



Toulouse, le vendredi 1er décembre 2017

Dr Marion Fortin
Toulouse 1 Capitole

CERNI : Comité d’Ethique sur les Recherches Non-Interventionnelles

Le bureau (Courriel : bureau-cerni@univ-toulouse.fr)

Objet : Avis sur le projet « The Creation of Ethical Durability » présenté par Dr Marion Fortin, Toulouse 1 Capitole

Monsieur,

Compte tenu des éléments fournis dans votre demande, le Comité d’Ethique pour les Recherches Non-Interventionnelles émet un AVIS FAVORABLE.

Numéro de l’avis : CERNI-Université fédérale de Toulouse-2017-056

A Toulouse,

Le bureau du CERNI : Pr Maria Teresa Munoz Sastre

Pr Jacques Py

CERNI APPLICATION FORM

The CERNI reviews research protocols undertaken by or under the supervision of a tenured researcher or associate professor belonging to the community of research institutions of the Federal University of Toulouse.

Project summary (one page)

This study is designed to determine if moral intuition can be constructed through repeated incentivized exercises of ethical or unethical judgment. Two on-line experiments will be conducted to explore this possibility. In the first on-line experiment 120 participants will undergo a simulation featuring 6-8 business ethics scenarios involving one or two examples of falsified or fraudulent business records. Half of the subjects will be given a small incentive to identify each ethical issue (ethical simulation group). The other half will be given a small incentive to approve of a fraudulent business document (unethical simulation group). The scenarios will consist of a collection of very short business documents such as 5-10 line emails, 1 page invoices or short memoranda. 120 other participants will function as a control and will not experience an intervention.

In a final step, all subjects will then evaluate the ethicality of, and their likelihood to participate in, two other sets of unethical behavior scenarios common in business and also involving falsified business records. The ethical simulation group will receive a small incentive to choose the unethical option, that is to approve of a falsified or fraudulent business document. The unethical simulation group half will be provided a small incentive to chose the ethical option and disapprove of the document. The control group will be split into two with half given an incentive to approve of the final falsified business record and the other half given a small incentive to disapprove. Each of these now 4 groups will be further subdivided with half pushed into making their decisions intuitively through cognitive load by asking them to remember a complicated number and the other half without additional intervention.

It is expected that the ethical simulation group will rate the final two unethical scenarios more harshly than the control group and that they will express a reduced likelihood of committing that behavior. The unethical simulation group will similarly express a reduced likelihood of committing the ethical behavior. It is also expected that the ethical simulation group members placed under cognitive load will judge the final unethical scenarios more harshly than those not under cognitive load and that they also will express a reduced likelihood of committing that behavior. As before the reverse will be true for the unethical simulation group. They will be more likely to chose the unethical option than the control even though they will now be incented for ethical behavior and they will judge it less harshly when under load. This cognitive load effect is not expected from the control group however by forcing intuitive decisions the actual result will depend on the pre-established intuition of the control population. The study will be conducted using participants from Amazon Mechanical Turk. For more information on the use of Amazon Mechanical Turk in this study, see Appendix C. This following chart identifies the groups in this four by two between subject's design.

Final decision under load	Final decision not under load
Unethical Simulation Incentive for ethical final choice	Unethical Simulation Incentive for ethical final choice
Control Group Incentive for ethical final choice	Control Group Incentive for ethical final choice
Ethical simulation Incentive for unethical final choice	Ethical simulation Incentive for unethical final choice
Control group Incentive for unethical final choice	Control group Incentive for unethical final choice

A second on-line study will be conducted much like the first. In addition to the two simulation and control groups, however an additional sixty participants – a deliberation group - will analyze descriptions of the same scenarios using methods of ethical reasoning (rule based or deontological, consequentialist and virtue ethics). The same final step will be performed as in the first on-line study. Similar results are expected although the members of the deliberation group not under cognitive load may judge the final scenarios less harshly having potentially exercised their ability to rationalize bad behavior through the deliberation exercises. Participants for the second on-line study will be recruited from 3rd year license and 1st year master students in business and economics at local universities in Toulouse. This is the ideal population for this particular study which relies on an audience that will understand business situations yet will not have had extensive experience working in real business situations and will therefore be less likely to have developed intuitive responses to the ethical questions they will face.

Warning concerning the Loi Informatique et Libertés

Studies on the human person consist most of the time in the processing of personal data which requires a declaration to the CNIL and sometimes an authorization delivered by the CNIL. This aspect is not the remit of the CERNI, but the Committee can alert you to some issues (appropriateness of data, anonymity, “general public” tools), including in the case of studies conducted outside of France. In order to know the requirements for your study in regards to the Loi Informatique et Libertés, and undertake the prerequisite declaration formalities, we suggest you first contact the Correspondant Informatique et Libertés (CIL) of your home institution.

Warning pertaining to studies partially taking place outside the borders of France

The CERNI does not issue any recommendation on the part of a protocol carried out outside of France and which must be submitted to a local ethics committee, or which is acquainted with the local terrain.

Project Title: *The Creation of Ethical Durability*

Scientific Field: Management Science (Organizational Behavior)

Tenured Researcher – Project’s Supervisor

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Other researchers taking part in the project:

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Research premises (place(s) where the study will be conducted):

The research will be conducted on the internet using Volunteer Science internet experimentation platform developed at Northeastern University. For the first experiment recruiting will also take place on-line using the Amazon Mechanical Turk platform.

Main objective (5 lines max.):

The main objective is to determine if business simulation exercises designed to expose fraudulent business documents will assist people in generating an intuition to object to the creation or propagation of this type of fraud even when it is not in their short term or financial interest to do so. It will also help determine if the generation of an intuition to approve of fraudulent documents will cause that behavior to persist even when an incentive exists to behave ethically.

I acknowledge that the recommendation given by the CERNI only relates to the research project described in this document.

Date:

Electronic signature of the scientific supervisor:

1. 1.SUCCINCT DESCRIPTION OF THE PROJECT

Background and scientific interest

This research project is inspired by the numerous corporate scandals such as the creation of fraudulent bank accounts by Well's Fargo employees in the United States. Upon witnessing these acts, it is clear that the actors were able to overcome any feelings of conscience that might have caused them to decide otherwise. Work by scholars in behavioral ethics on the way intuition impacts decision making, particularly Scott Reynolds, suggests that decisions made in novel circumstances can be embodied as sets of neural patterns in the brain. The neural patterns, or prototypes as Reynolds describes them will be replayed in similar decision contexts. This work is designed to explore this intuition creating process. It seeks to answer the question that if corporations impact intuition, can prior intuition be constructed to protect against or encourage moral failings in the business context.

Aims

The results of these studies will help ascertain if pre constructed moral intuition can retard or encourage unethical behavior in workplace situations. Depending on the results they could set the stage for further study into intuitive dynamics in field settings. They may also help to guide the development of corporate ethics programs by identifying techniques that could be incorporated into simulation exercises or computer based training materials.

General hypotheses

H1: Individuals who frequently perform a set of simulated tasks ethically will judge unethical performance of a similar task more harshly than those not so conditioned and will similarly express less intent to perform that task unethically in a similar situation.

H1a: Individuals who frequently perform a set of simulated tasks unethically will judge unethical performance of a similar task less harshly than those not so conditioned and will similarly express greater intent to perform that task unethically in a similar situation.

H2: The relationship between intuitive conditioning and both ethical judgment and behavioral intent will be moderated by the individual's tendency to rely on intuition such that those who rely on intuition to a greater degree will express harsher judgments and a reduced likelihood of exhibiting unethical behavior when pre-conditioned for ethical behavior.

H2b: The relationship between intuitive conditioning and both ethical judgment and behavioral intent will be moderated by the individual's tendency to rely on intuition such that those who rely on intuition to a greater degree will express milder judgments and an increased likelihood of exhibiting unethical behavior when pre-conditioned for unethical behavior.

H3: The relationship between intuitive conditioning and both ethical judgment and behavioral intent will be moderated by cognitive load such that those under load will express harsher judgments and a reduced likelihood of exhibiting ethical behavior compared to those not under load when pre-conditioned for ethical behavior.

H3b: The relationship between intuitive conditioning and both ethical judgment and behavioral intent will be moderated by cognitive load such that those under load will express milder

judgments and an increased likelihood of exhibiting unethical behavior compared to those not under load when pre-conditioned for unethical behavior

Conflicts of interest

To your knowledge, is one of the researchers involved in the project in a personal or institutional situation or conflict of interest with a partner, funder or any other institution? If so, please specify the character of this situation, the identity of the people involved, and if possible how the investigators intend to neutralize the interactions. A conflict of interest does not represent an a priori obstacle to a positive recommendation, but the CERNI is attached to situation or conflicts of interest being reported by researchers.

No member of the project team has a conflict of interest. The team is seeking funding by outside institutions and will of course document any conflicts that could arise but no such conflicts are anticipated.

2. EQUIPMENT AND METHODS

A. Participants

Exact number of participants or approximate "range" and criteria used to set this number:

Study 1: 240-300 participants. The study requires 240 participants. 300 will be recruited to account for potentially excluded subjects or subjects who withdraw.

Study 2: 300-375 participants. The study requires 300 participants. 375 will be recruited to account for potentially excluded subjects or subjects who withdraw.

Recruitment

The best subjects will be those who do not have a significant history facing business scenarios such as those presented in the study. Otherwise they may have already developed an intuition for how they should behave and will not be impacted by the experiment. They will, however, need to be able to understand the business scenarios and thus should have some level of appropriate education. The ideal subjects will be late undergraduate or early masters students in a discipline that could lead to the type of professional employment that would expose them to the scenarios in question.

Study 1: Subjects will be recruited via Amazon Mechanical Turk and will be restricted to US bachelor's degree holders between the ages of 18-25. This will create a relatively inexperienced subject pool but which will still be likely to understand the business scenarios. Amazon Turk has specific controls for limiting the subject pool to bachelor's degree holders and to the 18-25 year old age group.

Study 2: Subjects will be recruited from the Toulouse School of Economics and the Toulouse Business School assuming these institutions grant appropriate permission and/or necessary assistance.

Subjects with considerable experience in the types of scenarios they will face will be excluded. This would include individuals with years of experience in accounting, human resources management or financial

services. Such experience is highly unlikely given the subject pool.

Possible compensation of subjects:

Study 1: Subjects will be paid between \$1 and \$4.00 U.S dollars for their participation in study 1 depending on how many instances of fraud they identify and their willingness to approve of each of two fraudulent documents. The funds will be distributed through Amazon Mechanical Turk's payment system.

Study 2: Subjects will be paid between €2 and €8.00 depending on their performance in identifying instances of fraud and their willingness to approve of a fraudulent document. The payments will be made via on-line electronic gift cards on amazon.fr

B. Method

Development of the on-line study has only just begun but as it develops the beta versions will be located on the volunteer science fellows site and can be located at the link below:

<https://volunteerscience.com/experiments/fellows/>

To see the beta version, press the decision simulation tab on that page. As of Oct 30, only the consent form is currently available.

Please note that this link points to the experiments page for the volunteer science fellows (of which am one) and it is confidential. It is important for all involved that users not involved in the research do not know about this link. Were they to discover it they could begin to run tests that had not yet been IRB approved. Please do not reveal this web page to anyone outside of the IRB or the research team.

Below is a textual description of the study design including sample materials.

Study 1:

300 (to yield at least 240) participants will be recruited on Amazon Mechanical Turk and divided into four groups as part of the creation of a 4X2 between-subjects experiment. All participants will be subject to an updated version of the Cognitive Reflection Test (Toplak, West, & Stanovich, 2014) to establish their tendency to rely on intuition.

The first two groups will be asked to identify the unethical issues in each of six simulations. The simulations will consist of fabricated emails and other tangible artifacts and a scenario describing their role in a corporation. The artifacts taken together will reveal one or two unethical behaviors. The participant will have to approve or disapprove of a document that, after having reviewed the accompanying materials, will represent a potential unethical decision. The document they approve will thus be an object of impurity (a violation of ethical norms). Most of the simulation will be adopted from cases used in the Giving Voice to Values Business Ethics Curriculum (Gentile, 2012) which features cases for which an ethical issue is clear. Some will be newly constructed based on the experimenter's business experience. The second two groups will not be subject to a manipulation and will function as a control. For the first of the first two groups (ethical simulation group) a small amount of compensation (\$.25) will be granted for

each ethical violation spotted. For the second of these groups (unethical simulation group) the same amount of compensation will be awarded for each ethical issue overlooked in approving of the unethical business record. The remaining two groups totaling 120 participants will function as a control.

As the final task the participants will be asked to make an ethical judgment of two vignettes involving the manipulation of business records to please their superiors. For the ethical simulation group and half of the control group, a small amount of compensation (\$.50) will be offered to provide an incentive to choose the unethical behavior. For the unethical simulation group and the remaining half of the control group a small amount of compensation (\$.50) will be offered to provide an incentive to choose the ethical behavior. In each case all subjects will also be asked for their judgment of the ethicality of such behavior and their likelihood of exhibiting that behavior in a real world setting. For this task each group will be further divided into two conditions completing the 4X2 matrix. Half will be subjected to cognitive load by asking the participants to memorize a difficult number (as in Paharia et al., 2013). The other half will have no further conditioning.

When the final task is complete an additional survey will ask the subjects how much they had to think as they gave their final task

Study 2:

Study 2 will function much like study 1 but with higher levels of compensation (\$.50 for spotting ethical violations and \$1.00 choosing the unethical incentive at the end). Further, Study 2 will add a third group which will be subject to to a deliberative evaluation of business ethics. In this condition the participants will be given written materials on the nature of deontological, teleological (in this case utilitarian), and aretological ethics. They will then be asked to indicate in writing how the same six scenarios could be evaluated under these different ethical frames.

General:

All studies will be conducted on-line. Participants will use their own equipment to participate in the studies and may do so in the location of their choice. Each study session is expected to take 60-90 minutes. Comparisons of ethical judgment between the eight conditions (study 1) and ten conditions (study 2) will be made to test the hypothesis. The process macro will be used to examine moderating effects of the high vs low propensity to rely on intuition. Data collection for each study will be conducted during a one month total interval occurring serially late this year or early next year.

C. Predictable and known benefits and dangers for mental and physical health (self-esteem, etc.) and social life (reputation)

- 1- Present the *benefits of your study*. This can include benefits in terms of scientific developments, improvement of the quality of life of participants, of their self-esteem, etc.

The study will offer us a deeper understanding of how intuition works in business decision contexts. It is not likely to provide material benefits to the participants other than the modest compensation, though it may provide some level of improvement in their ability/desire to avoid fraudulent behavior. Conversely the subjects conditioned for unethical behavior may have a short term higher tolerance for such behavior.

- 2- You must answer by *yes or no* in the following chart in order to list the risks you may encounter during your study. In each case, you must specify how you will prevent these risks.
- 3- *Below the table, indicate other potential risks linked to your study.* For these and for the risks listed in the table, you must specify on a case-by-case basis the means to prevent these risks and the procedures which will be implemented if the problem actually arises (for example, if a subject starts panicking). The notion of risk covers all the constituents of the person (physical, psychic, relational, emotional, social, etc.). For example, a simple inconvenience can be considered a risk and must be listed. Special attention must be given to participants belonging to so-called vulnerable categories: inmates, children, pregnant women, etc.

Answer by yes or no in the corresponding box:

Yes	<p>Does your protocol include an experimental setup aimed at concealing part of the objective or methodology to subjects or make them believe in other objectives or methodologies? <i>If so, this application must include a description of the setup used and explain how subjects will be debriefed at the end of the study about the real objectives and methodology. Moreover, the case must be made that concealment of some aspects of the protocol to subjects is indispensable in regards with the objectives and stakes, and that none of the concealed aspects can threaten their security or their dignity.</i></p> <p>Research has shown that describing problems as ethical can itself have a framing impact on decision making. Thus the study will be presented as a study on business decision making rather than ethical decision making. This is not false but it does conceal the main objective of the study.</p>
Yes	<p>Questions or situations which can put participants ill at ease? Because participants will be faced with scenarios involving ethical decision making, some may experience the decision contexts as uncomfortable.</p>
No	Materials which can be considered menacing, shocking or disgusting by participants?
No	Possibility that the participant's private life or his/her family's will be affected, including the use of personal information?
No	Use of physical stimuli (auditive, visual, haptic, etc.) other than stimuli associated with normal activities?
No	Deprivation of physiological needs (drinking, eating, sleeping, etc.)
No	Manipulation of psychological or social factors such as sensory privation, social isolation or psychological stress?
No	Physical efforts beyond what can be considered moderate for the participant?
No	Exposure to drugs, chemicals or potentially toxic agents?

D. Vigilance/Early interruption of the study

Interruption criteria for a participating subject

Participants may withdraw their participation at any time during their on-line session and choose not to submit any existing results. They will, however forfeit any compensation they may have earned. For study 1, participants will be disclosed on the purpose of the study at the end of their session even if they terminate it before completion. For Study 2 the potential for cross contamination precludes immediate disclosure but all participants will be disclosed via email at the end of the data collection period.

3. DATA PROCESSING – RESPECT OF THE PARTICIPANT'S PRIVATE LIFE

The project leader must specify the conditions in which collected information will be processed, de-identified and stored, along with the measures for safeguarding respect of private life during the implementation of the protocol and the dissemination of results. He/she must provide all the questionnaires used in the study or their references (in case of standardised tools), and explain how they will be administered (paper, online, interview, etc.).

A. Confidentiality

De-identification process

The notion of de-identification of data is broader than merely hiding the name. It implies that it becomes impossible to match subjects' identity with data, even by indirect means. Generally speaking, confidentiality will be guaranteed by designating each subject or group by an identification number randomly attributed in analyses and electronic or paper documents.

However, two cases must be distinguished with regards to protection of private life and confidentiality.

Case 1 – The protocol is such that processed data is anonymous, or de-identified using randomly assigned numbers. The person cannot be identified even indirectly and by any possible means; it is depersonalized data and no correlation table exists between each person's identity and a random number referring to a set of individual data.

Case 2 – Data is personal or there is a correlation table between each person and random numbers referring to a participant's data set (a reasonable situation in view of the pursued research objectives).

In the second situation, rigorous anonymity cannot be guaranteed (people are identified or identifiable in the documents, even partially or temporarily). It must then be specified:

- A. - why is the absence of anonymity justified*
- B. - what are the possible infringements of private life brought about by the project or the publication of its results*
- C. - what measures are implemented to face up to this risk*

For Study 1, no personally identifying information will be recorded. Study data will be correlated solely by a randomly generated number. In a separate, encrypted, password protected file the random numbers will be associated with the Amazon Turk Worker ID for the purpose of compensation. Only the worker ID will be kept. No other potentially identifying information will be stored. Note that Amazon specifically prohibits the collection of personally identifying information and supplies no such information to the recruiters. For more information on Amazon's privacy policy for Mechanical Turk see this link:

<https://www.mturk.com/mturk/privacynotice>

For Study 2, randomly generated ID numbers will be generated and distributed to the participants. The ID numbers will be used to correlate results. No personally identifying information will be present in the data set. Email addresses and names will be kept solely for the purpose of providing compensation and the correlation file needed for keeping track of the compensation will not be kept on the same system as the data. The correlation file will be encrypted and located on a password protected computer system. Once any given participant has been compensated the record of compensation will be recorded and the random ID number will be deleted from the correlation file thus permanently severing any possible connection between the submitted data and the user's identifiable information.

People having access to data

The mapping of ID numbers to names and emails will be available only to the members of the research team identified in this proposal.

B. Storage

Type of data stored (specify if identifying data, directly or by cross checking)

The CERNI advocates a storage duration of 15 years after data collection. In any case, a duration of 5 years is a minimum that cannot be reduced. As for storage of consent forms (necessarily identifiable), the CERNI advocates to store them for 10 years after the publication and 20 years if there is no publication, in a sealed envelope bearing the mention: "I certify that this envelope contains X (number) consents and X information forms, collected during the XXX study", followed by the name of the supervisor.

Storage premises:

Data will be stored electronically only. Initially the data will be stored on the volunteer science online research platform. See Appendix 2 for more information on Volunteer Science. It will be loaded onto a local computer system for analysis but only in anonymized form. Identifying data will be kept in password protected encrypted file on a computer system separate from where the study data will be kept. Data will be maintained for at least five years.

Person in charge:

Clark H. Warner will be in charge of maintaining and destroying data.

Possibility to destroy data upon participant's request (see scenario in section 4):

The data will actually be stored by the volunteer science research platform <http://www.volunteerscience.com/>. The platform allows participants to delete their data at anytime. Once the data is downloaded from the platform for analysis will not be subject to removal but will be anonymized.

• 4. INFORMED CONSENT FORM INCLUDING INFORMATION FOR PARTICIPANTS

The application submitted to the CERNI must include a consent form containing the information given to participants to be signed by the subjects, and potential advertisement posters to recruit them. In case a preliminary evaluation involving tests constitutes a determining criteria for the inclusion of subjects into the study, the consent form must be signed prior to the test period.

Precisions on the information given to participants:

Any participant preselected will be previously informed by the scientific supervisor of the objectives of the study, of its methodology and duration, of constraints and of predictable risks. A summary of the information given by the scientific advisor will be provided in the consent form (Appendix 1).

Generally speaking, the information given to participants in this consent must be clear, understandable and concise (avoid or explain any specialist scientific term). The document must be written in a language understood by the subject (French by default or another language if necessary. If applicable, see with the CERNI if a translation is necessary). Make sure to adapt the form outline suggested below to your research protocol and to the target public (for example, adaptation of the information and its presentation for children).

The consent form must be inspired by the model below (Appendix 1). It must mention the right to refusal, the possibility of withdrawing at any time and the right to follow-up of results along with the contact details of the scientific supervisor. It will indicate to the participant that he/she is entirely free to decline taking part in the study or to withdraw his/her consent with no resulting harm (for example, when participants are students, it must be specified that refusal or withdrawal will not impact exams results. When they are patients, it must be stated that taking part in the study – refusing or withdrawing – will bear no consequence on the treatment). The possibility of rectification or destruction of his/her data will be notified to the subject. However, in the second instance, the two cases mentioned in section 3, paragraph A must be distinguished:

- A. - Case 1 – Inform participants that rigorous anonymity makes it impossible to correct or destroy their information after completion of their participation.
- B. - Case 2 – Inform the participants that in compliance with the provisions of the Loi Informatique et Libertés, they will be in position to exercise their right of access, and rectification or deletion with the project's scientific supervisor.

Precisions on the signature and delivery to the participant of the informed consent:

After making sure the information provided is well understood, the scientific supervisor will request from the participant his/her consent to take part in the study. If he/she accepts, the participant will sign the consent form in two copies prior to the study (Appendix 1). The scientific supervisor will keep one copy and give the other to the participant.

Specify how the informed consent will be obtained:

For special cases such as children, persons in a vulnerable situation, persons under guardianship, please contact the President of the CERNI.

As the Consent will be obtained by presenting a consent screen on the on-line study and requiring a click through to provide consent. Text is included in the appendix. You will find a draft version of the consent procedure included with the beta version of the study. You can view it by pressing the “Decision Simulation Tab” at the following link:

<https://volunteerscience.com/experiments/fellows/>

APPENDIX 1 – INFORMED CONSENT AND INFORMATION FORM

Reminder: The information given to participants in this consent must be clear, understandable and concise (avoid or explain specialist scientific terms) and adapted to the people to whom it is intended.

For example, if participants are children, make sure to explain to them the study proceedings, the possibility to quit the study at any time, etc. using a very simple vocabulary that children are able to understand. We draw your attention to the importance of adapting your vocabulary to convey information to participants (adults, elderly people, children, parents, patients, guardians) who may neither be scientists nor members of an ethics committee.

Business Decision Making Study

The person in charge of this study is Clark H. Warner. The work is being done under the supervision of professor Marion Fortin at the Université of Toulouse 1 Capitole. Clark can be reached at clark.warner@tsm-education.fr. Prof Fortin can be reached at marion.fortin@ut-capitole.fr,

Clark will be referred to as the “researcher” throughout this form.

Please read this form carefully. The purpose of this form is to provide you with important information about taking part in a research study. If any of the statements or words in this form are unclear, please let the researcher know. We would be happy to answer any questions.

Why is this study being done?

The purpose of this study is to determine how people make business decisions. The results of this study may help us understand how people make decisions in particular business contexts including when they are distracted.

We are asking you to take part in this study because as a college student or recent graduate you are likely to understand the business situations you will see yet will not have likely encountered many situations like this. Thus we will be able to understand how you make these decisions without being influenced by prior history.

How long will I take part in this research study?

We expect that you will be in this research study for roughly 60-90 minutes. Everything will take place on-line following your acceptance of this screen should you choose to accept. The study can be performed in any private location including your home.

What will happen if I take part in this research study?

Study Session

The session will likely take roughly 60-90 minutes. During the session you be exposed to between 2 and 8 business simulations. The simulations will consist of a scenario describing your position and a collection of short documents such as emails, memoranda, invoices, purchase orders or other business documents that pertain to the scenario. You will be asked in the end to approve or disapprove of a business document depending on the particulars of the scenario and to evaluate the situation. Prior to the simulations you will take a very brief survey that will help us capture more information about how you make decisions.

Sending Study Information to Research Collaborators

Your study information may be sent to researchers at other universities doing similar research. Absolutely no identifying information will be included in any such disclosure. Your answers will be correlated to a random ID number generated for you.

How Will You Keep My Study Records Confidential?

Any potentially identifying information such as your [Amazon Turk Worker ID (Study 1)] [email (study 2)] will be kept confidential in a password protected encrypted file on a separate computer away from study data. We will make every effort to keep your records confidential unless legally required to disclose it due to court order or other legal requirement. The identifying information is only being collected for compensation purposes. Once you have been compensated we will delete the connection between your identifying information and your study data and thus permanently sever any potential connection to your responses. We will keep your

email address in case we need to follow up with you for some reason (Study 2) but there will be no way to connect it to your data once the connection has been removed.

The following people or groups may review your study records for purposes such as quality control or safety:

The Researcher and any member of **his/her** research team

The Institutional Review Board at the Federal University of Toulouse Midi-Pyrenees. The Institutional Review Board is a group of people who review Toulouse research studies for safety and protection of people who take part in the studies.

The results of this research study may be published or used for teaching. No personally identifiable information will be included in data that are used for these purposes.

Study Participation and Early Withdrawal

Taking part in this study is your choice. You are free not to take part or to withdraw at any time for any reason. If you decide to withdraw from this study, the information that you have provided will not be recorded.

Also, the researcher may take you out of this study without your permission. This may happen because:

- _ The researcher thinks it is in your best interest
- _ Other administrative reasons

What are the risks of taking part in this research study?

You may feel emotional or upset when answering some of the questions. Remember that you may stop at anytime. You may stop participating at any time by closing the browser window or the program to withdraw from the study. Partial data will not be analyzed.

You may be uncomfortable with some of the questions and topics we will ask you about. You do not have to answer any questions that make you feel uncomfortable.

Loss of Confidentiality

The main risk of allowing us to use and store your information for research is a potential loss of privacy. We will protect your privacy by labeling any identifying information such as your email with a code and keeping the key to the code in a password-protected computer.

(Study 1 Only) Your Mechanical Turk Worker ID will be used to distribute payment to you but will not be stored with your responses. Please be aware that your MTurk Worker ID can potentially be linked to information about you on your Amazon public profile page, depending on the settings you have for your Amazon profile. We will not be accessing any personally identifying information about you that you may have put on your Amazon public profile page. Once you have been compensated we will physically delete the association between your Worker ID and your data.

Are there any benefits from being in this research study?

There are no benefits to you from taking part in this research except for a small monetary payment.

Will I get paid for taking part in this research study?

You will receive a small payment for completing the study up to (\$4.00 study 1), (€8.00 study 2). Note that you will not be compensated if you do not complete the study.

If I have any questions or concerns about this research study, who can I talk to?

You can contact Clark Warner with any concerns or questions. My email address is listed below:

If you have questions about your rights as a research subject or want to speak with someone independent of the research team, you may contact the CERNI at the Federal University of Toulouse Midi-Pyrenees

Clark Warner clark.warner@tsm-education.fr

APPENDIX 2 – CONFIDENTIALITY AND DATA SECURITY

Volunteer Science

Volunteer Science is a new online platform designed specifically for conducting Academic research. They describe their mission this way:

“Volunteer Science is a collaboration among scientists from leading research universities to expand the tools available for social and behavioral research. Most social and behavioral research is expensive and time intensive because it requires recruiting and maintaining pools of participants. Volunteer Science is a web laboratory that will accelerate behavioral research by improving statistical power by involving more people, lower costs by using open standards, reduce data collection time by creating a community of active and engaged participants, and promote citizen engagement with and interest in scientific research.”¹

¹ From https://volunteerscience.com/our_mission/

Both Study 1 and Study 2 will use this platform to gain consent, administer the study simulation and collect the data.

Volunteer science takes steps to ensure the privacy of user data and insists on IRB approval before it will allow an experiment to be launched. A copy of their Data Privacy policy can be found at this link: https://volunteerscience.com/data_privacy/.

Clark Warner has been enrolled in the Volunteer Science Virtual Fellows program to learn how to use the platform and prepare to launch an online experiment

Usage of Amazon

The mention of Amazon may raise security concerns and hence it is important to specifically identify how it will be used.

Study 1

For study one participants will be recruited on the Amazon Mechanical Turk Platform. An overview of the platform can be found here:

<https://www.mturk.com/mturk/help?helpPage=overview> . The privacy notice disclosed to Amazon Turk workers can be found here: <https://www.mturk.com/mturk/privacynotice> The platform is designed specifically for the recruitment of workers and has become popular among researchers looking for a low cost way to find recipients. A number of Universities have published guidelines for their students on its use. An example form the University of Massachusetts at Amherst can be referenced here: <https://www.umass.edu/research/guidance/mturk-guidance>

Note that no data will be kept on the Amazon platform. It will be used solely to recruit workers who will then actually complete the study on the Volunteer Science Platform.

Study 2

For Study 2 Amazon will be used only for compensation. Gift certificates will be purchased and emailed to the participants who complete the survey. While Amazon will likely have some electronic record of a gift certificate being sent to a given email address and the amount, they will have no other data regarding the survey or even the reason for the gift. If the subject prefers, physical gift cards will be sent. The address of the subject will not be stored but used only to address the envelope.

Recapitulation of Privacy Protection

As mentioned earlier some identifying information will be collected for compensation purposes. For Study 1 that will be Amazon Turk Worker IDs. While this is not identifying information per se it has come to light that it is possible to find a person's Amazon profile with their Turk Worker ID and the Amazon profile contains identifying information. We will NOT be using the Amazon Turk Worker ID for this purpose and absolutely no Amazon profile information will be gathered for this study.

For both studies the actual data will be correlated using a randomly generated id. In the past I have used the Excel Random function to generate such ids. An example of such an ID would be: “PCQ56”. In general, it will be a random string of letters and numbers. For Study 1 the correlation file will contain the WorkerID and the random number. For Study 2 it will contain the email address of the recipient and the random number. For study 2 the recipients will be given the ID before they begin the study and when they actually go to the online study they will be asked for it after having agreed to the on-line consent form. Of course if they do not consent the study will be terminated without any data being gathered. Thus when the data is collected from the online volunteer science platform it will have the random ID but not any user identifiable information.

The correlation file will not be kept on the computer used to do the analysis. Instead it will be kept on a different password protected system in an encrypted file. As the participants complete the study they will be compensated. Their record in the correlation file will then be altered. In the case of Study 1 their Amazon worker ID will be deleted. In the case of Study 2 the email will be kept but the random number will be deleted. A sample of what the records in the correlation file will look like mid study is shown below.

Study Type	Identifier	Random ID	Compensation Record
1	Worker 26734534	AT567	
2	subject1@somedomain.com	HJ264	
2	Subject2@otherdomain.com	Deleted	Compensated
1	Deleted	YT273	Compensated

APPENDIX 3 – DRAFT STUDY MATERIALS

The study will consist primarily of three parts. The first part will assess their decision making style and various individual characteristics, the second part will create the simulation for the subjects randomly assigned to that group and a deliberation scenario for the subjects in the deliberation condition in Study 2. The control group will not participate in part 2 in either study. The final part will obtain a rating for the ethicality of a given decision scenario.

Part 1

First subjects will be assessed for their likelihood to rely on intuition or deliberation when making decisions. This will be done via the Cognitive Reflection Test and by questions from the need for cognition scale. Sample CRT questions are listed below².

² These questions are taken from Toplak, M. E., West, R. F., & Stanovich, K. E. (2014). Assessing miserly information processing: An expansion of the Cognitive Reflection Test. *Thinking & Reasoning*, 20(2), 147–168. <https://doi.org/10.1080/13546783.2013.844729>

- (1) A bat and a ball cost \$1.10 in total. The bat costs a dollar more than the ball. How much does the ball cost? ____ cents.
- (2) If it takes 5 machines 5 minutes to make 5 widgets, how long would it take 100 machines to make 100 widgets? ____ minutes
- (3) In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days for the patch to cover the entire lake, how long would it take for the patch to cover half of the lake? ____ days
- (4) (4) If John can drink one barrel of water in 6 days, and Mary can drink one barrel of water in 12 days, how long would it take them to drink one barrel of water together? ____ days
- (5) (5) Jerry received both the 15th highest and the 15th lowest mark in the class. How many students are in the class? ____ students
- (6) A man buys a pig for \$60, sells it for \$70, buys it back for \$80, and sells it finally for \$90. How much has he made? ____ dollars
- (7) Simon decided to invest \$8,000 in the stock market one day early in 2008. Six months after he invested, on July 17, the stocks he had purchased were down 50%. Fortunately for Simon, from July 17 to October 17, the stocks he had purchased went up 75%. At this point, Simon has: a. broken even in the stock market, b. is ahead of where he began, c. has lost money

The short form need for cognition scale is taken from Cacioppo, J. T., Petty, R. E., Feinstein, J. A., & Jarvis, W. B. G. (1996). Dispositional differences in cognitive motivation: The life and times of individuals varying in need for cognition. *Psychological Bulletin*, 119(2), 197. <https://doi.org/10.1037/0033-2909.119.2.197>. The questions are as follows with reverse scored questions marked with an asterisk:

Instructions: For each of the statements below, please indicate to what extent the statement is characteristic of you. If the statement is extremely uncharacteristic of you (not at all like you) please write a "1" to the left of the question; if the statement is extremely characteristic of you (very much like you) please write a "5" next to the question. Of course, a statement may be neither extremely uncharacteristic nor extremely characteristic of you; if so, please use the number in the middle of the scale that describes the best fit. Please keep the following scale in mind as you rate each of the statements below: 1 = extremely uncharacteristic; 2 = somewhat uncharacteristic; 3 = uncertain; 4 = somewhat characteristic; 5 = extremely characteristic.

1. I would prefer complex to simple problems.
2. I like to have the responsibility of handling a situation that requires a lot of thinking.
3. Thinking is not my idea of fun.*
4. I would rather do something that requires little thought than something that is sure to challenge my thinking abilities?*
6. I find satisfaction in deliberating hard and for long hours.
7. I only think as hard as I have to.*
8. I prefer to think about small, daily projects to long-term ones?*
9. I like tasks that require little thought once I've learned them?*
10. The idea of relying on thought to make my way to the top appeals to me.
11. I really enjoy a task that involves coming up with new solutions to problems.

12. Learning new ways to think doesn't excite me very much?*
13. I prefer my life to be filled with puzzles that I must solve.
14. The notion of thinking abstractly is appealing to me.
15. I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.
16. I feel relief rather than satisfaction after completing a task that required a lot of mental effort? *
17. It's enough for me that something gets the job done; I don't care how or why it works?*
18. I usually end up deliberating about issues even when they do not affect me personally.

In addition to these measures a number of control measures will be taken. They are Moral Identity, Cognitive Ability and Preference for Consistency. The questions will be taken from standard scales in the literature

Part 2

Next, in Study 1, two manipulations will be exercised, one on each of two subgroups (ethical conditioning and unethical conditioning) each representing a fourth (Study 1) or a fifth (Study 2) of the participants. The remaining half will be a control group and will not be subject to either manipulation. In study 2 there will also be a deliberation group which will not go through either of these two manipulations.

Simulation Groups

Screen shots of a sample simulation are included below. Note that there will be 6 of these sample scenarios. Only one is included but I am happy to provide additional sample simulations as they are developed. Construction of these sample scenarios is still underway. They are being developed with permission from the Giving Voice to Values business ethics curriculum developed by Dr. Mary Gentile now at the University of Virginia and from the personal knowledge and experience of the researchers.

For each specific unethical issue caught by the subjects in the ethical conditioning group they will be paid \$.25 (Study 1) or \$.50 (Study 2). In the sample below there is one unethical issue which is the potential approval of revenue in the current quarter when it belongs in the next. The participant will have enough data to warrant disapproving a sales report. In some scenarios there will be two ethical issues that would imply the need to disapprove of a business document. For the subject in the unethical conditioning group the same small monetary incentive will be paid for approving the unethical document. In their case they will be paid \$.25 (Study 1) and \$.50 (Study 2), for each ethical issue they overlook in approving the document.

Sales Order Report¹

You work in the controller's office at the Apex Chemical corporation. You are responsible for consolidating sales data for the quarterly financial reports. The materials given to you include the sales report for a group in one of the divisions you are responsible for, some emails relevant to determining what revenue should be counted within this quarter and an invoice from a customer who made a very recent order.

Please look over the materials and approve the sales report for inclusion in the financial statement, if everything looks correct, by signing your name at the bottom. If you believe you have found an error, you may reject the invoice by noting the mistakes and writing "correct and return" on the signature line. Feel free to make specific notes and or corrections on the invoice itself if you are sending it back for correction.

¹This scenario and the associated materials were adapted from case OVA-08-1104 "Be Careful What You Wish For: From the Middle" of the Giving Voice to Values (GVV) curriculum. The original case was developed by Mary Gentile, now at the University of Virginia. It was based on actual field experience but the names and other situational details were changed. To learn more about GVV and obtain the original source materials go to <http://www.darden.virginia.edu/lbls/initiatives/giving-voice-to-values/>. No part of these materials may be altered or reproduced without permission.

From: James_green@apexchem.com

Subject: Reminder on revenue accrual

Date: Oct 1, 2017 at 9:37 am

To: controller_staff@apexchem.com

Cc: sr_staff@apexchem.com

Dear Staff,

There have been incidents in recent quarters in which we accepted revenue within the quarter for sales that would not result in delivery until after the quarter. Some of you may have thought this was accepted practice if you ordered shipment of materials to a third party warehouse for later shipment to the customer. This practice is costly at best and potentially in violation of financial reporting requirements at worst. To be clear, WE WILL NO LONGER ACCEPT REVENUE IN A QUARTER FOR SHIPMENTS THAT DO NOT OCCURE IN THE QUARTER. This policy is effective immediately. As you gather data for the Q3 report (ending Sep 30) be sure that you adhere to this policy.

Best regards,

James

From: Robert_smith@apexchem.com

Subject: Fantastic News! Last Minute Order puts us over quota

Date: Sep 27 ,2017 at 3:45 pm

To: james_green@apexchem.com

Cc: controller_staff@apexchem.com

Dear James

I have excellent news. The Beta gamma deal came through today for over \$140K. The Southwest Thermal sales group has officially beat our quota for the quarter. The actual customer delivery will be in October but given that the order is in I'm sure there are some ways to work around the delivery issue by shipping this week to an intermediary for later customer shipment. That way we still will have shipped in the quarter. We've done that before.

I'm looking forward to that big fat team bonus you promised us in the mgmt. meeting last June!

Best regards,

Robert

Robert Smith
Sales Director – Thermal and HVAC Materials SW



Ph: (457) 555-7282

Fax (457) 555-7256

Email: Robert_smith@apexchem.com

Twitter: @ChemManRob

Quarterly Sales Report

Apex Chemical

Division: Industrial Chemicals

Group: Thermal Materials & HVAC, Southwest Sales

Quarter Ending: Sept 30, 2017

Sales Manager: Robert Smith

Customer	Invoice Number	Order Date	Delivery Date	Pre Tax Revenue
Green Limited	6279187	June 15, 2017	July 3, 2017	\$27,560
Solstice Aviation	6379734	July 11,2017	July 13,2017	\$10,230
Herolutions Heating	6374799	July 17,2017	July 21,2017	\$20,340
Accenstsun HVAC	6323998	August 7,2017	August 14,2017	\$90,720
Energy Systems	6374829	August 16,2017	August 22,2017	\$50,730
Jetways	6472347	August 23,2017	August 31,2017	\$107,650
Paragon Corp	6434059	Sep 5, 2017	Sep 12, 2017	\$80,970
Canonics	6423249	Sep 13, 2017	Sep 20, 2017	\$120,450
Apache Cooling	6512896	Sep 15, 2017	Sep 26,2017	\$100,340
Petalaid	6543908	Sep, 22, 2017	Sep 29, 2017	\$45,980
Beta Gamma Industries	6573892	Sep 27, 2017	Oct 16, 2017	\$141650

Total Revenue for the Quarter: \$796,620

Group Sales Quota: \$700,000

Team Sales Bonus: \$19,324

(20 % of all revenue over quota to be distributed by sales mgmt)

For Controllers Office Only

APPROVAL FOR FINANCIAL REPORT: _____

DATE: _____

Deliberation Group (Study 2)

The above materials will be presented only to the simulation groups. The deliberation group will get an extended version of the scenario that describes the circumstances otherwise evident

in the materials and taken again from the GVV curriculum or from the experience and knowledge of the researchers. A sample scenario for the same case is below:

You work in the controller's office at the Apex Chemical corporation. You are responsible for consolidating sales data for the quarterly financial reports. At the very end of the last quarter a very large order came in from one of your customers. If the revenue from this order were to be included in this quarter's revenue, one of the sales teams in the unit you oversee will be eligible for a significant commission bonus. The sales manager is very excited about this and made mention of it in the email to you announcing the sale. Unfortunately, the customer does not want delivery until well into the next quarter. The CFO has made it clear that the company will only record revenue for sales in the quarter in which the goods are delivered. He reiterated this policy in a memo recently. In the past, the sales team has gotten around reporting requirements by having shipments like this sent to a third party intermediary who holds the product until the customer wants it. This workaround has costs as the intermediary requires payment for this service. The CFO objects to this policy.

The sales manager would really like you to approve the sale and will quietly arrange the shipping to the intermediary. In addition, the V.P. and general manager of the unit has similarly applied pressure for you to do this and you are anxious for her to think of you as part of her team.

Describe the ethical implications of this decision? What company rules or laws apply? What will be the ultimate result of approving the sale for you, the sales unit and the company? If you did approve the sale, how might that reflect on your character?

Part 3

In this section we will obtain the actual dependent variable. Two scenarios will be presented and the participants will be presented with a choice to approve or disapprove of a corresponding document. They will also will be asked to rate the ethicality of the action and their likelihood of performing it in a real world setting. All three groups will participate with half of each group placed under cognitive load by being asked to remember a 7 digit number such as 9473872. An example scenario is included below. The ethical simulation group will be paid to approve of the unethical document (\$.50 in Study 1 and €1.00 in Study 2). The unethical simulation group will be paid to disapprove of the unethical document (i.e. behave ethically) at the same compensation level. The control groups and deliberation groups will be split with half asked to disapprove and the other half asked to approve.

You are a product manager working for a large technology company. You are specifically responsible for a line of high end computer systems and among your duties is the annual sales forecast. There are two types of sales people in your unit, general sellers who sell all the products and dedicated sellers who sell only specific products. Dedicated sellers are much more effective. They sell more and sell at higher margins. Due to some strategic changes the GM has reallocated the dedicated sales staff and cut the number of sellers who sell your product in half. He has also altered the compensation model such that the commission on other products sold by the general sellers will go up while the commission on your products will drop. This may make sense for the company but it will definitely drop the revenue and the net profit for your products.

