and exposure to information during formative years (i.e., secondary and tertiary education) may later increase the effectiveness of ethics training in the workplace.

It could be that response time is not the best way to ascertain an individual's ethical decision making processing and its relationship with individual characteristics (Media Exposure, Knowledge and Locus of Control). Future research could examine these individual characteristics and how they interact with ethical decision making, by measuring decision making processes in a different

way (e.g., provision of quantitative and/or qualitative responses to ethical scenarios).

Future research could also examine these variables in a professional working population. Professionals could be a more reliable sample to use as they have worked in organisations and are more likely to have had a greater exposure to ethics and knowledge of ethical situations as they are more likely to read/listen to the news (Antes, et al, 2009). Findings from this study could support this as overall students had a low level of knowledge of unethical/ethical situations. It would also be interesting to examine whether there are differences between students and professionals as to which media sources they rely on for news.

### ***Conclusion***

The current research found some interesting results that can add to the extensive literature already focusing on ethical behaviour in the workplace. The major finding was the influence that an individual's frequency to which they seek different media sources for ethical information had on their decision times, Locus of Control score and knowledge of current events. In addition, this paper offers several avenues for future empirical research and suggests a number of theoretical and practical implications regarding the improvement in the understanding of the factors that directly or indirectly guide and contribute to an individual's ethical decision making (e.g., media exposure and personality) and how organisations can enhance ethical behaviours in the workplace.

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