

Rising motor insurance premiums and attitudes to insurance fraud among drivers in Ireland

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Abstract

Globally, it is estimated that 10% of all insurance claims made by consumers are fraudulent, while just one fifth of these fraudulent claims are detected by the insurer. In Ireland, it is estimated that insurance fraud costs over €200m each year. Insurance fraud is blamed for adding €50 to every insurance premium in Ireland annually. The purpose of this dissertation is to investigate the relationship between motor insurance experience in Ireland and perception of insurance fraud. This study was conducted during a period of widely reported concerns about the increasing cost of motor insurance in Ireland and an EU investigation into suspected cartel-like activity by Irish insurers. This paper explores perception on the cost of motor insurance and if this impacts on attitudes to motor insurance fraud, specifically in relation to applying for insurance cover or making a claim.

Data was collected from both primary and secondary research. A broad set of journal articles, books and web resources were analysed to gain a deeper understanding of previous research work on perceptions of insurance fraud. This process built a base of knowledge in the area prior to undertaking primary research and also helped identify gaps in the work completed to date.

A quantitative research methodology was performed using an online survey and anonymised data from 107 respondents was analysed to compare insurance experience and attitudes to insurance fraud.

Respondents who had experienced an increase in their motor premiums were not found to have a lower tolerance to insurance fraud than respondents who had seen a decrease in their motor premiums. Similarly, respondents who believed the amount they paid for motor insurance was unfair did not differ significantly in their perception of insurance fraud than those respondents who felt the cost of motor insurance was fair.

Analysis of the survey data highlighted that respondents who made a third-party claim against another individual's motor policy were found to have a significantly lower tolerance to fraud than individuals who had made a claim against their own policy or those who had not made a claim. This finding may be of interest to insurers as previous research has identified that tolerance to insurance fraud is positively correlated with the frequency of claims.

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Chapter 1: Introduction

Research Background

The increasing cost of motor premiums in Ireland has been regularly in the news over the past few years. While not everyone is financially affected equally, a recent poll carried out by AA Ireland found that 56% of 4,000 participants believed their car insurance premium had increased significantly at last renewal (Aldworth, 2018). Previously it had been reported that the average Irish motor premium had increased by 70% in only 3 years based on figures from the CSO (Weston, 2016).

Apart from the obvious economic impact on motorists, the increasing cost of motor insurance in Ireland is also being linked with wider societal concerns such as the reduction in the number of young Irish drivers (Pollack, 2017) and discouraging emigrants from returning to Ireland (Pope, 2018). The cause of these increases in motor insurance costs is widely discussed in the media with varying levels of blame being apportioned to different stakeholders such as insurers, the legal profession, the government and fraudulent claimants.

It was recently reported that motor insurance premiums are rising at the same time that the number of claims is falling (RTE, 2017). Although this could be the result of average claim cost increasing, it may also give people the perception that insurers are increasing prices unfairly despite their claims costs falling. This belief may be reinforced in some peoples' minds by reports of an EU investigation into the Irish insurance industry for suspected cartel-like activity (Hancock, 2017).

These increases in motor insurance premiums combined with negative news stories about the insurance industry appear to have damaged the reputation of insurers. This is concerning, as previous studies have shown when individuals have a negative view of the insurance industry they are more tolerant of insurance fraud (Dean, 2004; Miyazaki, 2009; Tonenciuc, 2015). A higher tolerance to insurance fraud has been found to be positively correlated with the frequency of motor injury claims (Cummins & Tennyon, 1996) which in turn directly impacts on motor insurance costs.

Document Structure

This paper explores attitudes to insurance fraud through the use of both primary and secondary research. A review of published academic literature on insurance fraud will provide insights into what has been previously discovered and identify possible areas for further investigation. The current study aims to provide unique primary data specific to motor insurance fraud in Ireland that may verify or contradict what has been previously published.

Chapter 1 outlines the purpose and aims of this dissertation and includes the research objectives. It also describes the document structure to aid the reader.

Chapter 2 explores the available literature on insurance fraud with a specific focus on application and claim fraud made against the insurer. The main topics covered include (a) types of insurance fraud, (b) scope and impact of insurance fraud, (c) motivation for committing insurance fraud, (d) detecting and preventing insurance fraud and (e) perceptions of insurance fraud.

Chapter 3 details the research question and the associated research objectives of this dissertation.

Chapter 4 describes the methodology used to collect primary research data and the justification for the selection of method used.

Chapter 5 provides detailed analysis of the primary research data collected.

Chapter 6 includes a review of the findings and draws conclusions from the data observed. Limitations of this study are also identified and recommendations on future research are also proposed.

Chapter 2: Literature Review

Introduction

Globally, it is estimated that 10% of all insurance claims made by consumers are fraudulent while just one fifth of these fraudulent claims are detected by the insurer (Ishida et al, 2015).

Insurance Ireland (2017) estimates insurance fraud costs the Irish insurance industry over €200 million every year and adds €50 annually to each insurance policy. In the UK, the Association of British Insurers in 2013 estimated that undetected insurance fraud was £1.3 billion a year (Leal et al, 2016). Insurance fraud is the second largest white collar crime in the US after tax evasion (Dean, 2004).

While insurance fraud can be found around the world, it varies across countries due to social and cultural differences (Tonenciuc, 2015). Despite its ubiquity, a search of peer reviewed articles on the subject would appear to demonstrate the subject has received relatively little attention from European scholars in the last 20 years. More recent literature has focussed on the reasons for, and perceptions of, insurance fraud in specific markets such as the US and China but no articles were found relating to insurance fraud in Ireland.

Types of Insurance Fraud

The Insurance Information Institute (2018) defines insurance fraud as *“a deliberate deception perpetrated against or by an insurance company or agent for the purpose of financial gain”*.

Lesch & Byars (2008) highlighted that definitions of insurance fraud are many, and in some cases contradictory, due to different interpretations of what constitutes fraud. This is linked to different legislation in different countries, inconsistencies in the claim handling process and concerns within insurers of disclosing the severity and scope of fraud they experience (Tonenciuc, 2015). However, a common theme running through these definitions is the deliberate deception of one or many parties to make a financial gain.

Literature on insurance fraud focuses on four groups; insurer fraud, internal fraud by employees of the insurance company, fraud by intermediaries such as brokers and consumer fraud (Yusuf, 2011). There are many stages when the insurer deals with the consumer, from the initial quotation through to the settling of a claim. Consumer insurance fraud can occur at any step in the process (Dehghanpour & Rezvani, 2015).

Insurance application fraud happens when facts are deliberately misrepresented to gain cheaper insurance. For example, an individual may declare they are just a named driver on their parents motor policy when in fact they are the main driver of the car (referred to as 'fronting').

Insurance claim fraud includes claim exaggeration, misrepresenting the facts about a claim, or simply making up a claim and are by far the most common and costly aspect of insurance fraud (Derrig, 2002).

Claim fraud is often split into two broad categories; organised (or planned) fraud and opportunistic fraud [Dionne & Gagne, 2001]. Organised claim fraud is premeditated and may involve staging an accident or event with the purpose of making an insurance claim. Opportunistic claim fraud occurs after a legitimate incident and the level of damage or injury is deliberately exaggerated (or 'padded') in order to make a higher claim, or the individual claims for something not covered by the policy (Weisberg and Derrig, 1993).

Organised fraud, sometimes referred to as 'hard' fraud, is often easier to prove and therefore prosecute as a criminal act (Tennyson, 2008). Opportunistic fraud occurs when details of an actual claim are exaggerated or falsified and often is referred to as 'soft' fraud' even though it can still be classed as criminal (Viaene & Dedene, 2004).

This study is particularly focused on perceptions of motor application fraud and motor claim fraud in Ireland.

Scope and Impact of insurance fraud

Insurance fraud is a global problem (Brinkmann & Lentz, 2006) despite being perceived as an immoral or unlawful act by the majority of people (Dehghanpour & Rezvani, 2015).

In Ireland, insurance fraud is estimated to cost insurers €200 million every year (Insurance Ireland, 2017). However, the process of measuring fraud is difficult and prone to error as it is difficult to know how much remains undetected (Tennyson, 2008).

The issue is particularly prevalent in injury cases from motoring accidents. A recent UK study found 40% of 100 cases reviewed by forensic psychiatrists aroused suspicion of fraud relating to exaggeration of injuries sustained (Cartwright & Roach, 2016).

Measuring insurance fraud has proven difficult due to the subjective nature in assessing a case. Derrig and Ostaszewski (1995) demonstrated this by asking four different people to review claim files and assess if they found them suspicious. While all reviewers identified

around 10% of cases as being suspicious, there was not a single case that they all agreed upon.

Tennyson (2008) argues that fraud forces insurers to have more restrictive contracts in place with their customers, which in turn reduces the amount of cover being offered and moves the risk back to the insured.

A direct impact of insurance fraud is that other policyholders will need to pay higher premiums, and in some cases this will drive people out of the market (Goel, 2014). Furthermore, insurance fraud has a wider societal impact and is often perpetrated to finance other criminal activities (Tonenciuc, 2015).

Due to the level of insurance fraud being committed, insurers need to invest in resources to identify suspicious cases which need to be investigated further for fraud. This fraud investigation incurs a cost which may reduce the profit of the insurer or be passed on as a cost to other policyholders (Gabaldón et al, 2014). Insurance fraud is prevalent in all types of personal insurance products and insurers need to invest significantly in staff to investigate claims (Lesch & Byars, 2008). These costs invariably will be passed onto customers through higher premiums.

Motivation for committing insurance fraud

The most obvious incentive for committing insurance fraud is financial gain either through paying less premium or increasing the amount paid by an insurer for a claim. A significant deterrent is the fact that individuals know that insurance fraud is a crime or that it is simply an unethical and/or immoral thing to do (Ishida et al., 2015). However, weaknesses in the system, such as minimal punishment for those caught committing insurance fraud, means that those who want to commit fraud have a starting advantage (Cartwright & Roach, 2016).

One reason often attributed to the level of insurance claim fraud perpetrated is the information asymmetry that exists between the claimant and the insurer (Cummins and Tennyson, 1996; Dionne, 2000). If an individual sustains neck or back injuries in a motor accident, then it is relatively simple to exaggerate the severity of the pain when making a claim. The insurer only has access to details on the accident and medical reports but ultimately they cannot assess the level of discomfort or pain the claimant is experiencing and may have to accept the injured parties statement in settling the claim.

If an individual is making a claim they may consider the likelihood of being caught before deciding if they will try and exaggerate the level of damage or injury incurred. Kessler (1995)

found that insurance claim fraud happens more in urban areas than rural areas as it is less likely in an urban setting that people will know each other and therefore less chance of being caught. In the UK, the Transport Committee (2013) found that there is common knowledge that insurers will often decide to settle whiplash claims without engaging with their own medical examiner and this may be a contributory factor to falsifying an injury claim.

Multiple studies have looked at the link between an individual's opinion of their insurance provider and their relative acceptance that insurance fraud is acceptable behaviour (Dean, 2004; Miyazaki, 2009; Tonenciuc, 2015). In general if the insurance company is viewed negatively by the individual, then they are more tolerant of insurance fraud. Negative perceptions of insurance companies may be due to the experience the individual had when making a claim or as Brinkmann (2005) found, if the individual believed the insurer was charging too much for providing cover. These findings are also supported by Schweitzer and Gibson (2008) who found that when an individual believes a situation is unfair, they are more likely to view unethical behaviour as being justified.

Detecting and preventing insurance fraud

The majority of insurance claims are genuine and insurers will attempt to make a payment quickly (Insurance Ireland, 2017). Initially the claim handler working for the insurance company will try to collect the relevant information from the claimant in an attempt to narrow the information asymmetry that exists about the incident (Derrig, 2002). Meritorious claims can be settled quickly while claims that raise suspicion are generally referred to a dedicated team for further investigation (Tennyson, 2008). Despite these controls being in place, it can be very difficult to identify suspicious activity as the process of making a legitimate claim is identical to a fraudulent claim (Weisberg & Derrig, 1993). A significant amount of insurance fraud is never detected and even when suspected, it can be very difficult to prove and to prosecute the individual (Dehghanpour & Rezvani, 2015).

Predictive tools are also being used to identify suspicious cases which can then be escalated to the Special Investigations Unit, a dedicated fraud investigation team in an insurer (Derrig, 2002). These fraud prevention systems have been effective but need to evolve as new fraud schemes emerge (Lesch & Brinkmann, 2011).

Ironically, the very practise of policing for insurance fraud impacts on the trust relationship between consumers and insurers which could lead to an increase in fraud (Tennyson, 2008).

A counter argument put forward by Picard (2000) claims that the biggest savings from having an investigation team is that it deters people from making fraudulent claims. Derrig et al. (1994) were also able to demonstrate that the process of investigating suspicious claims leads to an 18% reduction in the overall claim cost.

Claim handlers will often look for 'flags' that indicate suspicious behaviour and assign these for further investigation by the team. Dionne et al (2009) argue that the ability to investigate insurance claims is restricted by budget and insurers need to implement a 'red flag' audit system to identify suspicious claims that should be escalated to the Special Investigations Unit.

One common flag for motor claims is the location and time of an accident. Šubelj et al (2011) found that staged motor accidents often occur late at night in remote areas to reduce the risk of witnesses. The drivers are predominately young and there are multiple passengers but never young or elderly. The police are usually called to the scene and often there are multiple injuries yet little vehicle damage.

Another common flag is a delay in reporting a claim. Research has shown that a delay between the incident occurring and it being reported to the insurance company is often an indication of some fraudulent activity on the claim (Weisberg & Derrig, 1993).

For motor accidents, a claim handler is trained to look for unusual activity that arises suspicion. Viaene et al. (2007) demonstrated variables such as the number of vehicles in an accident and braking behaviour could be used to effectively detect fraudulent motor claims.

An important tool in the fight against fraud is the sharing of information between insurers to help identify fraudulent cases and also prevent the fraudsters simply switching insurer and repeating the process (Tonenciuc, 2015).

Okura (2013) found an indirect benefit of having fraud detection systems was that individuals will try to reduce the chance of an accident if they are aware that their insurance company is increasing their spend on these fraud tools.

Insurers have invested heavily in tools and processes to identify insurance fraud but they also recognise the need to educate their customers that claim exaggeration is insurance fraud and that there may be severe consequences if they attempt it (Lesch & Byars, 2008). Education on insurance has been found to improve attitudes towards the insurance industry which has been found to reduce the tolerance for insurance fraud (Tennyson, 1997).

Some fraud prevention methods are simple but effective. Shu et al (2012) found that signing an insurance policy at the start rather than at the end will reduce misrepresentation. In their analysis, 13,488 motor policies for 20,741 cars were collected and analyzed. Policyholders were asked to complete a form with their odometer readings (mileage). Half were given a form with their signature at the start and half were given a form with the signature required at the end. The former reported an average of 2,427 miles more than the latter (10.25% more). The authors suggest that when signing at the end of a document the person may guess or round and there is more precision when required to sign at the start of the form. This concept could be used when making a claim to encourage the individual to provide more accurate information on the incident and help reduce exaggeration.

Perceptions of Insurance fraud

While the word 'fraud' is often associated with illegal activity that can result in a prosecution, insurance fraud activities such as providing incorrect information to get cheaper insurance or exaggerating a claim or to gain financially are not perceived in the same light (Derrig, 2002). This is perhaps best demonstrated by the fact that research by Brinkmann and Lentz (2006) found that exaggerating an insurance claim was judged to be less serious than stealing a can of cola from a supermarket.

A general acceptance of insurance fraud by 'ordinary' people is well documented (Tennyson, 1997; Button et al., 2013; Cartwright & Roach, 2016). Even if an individual believes an activity is immoral or unethical, they may rationalise it if they believe the action is justified due to their perception of the specific situation (Murphy & Dacin, 2011).

Recent literature on insurance fraud has looked at the perception of fairness and how it relates to the transaction of buying motor insurance (Tennyson, 1997). Research has found that consumers may try to justify insurance fraud based on the level of excess (also known as a deductible) they are required to pay on a claim before the insurer will pay out (Miyazaki, 2009). This has been further linked to Adams' equity theory (1963) and considers if the premium paid for insurance is a fair price for the cover provided.

Insurance claims fraud is not universally perceived as being unethical (Brinkmann, 2005; Tennyson, 2008). In fact, research by Button et al. (2013) in the UK found that 29% of those interviewed believed it was acceptable to fabricate an insurance claim and 40% believed exaggerating an insurance claim was acceptable.

Gino et al., (2009) found evidence that the decision to commit unethical actions is more dependant on the social norms than on the perceived cost-benefit analysis of the activity. Their research suggests that individuals who observe their peers committing dishonest behaviours are more likely to act dishonestly.

Previous studies have highlighted that female respondents have a significantly lower tolerance to unethical activities like claim exaggeration than male respondents (Dean, 2004). Tolerance to insurance fraud has also been found to lower for the elderly (Tennyson, 1997) but O'Fallon and Butterfield (2005) have questioned this hypothesis and argue that ethical decisions are not strongly correlated with age.

Not every type of insurance fraud is considered in the same light. Research by Button et al. (2013) found that individuals believe exaggerating symptoms of an actual injury to get a higher claim payment is more acceptable than claiming for a fictitious injury. Tennyson (2002) found that exaggerating a claim to cover the policy excess is perceived as being far more acceptable behaviour than more than falsifying receipts to increase the claim amount.

Dionne and Gagne (2001) proposed that insurance fraud was more likely if an individual deemed the insurance policy terms were unfair and this behaviour was even more prevalent if the individual believed the chance of being caught was low. In the US, a survey of 2,000 people found that 19% believed it was acceptable to exaggerate a claim to make up previous years' insurance costs (Dean, 2004).

Individuals who have numerous insurance policies e.g. motor, home etc., and those that have had a recent claims experience have been found to be less tolerant of insurance fraud (Tennyson, 1997).

Research carried out in the US at a state level, identified a strong correlation between the tolerance to insurance fraud and the frequency of motor injury claims (Cummins & Tennyson, 1996).

Viaene & Dedene (2004) argue that historically insurance fraud was often overlooked by insurers as they could simply pass on the cost to their customers and this practise could have created a social acceptance of fraud.

Conclusion

In recent years the level of insurance fraud detected has increased, but it is difficult to ascertain how much of this is due to an increase in this type of activity or the improvement

in fraud detection tools and processes used by claims handlers in identifying suspicious claims (Dehghanpour & Rezvani, 2015).

insurance fraud is an issue around the world (Brinkmann & Lentz, 2006) but previous studies have shown that perceptions of insurance fraud differ across countries (Tonenciuc, 2015). For example, in the US, Tennyson (2002) found that 7.87% of respondents found insurance fraud was acceptable. This contrasts with a UK study by Button et al. (2013) that found 29% of those interviewed believed it was acceptable to fabricate an insurance claim and 40% believed exaggerating an insurance claim was acceptable.

The literature review completed as part of this dissertation highlights a gap in literature on attitudes to insurance fraud in Ireland which this study will try to fill.

Chapter 3: Research Question

The focus of this dissertation is to look at rising motor insurance premiums and perception of insurance fraud among drivers in Ireland.

The overall purpose of this research is to add to the body of literature on perceptions of insurance fraud. This research will potentially provide new insights into the effect of unusually high increases in motor insurance premiums and the impact this may have on attitudes to insurance fraud. Previously published findings on perceptions of insurance fraud will also be analysed to validate if they hold true for this study.

To examine the research question more, the following research objectives have been identified;

- 1. To investigate the relationship between increasing motor insurance premiums and attitudes to insurance fraud.**

It is generally accepted that the cost of motor insurance will increase for an individual if they or someone else makes a claim against their policy. In contrast, if a person has no claims on their policy they expect the cost of their motor insurance to reduce over time as their driving experience increases. However due to a number of other factors, Irish drivers have in general seen significant increases in the cost of their motor insurance in recent years (Weston, 2016; Aldworth, 2018). The present study aims to identify if recent changes in motor insurance premiums are related to the level of tolerance for insurance fraud, and the perceived prevalence of this type of behaviour.

- 2. To explore if perceptions of fairness in relation to motor insurance premiums are related to attitudes to insurance fraud.**

Irrespective of whether an individual has seen their motor insurance premiums change significantly, they may still believe the amount they are paying is unfair e.g. it has not reduced despite their claim free years increasing. Previous research by Tennyson (2002) and Miyazaki (2009) has found that higher levels of excess on a policy are deemed unfair and can lead to individuals justifying exaggeration of an insurance claim. This present study will try to determine if individuals who believe the annual amount they are paying for motor insurance is unfair are more tolerant of insurance fraud and if the perceived prevalence of this type of behaviour is different.

3. To measure attitudes to insurance fraud between males and female motorists.

Previous research on ethical perceptions of fraud have identified that females are less tolerant of insurance fraud behaviour such as claim exaggeration (padding) than males (Tennyson, 2002, Dean, 2004). The current study aims to collect up to date data from Irish motorists and investigate if the results either verify or contradict what has been previously published on gender differences in attitudes to insurance fraud.

4. To ascertain if attitudes to insurance fraud is related to previous claim experience.

Tennyson (1997) found that individuals who had made a recent insurance claim were less tolerant of insurance fraud than non-claimants, and argues that this is due to insurers educating the claimants on the types and impact of insurance fraud during the claim process. However, the study did not seek to see if attitudes were different for when the claim was being made against (i) the respondents policy where they were at fault in the accident or (ii) against someone else's policy where they were not at fault. This current study was designed to capture more detailed data on the type of claim to determine if it has any significance on their attitude to insurance fraud.

5. To identify if the number of years driving experience is negatively correlated with insurance fraud tolerance.

Age has often been cited as an important factor in attitudes to unethical behaviour and Tennyson (1997) demonstrated that older respondents have a lower tolerance to insurance fraud. While it can probably be assumed that in the majority of cases, age is linked to driving experience, this is not always the case. In Ireland it is not uncommon for individuals to start driving later in life and the current study looks at driving experience to identify if more experienced drivers are less tolerant of insurance fraud.

Chapter 4: Methodology

Introduction

This dissertation looks at the relationship between the insurance experience of motorists in Ireland and their perceptions of insurance fraud.

This chapter will describe the research methodology undertaken and the rationale for selection of the research instrument to achieve the research objectives. Alternative instruments were also considered and these are described along with the justification for why they were not used for this project.

Sampling

According to the Central Bank (2015) there were 1.77m people with private car insurance in Ireland in 2015. The most accurate way to measure attitudes from this population is through a census to get responses from the entire population (Lazar et al., 2010) but it is simply not feasible to attempt this for the current project.

Instead, the research data was collected using a non-probability convenience sampling technique which is recommended when there is a constraint on time and costs (Saunders et al., 2012). An email was sent to 67 people requesting that they complete an online survey about motor insurance in Ireland. The request stressed that the survey was anonymous and that respondents would not be asked to provide personal details that could be used to identify them. A consent form was not distributed with the request as this would have created identity information about the participants.

Individuals who are known to the researcher and are living in Ireland were specifically contacted and asked to participate. This included work colleagues, students completing their MBA in the National College of Ireland and a broader group of adult family and friends.

A request to participate in the survey was also posted on Facebook. A decision was made not to post the request to participate in the survey on LinkedIn due to the high number of contacts the researcher has with people working in the Irish insurance industry.

In addition, a snowball non-probability sample technique was used to increase the potential sample size. Those contacted by mail were asked to forward on the email request to potential candidates who may want to participate in the survey. The Facebook post also requested that people liked or shared the post so that it would appear to a wider audience.

Research Instrument

Qualitative and quantitative methods, or a combination of both, should be considered when carrying out a research project (Saunders et al., 2012). Due to time constraints, it was decided to disregard using a multi-method approach and to evaluate whether quantitative or qualitative method was most suitable for this project.

Qualitative research methods such as interviews and observations are suitable for understanding opinions and the underlying feelings or beliefs that influence behaviour (Saunders et al., 2012). In relation to insurance fraud, these methods could be used in research to try to understand the justification for carrying out insurance fraud.

Quantitative methods such as surveys or experiments are based on collecting numerical data and suited for examining the relationships between variables (Saunders et al., 2012). The data collected through quantitative methods is more scientific and open to less bias than qualitative methods (Wright, 2006). Since the focus of this study is on measuring the relationship between insurance experiences and attitudes to insurance fraud behaviour, a quantitative method was selected.

Experimental research has led to ground breaking findings and has proven effective in making findings that can be generalised to the wider population (Lazar et al., 2010). The method requires strict control of factors and if conducted in a lab can be impacted by the 'Hawthorne effect' where participants alter their behaviour when they are being observed (Lazar et al., 2010). Due to the time and cost restrictions, this method was not selected.

Surveys allow for the collection of data from a large sample through questionnaires or scales (Quinlan, 2011). Specifically, internet surveys that are self-administered by the respondent, allow for a saving in time and cost while gathering data from a larger population (Wright, 2006). Surveys are one of the most commonly used research methods and are most effective when they are well structured and tested (Lazar et al., 2010). While a questionnaire is just one part of a survey which may also incorporate reminders and incentives (Dillman, 2000), the terms survey and questionnaire are used interchangeably in this study.

It must be noted that internet surveys can suffer from a non-response bias as it immediately removes individuals who do not have internet access (Wright, 2006). This is also an issue for individuals who are blocked in their workplace from using online sites like Google Forms.

A review of previous literature to identify the common research methods used is a critical decision for a researcher (Quinlan, 2011) and this process has highlighted that surveys are

widely used in studies on the perception of insurance fraud (Tennyson, 2002; Dean, 2004; Miyazaki, 2009). This is not surprising as most studies of ethical decision making rely on questionnaire to gather information (O'Fallon and Butterfield, 2005).

Based on these findings, and the additional benefit that surveys allow respondents to remain anonymous (Denscombe, 2010), this study will make use of an anonymised questionnaire to collect information from participants.

An online questionnaire was designed using Google Forms (<https://docs.google.com/forms>) and distributed along with a covering note which referenced the following;

- A request to participate in an online survey about motor insurance in Ireland.
- The data was being collected was to be used as part of a college thesis project.
- The survey would take less than 5 minutes to complete.
- Responses would be anonymised – no personal data would be collected.

The questionnaire was divided into three sections;

1. Demographics characteristics. This was limited to gender and age as well as a qualifying question to establish if the respondent has car insurance in Ireland.
 - a. If they do not have car insurance, then respondents were redirected to the end of the questionnaire were not required to answer any further questions.
 - b. If the respondent confirms they had car insurance they were then brought to the next section to answer further questions.
2. Insurance Experience. A set of questions about insurance experience were presented to gather the following information;
 - a. How long they have had car insurance in Ireland
 - b. How long they have been with their current insurer
 - c. How do they normally renew car insurance or search for a new quote
 - d. How has their motor car insurance costs in the last 3 years
 - e. How much does their motor insurance currently cost them for the year
 - f. Does the respondent believe they are paying a fair price for motor insurance
 - g. Have they or anyone else ever claimed against their motor policy
 - h. Have they every claimed against someone else's motor policy
3. Attitudes towards five different behaviours that are commonly classed as opportunistic insurance fraud. These can occur when applying for insurance or making an insurance claim. Respondents were asked to identify their own tolerance

to the behaviours listed and also to indicate their perceived prevalence of the behaviours.

Relevant questions on insurance experience that were applicable to the research objectives were not identified during the literature review. The researcher formed questions on insurance experience based on insights gained from a review of literature and common questions asked by insurers on motor insurance application forms. The wording of these questions was reviewed and refined in an attempt to remove any biases. For example, although research has shown that many people have experienced significantly increasing insurance premiums in recent years, this is not true for everyone and questions on insurance costs asked respondents to give their own opinion on whether costs were increasing, remaining the same or falling. Following the pilot, an additional question was added to ask respondents if they believed the amount they paid for motor insurance was fair.

The questions on perception of insurance fraud behaviour and their prevalence were based on a survey completed by Tennyson (2002) with US specific wording changed as required e.g. 'deductible' was replaced with 'excess'.

As the purpose of the questionnaire is to measure perceptions or attitudes, the Likert scale was kept for the questions relating to tolerance and prevalence of insurance fraud as it has the advantage of measuring both direction and force (Quinlan, 2011). The 10-point Likert-type scale used for the acceptability questions from the Tennyson (2002) study were converted to a 7-point Likert-type scale so that they were consistent in format to the 7-point Likert-type scale used for the prevalence question.

The request to participate and the questionnaire deliberately made no reference to 'insurance fraud'. Terms like 'claim exaggeration' and 'misrepresenting facts' when either getting an insurance quote or making an insurance claim were used instead.

Personal data was not requested or collected from respondents. This was a deliberate decision to encourage participants to give honest answers on their attitudes to unethical behaviour in relation to obtaining motor insurance and making a motor claims.

Data Analysis

All data collected from the questionnaires was automatically saved in Google Forms. Once the survey was closed, the 139 completed responses were exported to a CSV file and reviewed using Microsoft Excel to ensure content had not been corrupted during the transfer.

Additional quality checks were carried out on the data and the following was removed from the data set;

- 17 respondents who confirmed they did not have motor insurance and were not asked about their insurance experience or attitudes to insurance fraud.
- 14 respondents who provided the same answer for all questions on their perception and prevalence of insurance fraud.
- 1 respondent who provided an invalid response on a number of questions.

The remaining 107 records were then reviewed, with some basic checks carried out on splits by demographics.

SPSS was selected as the main analysis tool as it is widely recognised as a reliable tool for analysing data collected from quantitative research projects (Ghauri & Granhaug, 2005). Microsoft Excel was used to recode responses from text to numbers before the results were imported into SPSS e.g. for responses on gender, 'male' was recoded as '0' and 'female' as '1' etc.

The question set on perceived prevalence of insurance fraud was designed to use a 7-point Likert-type scale with 1 meaning very common and 7 meaning very uncommon. Prior to the analysis phase it was decided to invert these results so that 1 meant very uncommon and 7 meant very common. This was done so that high scores for tolerance and perceived prevalence of fraud would be consistent.

SPSS was then used to analyse the results using descriptive statistics, independent sample t-tests and correlation tests.

An Average fraud tolerance Score and Average perceived fraud prevalence score was calculated for each respondent based on the responses to the insurance fraud attitude questions. To test the reliability and internal consistency of these averages, Cronbach's alpha was calculated as it is commonly used for this purpose (Saunders et al., 2012). A Cronbach score of over 0.7 indicates that responses are consistent (Bryman and Bell, 2011).

Pilot Study

Prior to distributing the survey, Saunders et al. (2012) recommends that a pilot is run to test the suitability and clarity of the questions posed. If required changes can then be made before the final version is distributed to a wider audience.

The survey was distributed to test group of 3 people as part of a pilot study and they were asked to complete it before providing impartial feedback as well as confirm that all questions could be answered comfortably in under 5 minutes. Based on the feedback receive two additional question was added to qualify the amount being paid for insurance and if respondents perceived the amount they paid for insurance was fair.

Ethical Considerations

When contacting potential participants about the survey, it was clearly communicated that personal data would not be captured to ensure the participant's anonymity. This method of collecting data serves two purposes; the risk of a data breach was eliminated as no personal data was captured and participants are encouraged to give truthful answers on their attitudes to insurance fraud activities.

Participation was encouraged on a voluntary basis and informed that the data was being collected for research purposes.

Careful consideration was given to the wording of questions and scenarios to ensure they were clear and unbiased.

Research Limitations

While using just one quantitative method to complete a dissertation is widely accepted as being sufficient (Horn, 2009), it would have been preferable to have included conducted additional qualitative research through semi structured interviews. Due to time constraints a decision was made to limit research to data that could be collected from an online questionnaire distributed to a sample population.

Online questionnaires provide a quick and cost effective way to collect quantitative data but it must also be recognised that this method has limitations and does not allow participants to further qualify their responses.

The researcher received 139 responses from participants which is a very small percentage of the overall population of 1.77m people with motor insurance in Ireland (Central Bank, 2015). Further research involving a larger sample could better represent the population and provide more insights into attitudes to motor insurance fraud in Ireland.

A maximum word count of 20,000 was set by the college from the start and limited the scope of this project.

Chapter 5: Research Findings

Introduction

The purpose of this chapter is to use the data collected from the survey and analyse it in order to achieve the research objectives set out in the Research Questions chapter. In addition to Descriptive Statistics, this section includes the results of a number of statistical tests that were carried out using SPSS (Social Package for the Social Sciences), a software platform created to analyse quantitative data (Quinlan, 2011).

Descriptive Statistics

The sample included 51.4% male and 47.7% female respondents. The youngest respondent was 25 and the oldest was 75 with a mean age of 45.42. Table 1 below provides additional information on gender of respondents.

Table 1: Gender of Respondents

Characteristic	Frequency	Percent
Gender		
Male	55	51.4
Female	51	47.7
Not Provided	1	.9
Total	107	100.0

80.4% of all respondents have had motor insurance for over 10 years which may be reflective of the sample with a mean age of 45.42. Only one respondent had been driving for less than 1 year.

Table 2: Years of driving experience

Characteristic	Frequency	Percent
Years driving		
Less than 1 year	1	.9
1 to 3 years	4	3.7
4 to 10 years	16	15.0
Over 10 years	86	80.4
Total	107	100.0

Despite the vast majority of respondents having driven for over 10 years, only 17.8% of the total sample have been with their current insurer for 5 or more years. The fact that 22% of respondents have been with their current insurer for less than 1 year would possibly suggest that Irish motorists are changing their insurer on a regular basis.

Table 3: Years with Current Insurer

Characteristic	Frequency	Percent
Years with Current Insurer		
Less than 1 year	24	22.4
1 to 2 years	20	18.7
2 to 3 years	29	27.1
4 to 5 years	15	14.0
Over 5 years	19	17.8
Total	107	100.0

The annual cost of motor insurance is less than €500 for 15.9% of respondents and a further 68.2% are paying between €500 and €1,000. Only 14% of respondents pay over €1,000 for motor insurance each year but this may be linked to fact that 80.4% of respondents had been driving for over 10 years.

Table 4: Annual cost of Motor Insurance

Characteristic	Frequency	Percent
Annual Motor Premium		
Under €500	17	15.9
€500 to €1,000	73	68.2
€1,000 to €1,500	8	7.5
€1,500 to €2,000	1	.9
Over €2,000	6	5.6
Sub-Total	105	98.1
Not Sure	2	1.9
Total	107	100.0

In addition to providing annual motor insurance costs, respondents were asked to provide information on how the annual cost has changed in the last 3 years. 72.0% believed the cost of motor insurance had increased moderately or significantly in that period while just 10.2% believed the cost had decreased moderately or significantly. A further 15% of respondents had experienced little or no change in their cost of insurance.

Table 5: Change in cost of Motor Insurance

Characteristic	Frequency	Percent
Change in Motor Premium		
Decreased significantly	1	.9
Decreased moderately	10	9.3
Little or no change	16	15.0
Increased moderately	38	35.5
Increased significantly	39	36.4
Sub-Total	104	97.2
Insured < 3 yrs. / unsure	3	2.8
Total	107	100.0

The survey included a separate question asking respondents if they believed they were paying a fair price for the insurance cover provided. An individual paying a relatively high amount for insurance each year could believe this was fair based on their driving or claim experience. Conversely someone paying a relatively low amount could believe it was still unfair based on expectations that the amount should be decreasing with more additional years driving experience and a no claims history.

This question was included to assess the perceived fairness of the motor insurance cost and analyse if it is a factor in their attitude to insurance fraud. It was found that 70.1% of respondents did not believe the price they paid for motor insurance was fair. Table 5 below also shows no respondent who is paying over €1,500 per year on motor insurance premiums believe it is a fair price.

Table 6: Change in cost of Motor Insurance and perception of fairness

Characteristic	Unfair Price	Fair Price
Annual Motor Premium		
Under €500	8	9
€500 to €1,000	51	22
€1,000 to €1,500	7	1
€1,500 to €2,000	1	-
Over €2,000	6	-
Not Sure	2	-
Total	75	32

Respondents were also asked if they or anyone else had made a claim against their policy (at fault claim) as this would have impacted on their motor insurance premiums. In addition, respondents were asked to confirm if they had made a claim against someone else's motor

policy (third party claim). While a third-party claim would not have impacted adversely on their own annual premium it would have exposed them to the claim process. 23.4% of respondents had a claim on their own policy, 16.8% made a third-party claim and 4.7% had made both.

The most popular method of searching for or renewing motor insurance is through the internet (47%). Alternatively, 29% of respondents prefer to phone their insurer while another 21% prefer to visit or phone their broker.

Table 7: Method of renewing motor insurance

Characteristic	Frequency	Percent
Insurance renewal method		
Internet	50	46.7
Phone insurer	31	29.0
Visit or phone broker	23	21.5
Other	3	2.8
Total	107	100.0

The questionnaire prompted the respondents for their opinion on the acceptability and prevalence of five common types of opportunistic fraud that occur when either applying for insurance or making an insurance claim. A 7-point Likert-type scale was used to rate the acceptability of each behaviour from 1 (meaning totally unacceptable) to 7 (meaning totally acceptable). A 7-point Likert-type scale was also used to rate the respondents perception of the prevalence of each behaviour with 1 meaning very uncommon and 7 meaning very common.

In table 8 below, a respondent was deemed to have found the described behaviour acceptable if they answered with “Somewhat Acceptable”, “Acceptable” or “Totally Acceptable” for the relevant question. Similarly, if a respondent answered with “Somewhat Common”, “Common” or “Very Common” then they were classed as believing the described behaviour was common.

Table 8: Attitudes to Insurance Fraud Behaviours

Fraudulent Behaviour	Total Respondents	Believe action is acceptable	Believe action is common
1. Misrepresenting the facts on an insurance application in order to obtain insurance or obtain a lower rate	107	6.5%	73.8%

2. Submitting an insurance claim for damages that occurred prior to the accident being covered	107	6.5%	55.1%
3. Inflating an insurance claim to also cover the excess	107	10.3%	64.5%
4. Misrepresenting the nature of an incident to obtain insurance payment for a loss not covered by the policy	107	5.6%	64.5%
5. Falsifying receipts or estimates to increase the amount of an insurance settlement	107	7.5%	61.7%

Reliability Analysis

The average fraud tolerance score was calculated for each respondent and the scale, which comprised 5 items, had a Cronbach's alpha of 0.922.

The average perceived prevalence of fraud score was calculated for each respondent and the scale, which also comprised 5 items, had a Cronbach's alpha of 0.886.

The Cronbach's alpha results are both above the recommended minimum level of 0.7. which indicates high internal reliability and that the measurement scales used in the survey were consistent.

Objective 1: Rising motor insurance premiums and attitude to insurance fraud

Respondents were asked to indicate how the cost of their motor insurance had changed in the last 3 years. Table 5 above shows the responses received.

Respondents who had experienced a decrease (moderate or significant) in motor insurance premiums in the last 3 years were grouped together and compared against respondents who had experienced an increase (moderate or significant). An independent sample t-test was used to compare the mean scores of both tolerance and perceived prevalence of insurance fraud for each group.

Rising motor insurance premiums and tolerance of insurance fraud

The decreasing insurance costs group ($N = 11$) was associated with a fraud tolerance score $M = 1.20$ ($SD = .48$). By comparison the increasing insurance cost group ($N= 77$) was

associated with a fraud tolerance score $M = 1.86$ ($SD = 1.34$). To test if the two groups had statistically different fraud tolerance scores, an independent sample t-test was performed.

An independent sample t-test is used to investigate if the averages (means) of two samples are significantly different from each other (Quinlan, 2011). If the p-value is found to be less than 0.05 then the null hypothesis will be rejected in favour of the alternative hypothesis.

The results of the Levene's test, $F(86) = 3.59$, $p = .061$, indicate that the variance of the two groups are assumed to be approximately equal and therefore the standard t-test results were used.

The results of the independent sample t-test were not significant, $t(86) = -1.61$, $p = .111$, indicates that there is no significant difference between the fraud tolerance scores of respondents with decreasing insurance costs ($M = 1.20$, $SD = .48$, $N = 11$) and the group with increasing insurance costs ($M = 1.86$, $SD = 1.34$, $N = 77$). The 95% confidence interval was -1.47 to .15.

Rising motor insurance premiums and perceived prevalence of insurance fraud

The decreasing insurance costs group ($N = 11$) was associated with a perceived fraud prevalence score $M = 4.95$ ($SD = .96$). By comparison the increasing insurance cost group ($N = 77$) was associated with a perceived fraud prevalence score $M = 4.90$ ($SD = 1.40$). To test if the two groups had statistically different perceived fraud prevalence scores, an independent sample t-test was performed.

The results of the Levene's test, $F(86) = 2.78$, $p = .099$, indicate that the variance of the two groups are assumed to be approximately equal and therefore the standard t-test results were used.

The results of the independent sample t-test were not significant, $t(86) = -1.01$, $p = .920$, indicates that there is no significant difference between the perceived fraud prevalence scores of respondents with decreasing motor insurance premiums ($M = 1.20$, $SD = .48$, $N = 11$) and the group with increasing motor insurance premiums ($M = 1.86$, $SD = 1.34$, $N = 77$). The 95% confidence interval was -.82 to .91.

Objective 2: Unfair motor insurance premiums and attitude to insurance fraud

Even if a motorist experiences a decrease in their motor insurance premiums they may still believe it is an unfair price to pay. Conversely, if a motorist pays more for motor insurance due to a claim they made against their policy, they may still believe it is a fair price. To gather information for this additional analysis, respondents were also asked if they believed the yearly amount they paid for motor insurance was fair. The reason why they believed it as fair or unfair was not asked in the survey.

Unfair motor insurance premiums and tolerance of insurance fraud

The unfair cost group ($N = 75$) was associated with a fraud tolerance score $M = 1.67$ ($SD = .99$). By comparison the fair cost group ($N = 32$) was associated with a fraud tolerance score $M = 2.01$ ($SD = 1.86$). To test if the two groups had statistically different fraud tolerance scores, an independent sample t-test was performed.

The results of the Levene's test, $F(105) = 6.74$, $p = .01$, indicate that the variance of the two groups are not assumed to be approximately equal and therefore the adjusted t-test results were used.

The results of the independent sample t-test were not significant, $t(38.7) = -1.13$, $p = .263$, indicates that there is no significant difference between the fraud tolerance scores of the unfair cost group ($M = 1.67$, $SD = .99$, $N = 75$) and the fair cost group ($M = 2.01$, $SD = 1.86$, $N = 32$). The 95% confidence interval was -1.01 to $.39$.

Unfair motor insurance premiums and perceived prevalence of insurance fraud

The unfair cost group ($N = 75$) was associated with a perceived fraud prevalence score $M = 4.97$ ($SD = 1.32$). By comparison the fair cost group ($N = 32$) was associated with a perceived fraud prevalence score $M = 4.69$ ($SD = 1.29$). To test if the two groups had statistically different perceived fraud prevalence scores, an independent sample t-test was performed.

The results of the Levene's test, $F(105) = .32$, $p = .57$, indicate that the variance of the two groups are assumed to be approximately equal and therefore the standard t-test results were used.

The results of the independent sample t-test were not significant, $t(105) = 1.03$, $p = .306$, indicates that there is no significant difference between the perceived fraud prevalence

scores of the unfair cost group ($M = 4.97$, $SD = 1.32$, $N = 75$) and the fair cost group ($M = 4.69$, $SD = 1.29$, $N = 32$). The 95% confidence interval was -.26 to .84.

Objective 3: Attitudes towards insurance fraud between men and women

Previous research by Dean (2004) identified a difference between males and females in their attitudes towards insurance fraud.

Gender and tolerance of insurance fraud

Males ($N = 55$) were associated with a fraud tolerance score $M = 1.64$ ($SD = .92$). By comparison females ($N = 51$) were associated with a fraud tolerance score $M = 1.94$ ($SD = 1.63$). To test if the two groups had statistically different fraud tolerance scores, an independent sample t-test was performed.

The results of the Levene's test, $F(104) = 9.41$, $p = .003$, indicate that the variance of the two groups are not assumed to be approximately equal and therefore the adjusted t-test results were used.

The results of the independent sample t-test were not significant, $t(77.5) = -1.20$, $p = .233$, indicates that there is no significant difference between the fraud tolerance scores of males ($M = 1.64$, $SD = .92$, $N = 55$) and females ($M = 1.94$, $SD = 1.63$, $N = 51$). The 95% confidence interval was -.83 to .20.

Gender and perceived prevalence of insurance fraud

Males ($N = 55$) were associated with a perceived fraud prevalence score $M = 4.92$ ($SD = 1.34$). By comparison females ($N = 51$) were associated with a perceived fraud prevalence score $M = 4.91$ ($SD = 1.25$). To test if the two groups had statistically different perceived fraud prevalence scores, an independent sample t-test was performed.

The results of the Levene's test, $F(104) = .21$, $p = .64$, indicate that the variance of the two groups are assumed to be approximately equal and therefore the standard t-test results were used.

The results of the independent sample t-test were not significant, $t(104) = .04$, $p = .968$, indicates that there is no significant difference between the perceived fraud prevalence scores of males ($M = 4.92$, $SD = 1.34$, $N = 55$) and females ($M = 4.91$, $SD = 1.25$, $N = 51$). The 95% confidence interval was -.26 to .84.

Objective 4: Recent claim experience and attitude to insurance fraud

Previous research has found that individuals who had a recent claim experience are less tolerant of insurance fraud (Tennyson, 1997). For this research, results were captured based on the type of claim made, namely, at fault claims (a claim against your policy) and not at fault or third-party claims (a claim against someone else's policy).

Claims against own policy and tolerance of insurance fraud

Respondents with no at fault claims ($N = 82$) were associated with a fraud tolerance score $M = 1.78$ ($SD = 1.16$). By comparison respondents with at fault claims ($N = 25$) were associated with a fraud tolerance score $M = 1.81$ ($SD = 1.72$). To test if the two groups had statistically different fraud tolerance scores, an independent sample t-test was performed.

The results of the Levene's test, $F(105) = 2.21$, $p = .140$, indicate that the variance of the two groups are assumed to be approximately equal and therefore the standard t-test results were used.

The results of the independent sample t-test were not significant, $t(105) = -.08$, $p = .934$, indicates that there is no significant difference between the fraud tolerance scores of respondents with no at fault claims ($M = 1.78$, $SD = 1.16$, $N = 82$) and the group with at fault claims ($M = 1.81$, $SD = 1.72$, $N = 25$). The 95% confidence interval was $-.62$ to $.57$.

Claims against own policy and perceived prevalence of insurance fraud

Respondents with no at fault claims ($N = 82$) were associated with a perceived fraud prevalence score $M = 4.85$ ($SD = 1.36$). By comparison respondents with at fault claims ($N = 25$) were associated with a perceived fraud prevalence score $M = 5.02$ ($SD = 1.17$). To test if the two groups had statistically different perceived fraud prevalence scores, an independent sample t-test was performed.

The results of the Levene's test, $F(105) = .41$, $p = .525$, indicate that the variance of the two groups are assumed to be approximately equal and therefore the standard t-test results were used.

The results of the independent sample t-test were not significant, $t(105) = -.55$, $p = .580$, indicates that there is no significant difference between the perceived fraud prevalence scores of respondents with no at fault claims ($M = 4.85$, $SD = 1.36$, $N = 82$) and the group with at fault claims ($M = 5.02$, $SD = 1.17$, $N = 25$). The 95% confidence interval was $-.77$ to $.43$.

Third party claims and tolerance of insurance fraud

Respondents with no third-party claims ($N = 89$) were associated with a fraud tolerance score $M = 1.90$ ($SD = 1.40$). By comparison respondents with third-party claims ($N = 18$) were associated with a fraud tolerance score $M = 1.24$ ($SD = .37$). To test if the two groups had statistically different fraud tolerance scores, an independent sample t-test was performed.

The results of the Levene's test, $F(105) = 6.65$, $p = .011$, indicate that the variance of the two groups are not assumed to be approximately equal and therefore the adjusted t-test results were used.

The results of the independent sample t-test were significant, $t(99.0) = 3.81$, $p < .05$, indicates that there is a significant difference between the fraud tolerance scores of respondents with no third-party claims ($M = 1.90$, $SD = 1.40$, $N = 89$) and respondents with third-party claims ($M = 1.24$, $SD = .37$, $N = 18$). The 95% confidence interval was .31 to .99.

Third party claims and perceived prevalence of insurance fraud

Respondents with no third-party claims ($N = 89$) were associated with a perceived fraud prevalence score $M = 4.90$ ($SD = 1.38$). By comparison respondents with third-party claims ($N = 18$) were associated with a perceived fraud prevalence score $M = 4.79$ ($SD = .99$). To test if the two groups had statistically different perceived fraud prevalence scores, an independent sample t-test was performed.

The results of the Levene's test, $F(105) = 4.28$, $p = .041$, indicate that the variance of the two groups are not assumed to be approximately equal and therefore the adjusted t-test results were used.

The results of the independent sample t-test were significant, $t(32.1) = .43$, $p = .667$, indicates that there is no significant difference between the perceived fraud prevalence scores of respondents with no third-party claims ($M = 4.90$, $SD = 1.38$, $N = 89$) and respondents with third-party claims ($M = 4.79$, $SD = .99$, $N = 18$). The 95% confidence interval was .44 to .68.

Objective 5: Years of driving experience and attitude to insurance fraud

Previous research has found that tolerance to insurance fraud is linked to age with older people being less tolerant (Tennyson, 1997). Generally speaking, older motorists have more driving experience but this is not true of everyone. No research was found that looked at the relationship between driving experience and attitude to insurance fraud.

Years of driving experience and tolerance of insurance fraud

To test if the number of years driving experience is correlated with fraud tolerance, the researcher undertook a Pearson Correlation test on the two variables. The Pearson correlation test shows the strength of a relationship between two variables with possible scores between -1 and +1 (Saunders et al., 2012). A negative value represents a negative relationship where the two variables move in opposite directions while a positive value identifies that the two variables will move in the same direction. A score of 0 means there is no correlation between the two variables.

Table 9 below shows the results of the Pearson correlation test ($r = .014$, $n = 107$, $p = .887$) and indicates there is a weak positive correlation between years driving experience and tolerance to insurance fraud. The result is not statistically significant.

Table 9: Pearson Correlation of years driving and average tolerance of fraud

	Frequency	Average Tolerance
Number of years insured	Pearson Correlation	.14
	Sig. (2-tailed)	.887
	N	107

Years of driving experience and perceived prevalence of insurance fraud

Table 10 below shows the results of the Pearson correlation test ($r = .065$, $n = 107$, $p = .504$) and indicates there is a weak positive correlation between years driving experience and perceived prevalence of insurance fraud. The result is not statistically significant.

Table 10: Pearson Correlation of years driving and average perceived prevalence of fraud

	Frequency	Average Prevalence
Number of years insured	Pearson Correlation	.065
	Sig. (2-tailed)	.504
	N	107

Other Findings

The survey included a question asking respondents to select the annual motor insurance cost from a list of options ranging from 'Under €500' to 'Over €2,000'. The survey included an 'unsure' option and the results are displayed in table 6 above.

The results were converted to a scale (with '1' representing 'Under €500' and '5' representing 'Over €2,000') and compared using an independent sample t-test with responses on the fairness of the motor insurance cost.

The results of the Levene's test, $F(103) = 2.70$, $p = .104$, indicate that the variance of the two groups are assumed to be approximately equal and therefore the standard t-test results were used.

The results of the independent sample t-test were significant, $t(103) = 2.80$, $p = .006$, indicates that there is a significant difference between the annual motor insurance premiums of the unfair cost group ($M = 2.26$, $SD = .97$, $N = 73$) and the fair cost group ($M = 1.75$, $SD = .51$, $N = 32$). The 95% confidence interval was .15 to .87.

Chapter 6: Discussion on Findings

Introduction

In this chapter, the results of the statistical analysis on attitudes to insurance fraud will be discussed. Limitations of the research as well as suggestions on potential future research will also be documented.

Tolerance and perceived prevalence of insurance fraud in Ireland

The results to the survey highlight that respondents believe the five insurance fraud behaviours are very common (with scores of 55.1% to 73.8%) but their acceptance of these behaviours is low (with scores of 5.6% to 10.3%).

When comparing these results with the original study by Tennyson (2002), the scores on the perceived prevalence of insurance fraud are very similar with a range from 54.15% to 73.75%. However, the results of this study show that the level of acceptance of each behaviour is more than double that of the original study by Tennyson (2002) which was conducted in the US. Many factors could be associated with these differences (such as the timing of the studies, external variables etc.) and potentially could be an area of future research. Cultural differences could also be considered but previous studies on this are have been inconclusive. For example, one previous study (Cherry et al., 2003) found that US respondents make better ethical decisions when compared with Taiwanese respondents while another study (Volkema and Fleury, 2002) found there was no significant difference when comparing unethical behaviour of US and Brazilian respondents.

Cost of motor insurance and attitudes to insurance fraud.

Due to a number of factors, the average cost of motor insurance has increased significantly in recent years (Weston, 2016; Aldworth, 2018). In this study, 72.0% of respondents believed the cost of motor insurance had increased moderately or significantly in the last 3 years while just 10.2% believed the cost had decreased moderately or significantly. Results found that there was no statistical difference in attitudes to insurance fraud between these two groups.

Respondents were specifically asked in this study if they believed the amount they were paying was fair for the insurance cover provided. 70.1% felt the premium was unfair while 29.9% believed the amount was fair but there was no statistical difference in attitudes to insurance fraud between these two groups.

This study found that tolerance levels were highest when exaggerating a claim to cover the excess of a policy (10.3%). Similarly, this behaviour was also seen as the most acceptable in the study by Tennyson (2002). This is also consistent with findings from Miyazaki (2009) that has shown when the excess level on an insurance policy is high, it is perceived as being unfair and led respondents to perceive claim exaggeration as being more acceptable.

Gender and attitudes to insurance fraud

Previous research by both Tennyson (2002) and Dean (2004) have found that females are less tolerant than males of insurance fraud behaviour. However, this study found that there was no statistical difference in attitudes to insurance fraud of males and females. This is not surprising as Weeks et al. (1999) previously found from a review of 14 other studies that it was inconclusive if there is evidence of differences of ethical judgement due to gender.

Previous claim experience and attitudes to insurance fraud

Tennyson (2002) found that individuals who had made a recent insurance claim were less tolerant of insurance fraud than non-claimants and argues that this is due to insurers educating the claimants on the types and impact of insurance fraud during the claim process. However, the Tennyson (2002) study did not analyse if attitudes were different for when the claim was being made against the individuals own policy or against someone else's policy. These two claim types are fundamentally different in that the former is being made against your own policy with your own insurer and inevitably will lead an increase in your motor premium. The latter is made against the policy of the individual who was deemed at fault and can often be with another insurer. A third-party claim like this does not impact on your own motor premium.

The results of this study found there was no statistically significant difference in tolerance or perceived prevalence of insurance fraud between respondents who had a claim against their own motor policy and respondents with no claims on their motor policy.

Respondents to this survey who had made a third-party claim were found to be less tolerant of insurance fraud than respondents who had not made a third-party claim and the results were statistically significant.

A comparison of results from the two tests above show that the mean fraud tolerance score of respondents with a claim on their own policy was 1.81 while the mean fraud score of respondents with a third-party claim was 1.24. It is unclear why the one type of claimant

should differ from another in their tolerance of insurance fraud, but it may be due to the claim process and highlights an area for possible future research.

Years of driving experience and attitudes to insurance fraud

The literature review highlighted that age has often been cited as an important factor in attitudes to unethical behaviour and Tennyson (1997) demonstrated that older respondents have a lower tolerance to insurance fraud. This view is not shared with O'Fallon and Butterfield (2005) who argued that ethical decisions are not strongly correlated with age. A review of literature did not find any studies to identify if there is a link between years driving experience and attitudes to insurance fraud.

Respondents were asked to provide information on the number of years they have been driving and this was compared with their responses on attitudes to insurance fraud. The results of the Pearson correlation test on years driving experience and attitudes to insurance fraud found that there was a weak positive relationship and the results were not statistically significant.

Limitations of the Research

The research method involved convenience sampling through direct contact via email and a request posted on Facebook. This method was selected due to time constraints and the researcher acknowledges the limitations of this approach for the study. This approach may account for the vast majority of the respondents had over 10 years driving experience. And are also of an age profile similar to the researcher.

The present study used quantitative methods only and the addition of qualitative analysis could have produced further insight on attitudes to insurance fraud.

The limited sample size should also be acknowledged and the possible effect this could have on the findings (Saunders et al., 2012).

Recommendations for Future Research

A comparison of results from this study and the original study by Tennyson (2002) indicates that Irish motorists have a much higher tolerance of insurance fraud than respondents to the first study. These differences may be due to a number of factors such as timing, sample size, cultural differences etc. Further research could seek to verify these findings and identify the underlying factors that cause the differences.

The study found that respondents who had made third party claims were significantly less likely to find insurance fraud acceptable than those with no claims. Respondents who had made claims against their own policy did not show less tolerance for insurance fraud than respondents with no claims. Further research on this area could investigate if differences in the process for making claims against your own policy and making third party claims contribute to this variance.

There is potential value for insurers in understanding if third party claimants are less tolerant of fraud and what are the contributing factors. Potentially, this insight could be used to modify the process for claiming on your own policy and reduce the acceptance of insurance fraud. Previous research by Cummins & Tennyon (1996) has shown that a higher tolerance to insurance fraud is positively correlated with a higher frequency of claims so the benefits in reducing the tolerance to insurance fraud are clear.

Conclusion

The researcher set out to analyse attitudes to insurance fraud in Ireland and identify if the increasing cost of motor premiums had any impact on the acceptability or perceived prevalence of insurance fraud. Analysis of the data collected did not find that respondents who had experienced an increase in motor premiums or who felt they were paying an unfair price for insurance were more likely to believe insurance fraud is acceptable.

However, the overall tolerance levels for insurance fraud behaviours among Irish motorists appears to be high when compared with a previous US study and may indicate a general acceptance of this behaviour in Ireland.

References

- Adams, J.S. (1963) 'Toward an Understanding of Inequity', *Journal of Abnormal and Social Psychology*, Vol. 67 No. 5, pp. 422-436.
- Aldworth, B. (2018) 'Majority of motorists still seeing insurance costs rise, AA warns', AA Blog, 1 April [Online] Available at: <https://www.theaa.ie/blog/majority-motorists-still-seeing-insurance-costs-rise-aa-warns/> [Accessed 07 August 2018].
- Brinkmann, J. (2005) 'Understanding Insurance Customer Dishonesty: Outline of a Situational Approach', *Journal of Business Ethics*, 61: 183–197
- Brinkmann, J. and Lentz, P. (2006) 'Understanding Insurance Customer Dishonesty: Outline of a Moral-Sociological Approach', *Journal of Business Ethics*, 66(2/3), pp. 177–195.
- Bryman, A. and Bell, E. (2015) *Business research methods*. 4th ed. Oxford: Oxford University Press.
- Button, M., Pakes, F., and Blackburn, D. (2013) 'Profile of a household insurance fraudster.' Portsmouth: CCFS.
- Cartwright, A. and Roach, J. (2016) 'Fraudulently Claiming Following a Road Traffic Accident: A Pilot Study of UK Residents' Attitudes', *Psychiatry, Psychology & Law*, 23, 3, pp. 446-461.
- Central Bank (2015) *Private Motor Insurance Statistics* [Online] Available at: <https://www.centralbank.ie/docs/default-source/statistics/statistical-publications/private-motor-insurance-statistics/private-motor-insurance-statistics-2015.pdf?sfvrsn=2> [Accessed 23 July 2018]
- Cherry, J., Lee, M. and Chien, C. S. (2003) 'A Cross-Cultural Application of a Theoretical Model of Business Ethics: Bridging The Gap Between Theory And Data', *Journal of Business Ethics*, 44(4), 359-376,
- Cummins, J. D. and Tennyson, S. (1996) 'Moral Hazard in Insurance Claiming: Evidence from Automobile Insurance', *Journal of Risk and Uncertainty*, 12, 29–50.
- Dean, D.H. (2004) 'Perceptions of the Ethicality of Consumer Insurance Claim Fraud'. *Journal of Business Ethics*, 54: 67–79.

- Dehghanpour, A. and Rezvani, Z. (2015) 'The Profile of Unethical Insurance Customers: A European Perspective', *International Journal of Bank Marketing*, 33(3), pp. 298–315.
- Denscombe, M. (2010) *The Good Research Guide for Small-Scale Social Research Projects*. Fourth Edition, Butterworth-Heinemann.
- Derrig, R. A., Weisberg, H. and Chen, X. (1994) 'Behavioral Factors and Lotteries Under No-Fault With a Monetary Threshold: A Study of Massachusetts Automobile Insurance Claims', *Journal of Risk and Insurance*, 61: 245-275.
- Derrig, R. and Ostaszewski, K. (1995) 'Fuzzy Techniques of Pattern Recognition in the Risk and Claim Classification', *Journal of Risk and Insurance*, 62: 447-482.
- Derrig, R. (2002) 'Insurance Fraud', *Journal of Risk & Insurance*, 69(3), pp. 271–287.
- Dillman, D. (2000) *Mail and Internet Studies: The tailored design method*. New York: John Wiley & Sons.
- Dionne, G. (2000) 'The Empirical Measure of Information Problems with Emphasis on Insurance Fraud', *Handbook of Insurance*, Vol. 22, Kluwer Academic Publishers, Boston, MA, pp. 395-419.
- Dionne, G. and Gagne, R. (2001) 'Deductible contracts against fraudulent claims: evidence from automobile insurance', *Review of Economics and Statistics*, Vol. 83 No. 2, pp. 290-301.
- Dionne, G., Giuliano, F. and Picard, P. (2009) 'Optimal Auditing with Scoring: Theory and Application to Insurance Fraud', *Management Science*, (1), p. 58.
- Gabaldón, I. M., Vázquez Hernández, F. J. and Watt, R. (2014) 'The Effect of Contract Type on Insurance Fraud', *Journal of Insurance Regulation*, 33, pp. 197–230.
- Ghauri, P. and Granhaug, K. (2005) *Research Methods In Business Studies : A Practical Guide*. n.p.: Harlow : Financial Times Prentice Hall, 2005
- Gino, F., Ayal, S. and Ariely, D. (2009) 'Contagion and Differentiation in Unethical Behavior: The Effect of One Bad Apple on the Barrel', *Psychological Science*, (3), p. 393.
- Goel, R. K. (2014) 'Insurance fraud and corruption in the United States', *Applied Financial Economics*, 24(4), pp. 241–246.
- Horn, R. (2009) *Researching and writing dissertations: a complete guide for business and management students*. London: Chartered Institute of Personnel and Development

Insurance Information Institute (2018) *Facts + Statistics: Fraud* [Online] Available at: www.iii.org/media/facts/statsbyissue/fraud/ [Accessed 19 June 2018].

Insurance Ireland (2017) *Insurance Fraud* [Online] Available at: <http://www.insuranceireland.eu/consumer-information/insurance-fraud> [Accessed 28 January 2018]

Ishida, C., Chang, W. and Taylor, S. (2015) 'Moral Intensity, Moral Awareness and Ethical Predispositions: The Case of Insurance Fraud', *Journal of Financial Services Marketing* (2016) 21, 4–18.

Kessler, D. (1995) 'Fault, Settlement, and Negligence Law'. *The RAND Journal of Economics*, 26 (2):296–313.

Lazar, J, Feng, J, and Hochheiser, H. (2010) *Research Methods in Human-Computer Interaction*. Hoboken, N.J. : Wiley ; Chichester : John Wiley.

Leal, S., Vrij, A., Nahari, G. and Mann, S. (2016) 'Please be Honest and Provide Evidence: Deterrents of Deception in an Online Insurance Fraud Context', *Applied Cognitive Psychology*, (5), p. 768.

Lesch, W. and Byars, B. (2008) 'Consumer Insurance Fraud in the US Property-Casualty Industry', *Journal of Financial Crime*, 15(4): 411–431.

Lesch, W. and Brinkmann, J. (2011) 'Consumer Insurance Fraud/Abuse as Co-Creation and Co-Responsibility: A New Paradigm', *Journal of Business Ethics*, 103(1): 17–32.

Miyazaki, A.D. (2009) 'Perceived Ethicality of Insurance Claim Fraud: Do Higher Deductibles Lead to Lower Ethical Standards?', *Journal of Business Ethics*, 87: 589–598.

Murphy, P. and Dacin, M. (2011) 'Psychological pathways to fraud: Understanding and preventing fraud in organizations', *Journal of Business Ethics*, 101(4): 601–618.

O'Fallon, M.J. and Butterfield, K.D. (2005) 'A Review of the Empirical Ethical Decision-Making Literature: 1996–2003', *Journal of Business Ethics*, Vol. 59 No. 4, pp. 375-413.

Okura, M. (2013) 'The Relationship Between Moral Hazard and Insurance Fraud', *The Journal of Risk Finance*, 14(2), pp. 120–128.

Picard, P. (2000) 'Economic Analysis of Insurance Fraud.' In G. Dionne (ed.), *Handbook of Insurance*. Norwell: Kluwer Academic Press, pp. 315–360.

- Pollack, S. (2017) 'High insurance costs blamed for drop in young drivers', *Irish Times*, 10 April [Online] Available at: <https://www.irishtimes.com/news/consumer/high-insurance-costs-blamed-for-drop-in-young-drivers-1.3042942> [Accessed 06 August 2018].
- Pope, C. (2018) 'Car insurance costs put returning emigrants off the road', *Irish Times*, 19 February [Online] Available at: <https://www.irishtimes.com/news/consumer/car-insurance-costs-put-returning-emigrants-off-the-road-1.3392104> [Accessed 06 August 2018].
- Quinlan, C. (2011) *Business research methods*. Andover: South-Western Cengage Learning.
- RTE (2017) 'Motor insurance costs rose in 2015, claims frequencies fell - Central Bank' [Online] Available at: <https://www.rte.ie/news/business/2017/0721/892031-motor-insurance-costs-rising-claims-frequencies-down/> [Accessed 23 January 2018]
- Saunders, M., Lewis, P., Thornhill, A. (2012) *Research methods for business students*. 6th ed. Harlow: Pearson.
- Schweitzer, M. F. and Gibson, D. E. (2008) 'Fairness, feelings and ethical decision-making: Consequences of violating community standards of fairness', *Journal of Business Ethics*, 77, 287–30.
- Shu, L. L., Mazar, N., Gino, F., Ariely, D. and Bazerman, M.H. (2012) 'Signing at the Beginning Makes Ethics Salient and Decreases Dishonest Self-Reports in Comparison to Signing at the End', *Proceedings of the National Academy of Sciences*, 109(38), pp. 15197–15200.
- Šubelj, L., Furlan, Š. and Bajec, M. (2011) 'An Expert System for Detecting Automobile Insurance Fraud using Social Network Analysis', *Expert Systems with Applications*, 38(1), pp. 1039–1052.
- Tennyson, S. (1997) 'Economic Institutions and Individual Ethics: A Study of Consumer Attitudes Toward Insurance Fraud', *Journal of Economic Behavior and Organization*, Vol. 32 No. 2, pp. 247-265.
- Tennyson, S. (2002) 'Insurance Experience and Consumers' Attitudes Toward Insurance Fraud', *Journal of Insurance Regulation*, 21(2), 35–55.
- Tennyson, S. (2008) 'Moral, Social, and Economic Dimensions of Insurance Claims Fraud', *Social Research*, 75(4): 1181–1204.

- Tonenciuc, C.M. (2015) 'The Phenomenon of Insurance Fraud', *Valahian Journal of Economic Studies*, 6(3), pp. 57–62.
- Transport Committee (2013) *Cost of motor insurance: Whiplash* [Online] Available at: <http://www.publications.parliament.uk/pa/cm201314/cmselect/cmtran/117/11704.htm> [Accessed 14 July 2018].
- Viaene, S. and Dedene, G. (2004) 'Insurance Fraud: Issues and Challenges', *The Geneva Papers on Risk and Insurance-Issues and Practice*, 29(2), pp.313-333.
- Viaene, S., Ayuso, M., Guillen, M., Van Gheel, D. and Dedene, G. (2007) 'Strategies for detecting fraudulent claims in the automobile insurance industry', *European Journal of Operational Research*, Vol. 176 No. 1, pp. 565-583.
- Volkema, R. J. and Fleury, M. T. (2002) 'Alternative Negotiating Conditions and the Choice of Negotiating Tactics: A Cross-Cultural Comparison', *Journal of Business Ethics*, 36(4), 381-398.
- Weeks, W.A., Moore, C.W., McKinney, J. A., and Longenecker, J. G. (1999) 'The Effects of Gender and Career Stage on Ethical Judgment', *Journal of Business Ethics*, 4, p. 301, JSTOR Journal.
- Weisberg, H.I. and Derrig, R.A. (1993) 'Quantitative Methods for Detecting Fraudulent Automobile Bodily Injury Claims', *Automobile Insurers Bureau of Massachusetts*, pp.75-99.
- Weston, C. (2016) 'Motor insurance soars by 70pc in just three years', *Irish Independent*, 23 August [Online] Available at: <https://www.independent.ie/business/personal-finance/latest-news/motor-insurance-soars-by-70pc-in-just-three-years-34959150.html> [Accessed 27 January 2018]
- Wright, K. (2006) 'Researching Internet-Based Populations: Advantages and Disadvantages of Online Survey Research, Online Questionnaire Authoring Software Packages, and Web Survey Services'. *Journal of Computer-Mediated Communication*, 10(3), pp.20-30.
- Yusuf, O.T. (2011) 'Brokers' incentives and conflicts of interest in the control of opportunism', *The Journal of Risk Finance*, Vol. 12 No. 3, pp. 168-218.

Appendix A – Research Request

An email with the following message was sent individually to 67 people known to the researcher. The same message was also posted on Facebook using the researchers own account.

Dear (name),

As you may know, I am completing my MBA this summer and the final step is to complete a dissertation/thesis. I have elected to do this on perceptions of motor insurance in Ireland and need to get people to fill in a questionnaire. Would you mind taking a few minutes to complete it?

The survey takes less than 5 minutes to complete. It is an anonymous survey to encourage everyone to give honest answers about your driving and insurance experiences. The survey is voluntary and all data will be destroyed after I write the thesis.

https://docs.google.com/forms/d/e/1FAIpQLSfdMee6K8X2FvO_ZRzqKXNDnNioNiNi4b6lQF-WGwV8IGFLhaQ/viewform?usp=sf_link

If you could also forward this on to colleagues or friends that might like to participate I would really appreciate it. The more people I can get to fill it in the more relevant the findings will be.

Thanks,

Niall

Appendix B – Questionnaire

Motor Insurance Questionnaire

This is an anonymous survey - you are not asked to provide your name or contact details at any stage.

Please answer all questions. The information provided will be used as research for a college thesis.

The survey has been designed to be brief and takes no more than 5 minutes to complete.

* Required

Gender *

- Female
- Male
- Prefer not to say

Age *

Your answer

Do you have car insurance in Ireland? *

- Yes
- No

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How long have you had car insurance in Ireland? *

- Less than 1 year
- 1 to 3 years
- 4 to 10 years
- Over 10 years
- Unsure

Approximately, how long have you been with your current motor insurance provider? *

- Less than 1 year
- 1 to 2 years
- 2 to 3 years
- 4 to 5 years
- Over 5 years

How do you normally renew or search for motor insurance? *

- Internet
- Phone insurer
- Visit or phone a branch office or broker
- Other

How has the cost of your motor insurance changed in the last 3 years? *

- Decreased significantly
- Decreased moderately
- Little or no change
- Increased moderately
- Increased significantly
- Have been insured for less than 3 years
- Unsure

How much does motor insurance currently cost you for the year?

*

- Under €500
- Between €500 and €1,000
- Between €1,000 and €1,500
- Between €1,500 and €2,000
- Over €2,000
- Unsure

Do you believe this is a fair price for the insurance cover provided? *

- Yes
- No
- Unsure

Have you or anyone else ever made a claim against your motor insurance policy (with your current or previous insurance provider)? *

- Yes
- No
- Unsure

Have you ever claimed against someone else's motor insurance policy? *

- Yes
- No
- Unsure

BACK

NEXT



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Please indicate how acceptable you believe the following actions to be;

1 = Totally Unacceptable | 2 = Unacceptable | 3 = Somewhat unacceptable | 4 = Neutral
5 = Somewhat acceptable | 6 = Acceptable | 7 = Totally Acceptable

*

	1	2	3	4 (Neutral)	5	6	7
Misrepresenting the facts on an insurance application in order to obtain insurance or obtain a lower rate	<input type="radio"/>						
Submitting an insurance claim for damages that occurred prior to the accident being covered	<input type="radio"/>						
Inflating an insurance claim to also cover the excess	<input type="radio"/>						
Misrepresenting the nature of an incident to obtain insurance payment for a loss not covered by the policy	<input type="radio"/>						
Falsifying receipts or estimates to increase the amount of an insurance settlement	<input type="radio"/>						

Please indicate how common you believe the following activities to be;

1 = Very Common | 2 = Common | 3 = Somewhat Common | 4 = Neutral
5 = Somewhat Uncommon | 6 = Uncommon | 7 = Very Uncommon

*

	1	2	3	4 (neutral)	5	6	7
Misrepresenting the facts on an insurance application in order to obtain insurance or obtain a lower rate	<input type="radio"/>						
Submitting an insurance claim for damages that occurred prior to the accident being covered	<input type="radio"/>						
Inflating an insurance claim to also cover the excess	<input type="radio"/>						
Misrepresenting the nature of an incident to obtain insurance payment for a loss not covered by the policy	<input type="radio"/>						
Falsifying receipts or estimates to increase the amount of an insurance settlement	<input type="radio"/>						

BACK

NEXT

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Thank You

Thank you for taking the time to complete this questionnaire.

The information gathered will be aggregated from all participants and analysed as part of a college thesis project.

BACK

SUBMIT

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