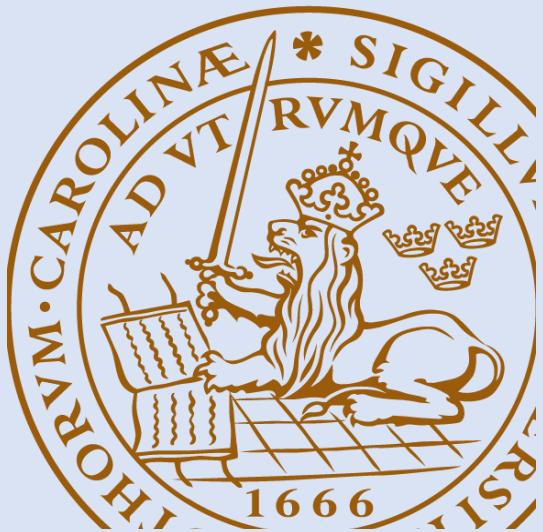


Encouraging Pro-Social Behaviours Through Feelings of Responsibility

Investigating factors influential to the behaviour of low-risk individuals during the COVID-19 response in Ireland

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Abstract

This research examined the experiences of 12 low-risk individuals to identify factors influential to their behaviours during the COVID-19 pandemic in Ireland. The method used a semi-structured format of interviews conducted over June 2021. The study found that participants held a subscription like mentality towards adopted protective behaviours which focused on the protection of loved ones. Behaviours were driven by a strong ascription of responsibility which was empowered by considerations for subjective and social norms. COVID-19 messaging was recognised as an influential factor in developing such pro-social values empowering healthy behaviours and for increasing risk awareness through risk coverage and framing. Yet, factors such as the repetitive format of messaging from the HSE COVID-19 Campaign and poor public engagement reduced confidence leading some participants to grow dissatisfied with the response. While less compliant with restrictions participant still maintained their protective behaviours encouraged by strong feelings of responsibility towards others indicating a strong subscription mentality. This study highlights the importance of responsibility and normative beliefs in motivating the adoption of healthy behaviours among low-risk groups. Yet, also reiterates the importance of maintaining positive and engaged communication with the public to maintain compliance and risk reductive behavioural practices.

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CHAPTER 1

INTRODUCTION

This chapter gives a brief background to the subject and the research problem. Followed by the research purpose and research question motivating this study.

1.1. Research Background

Research on human behaviour and risk perception has been developing since the mid-1950s from theories largely reflecting on aspects of fear and rational choice (Slovic et al., 2007). More recent research has shifted focus, establishing the importance of normative values and contextual factors as key considerations for behavioural intent and compliance relating to risk reduction (Heath et al., 1995; Reyna & Farley, 2006). How an individual perceives a risk is often the most confident indication of how they will act. Therefore, if a risk is to be reduced, individuals must perceive it as worthy of their attention both in prevention and response scenarios. Much development has been made relating to factors influential to risk perception. However, the challenge of designing an influential risk reduction campaign remains difficult as the factors determining human behaviours are not as confidently understood across society (Onwezen et al., 2013). Leading to disparities in attitudes and perceptions held by society relating to healthy behaviours and lifestyle choices.

The communication of risk plays a critical role in how society perceives a hazard prior to acting upon it and is a key factor in the development of attitudes towards healthy, risk reductive behaviours (Ow Yong et al., 2020). Research on risk communication has long focused on communicating with three central considerations; clarity, coordination and optimism. Used to develop trust and confidence in the information that an individual receives (Loss et al., 2021). This is very important when this information can be threatening to their health and livelihood, as is the case with the COVID-19 virus. However, when promoting new behaviours, the difficulty is in overcoming inertia, for society to then begin to change its social norms and attitudes in favour of the new behaviour/norm (Jackson, 2005). The challenge in building motivations for risk reduction early can hinder the responsiveness of society to a present risk and reduce aspirations of prevention which is far more destructive in the long term.

1.2. Research Problem

The problem noted across research and crisis communication is not one of scale rather of engagement. Simply communicating a risk and presenting the danger is flawed in developing constructive and lasting behavioural change. Sullivan and White (2019) highlight the growing gap between public perceptions of risks and expert advice, which is preventing the development of health behaviours. This coupled with varied distrust in institutions of governance and media have resulted in growing unhealthy optimism among individuals towards health-related hazards. This is

challenging public health systems as growing levels of non-compliance with risk reduction and prevention measures are increasing stress on medical services in many countries (Sullivan & White, 2019).

These challenges are increased by the difficulty of engaging low and non-risk individuals in risk reduction. As they are not personally at a great risk, the challenge for public health systems is to motivate such individuals to invest in healthy behaviours as their inaction can have the effect of increasing the risk across all levels of society as well as increasing their personal risk. This is known as the prevention paradox where individuals of low-risk are not compelled to engage in prevention and so are increasing the risk for others by their inaction (Jackson, 2005; Johnson, 2020).

This challenge for greater engagement for risk communication requires a greater understanding of how to motivate low-risk individuals to change their behaviour towards risk reduction (Shanka & Kotecho, 2021). Recent studies on the COVID-19 pandemic identify the benefits of communicating risks in a manner relevant to the individual, which can increase engagement and improve attitudes to healthy behaviours for preventative action (Franzen & Wöhner, 2021; Yang et al., 2020). COVID-19 has presented the world with a risk in which all of society, regardless of their vulnerability are called upon to reduce. This problem of engaging low-risk groups must be tackled if we are to succeed in reducing and preventing future emergencies and presents a timely opportunity to examine the factors which may help to engage low-risk groups in future global health emergencies.

1.3. Research Purpose

The core purpose of this research is to increase our understanding on the influential factors of a risk response and how such factors influence the attitudes of low-risk individuals towards risk reductive behaviours. The challenge of communicating risk reduction that is both informative and influential to society remains a growing field of research with increasing needs for a greater understanding presented by the COVID-19 pandemic (Loss et al., 2021).

Why is this research important?

The onset of the global COVID-19 pandemic presents a timely opportunity to examine how the behaviour of low-risk individuals may be influenced to support risk reduction. Recent research has highlighted the important role exposure to communication plays in an individual's intention to change their behaviour (Han, 2014; Shanka & Kotecho, 2021). There is a need to cultivate pro-social intentions and build positive attitudes to healthy behaviours across society if future crises are to be prevented swiftly.

From observations and research on COVID-19 communications globally, there is a notable relationship between the communication of the risk and the attitudes of individuals towards mitigatory measures (Ow Yong et al., 2020). This relationship is evident when comparing national COVID-19 communications between different nations. The United States of America for example presented more contradictory messaging with unclear guidelines issued by health and government

officials as noted by Kim & Kreps (2020). While in comparison, nations such as New Zealand adopted strong coherent messaging relaying risk reduction, with clarity as a central component of the national response (McGuire et al., 2020).

Reflecting on the progress of each nation's response as simple observation-based evidence, there are clear differences between each population's success in tackling the pandemic stemming from perceptions and attitudes towards COVID-19 risk reduction. This difference can be tied back to the format of how each nation engaged their population with the risk and healthy behaviours. This relationship between public engagement with risk reduction and the responsiveness of individuals to healthy behaviours and reductive measure has become a consistent indicator for successful and unsuccessful crisis management campaigns across the world (Jackson, 2005; Ow Yong et al., 2020).

1.4. Research Question

What factors influenced the behaviour of low-risk individuals during the COVID-19 pandemic in Ireland?

This question seeks to investigate two problems expressed by previous research in the field of risk communication and human behavioural science.

1. How to better engage low-risk groups in risk reductive behaviour?
2. What factors or considerations are most influential to inform and influence adoption of pro-social behaviours and what factors may be counterproductive to a response?

Both problems represent the difficulty in designing communication campaigns and responses that both inform and motivate society to change their behaviour towards risk reduction. The critical challenge is in changing attitudes among individuals with lower perceptions of risk. Given the diversity of social groups and norms across society it can be difficult for crisis communicators and public health experts to get support for risk reduction from groups that have an optimistic risk perception or are themselves at a low-risk from the hazard (Bae & Chang, 2020). This research question serves to support risk campaigners in influencing such low-risk individuals, so that they too may be pro-active in risk reduction.

1.5. Motivation

My motivation for this research stems from a desire to better understand the influential factors in developing pro-active attitudes towards healthy risks among individuals. The importance of understanding how to guide behavioural change becomes more poignant as we face more global challenges to public health such as climate change, famine, and viral pandemics. With better knowledge of what motivates our change combined with strong international coordination for risk reduction, I am confident that such challenges can be overcome.

CHAPTER 2

LITERATURE REVIEW

This section provides an overview of key topics discussed across the disciplines of behavioural science, human health and risk reduction.

2.1. Introduction

This review was conducted using a thematic approach focusing on two themes important to the topic of research.

- *Communicating risks for developing public support*
- *Changing risk perceptions and Human Behaviour*

This thematic approach was used in the search for literature and studies to include in this review. Several topics were chosen to initially identify focus areas followed by a snowball method used to expand the scope of literature examined in areas relevant to the research question. The age and number of citations were both factors in the choice of literature, with more recent and widely cited literature favoured over older documents.

2.2. Risk Communication for Building Support

Risk communication can be defined as the '*two-way and multi-directional communication and engagement with affected populations so that they can take informed decisions to protect themselves and their loved ones*' (WHO, 2020. p3). Reflecting on this definition, communication is therefore strategic in its influential purpose as a tool for supporting and influencing society's perception of a risk and in changing attitudes to favour emergency response. Investment in risk communication plays a crucial role to how a risk is interpreted and then acted upon and this investment must be supported by strong solutions for change (WHO, 2020; Loss et al., 2021). Studies on successful factors for risk communication have been developing since the early 1970s with publications increasing with more globalised mediums of communication available to individuals.

Criteria for Engaging Individuals

Trust and Credibility:

Messages must be trustworthy and empathetic to those suffering. Withholding information, disagreement and lack of involvement can weaken confidence in the authority of the response and the information provided. This can lead to weakened confidence and growing intolerance for restrictions over the course of the response. This is particularly important today as there are several mediums which risk information can be communicated, giving people access to both credible and misinformed content (Loss et al., 2021). While increased accessibility is positive, the dilution of dominant lines of trusted information can allow misinformation to spread, reducing the efficiency of the response through negative attitudes and counterproductive beliefs.

Present both Knows and Unknowns:

To build and preserve confidence in the communication, messaging must inform the public on both the knowns and unknowns of the risk (Ibid). Large uncertainty can have a negative impact on the response and it is crucial that confidence and trust in the communicator remains strong by communicating such uncertainties in a clear manner. Presenting knowns and unknowns builds positive attitudes across society which are supportive of the communicator as people desire to be informed on all aspects of risk (Zhang, Li, & Chen, 2020). Uncertainty and confusion if left unattended by the campaign will degrade public trust and confidence in both response and communicator. Thus, it is important that campaigns quickly act upon uncertainties through engagement with society and counter the growth of misinformation.

Balancing Communication – Inform and Reassure:

Crises are non-linear events, that can be particularly disruptive to lifestyles in the case of acute emergencies. Loss and colleagues (2021) reflect on the difficulty in balancing communication to inform and with reassurance messaging. Communication needs clarity and focus but also consistent reassurance of progress with positive messaging informing the public on developments made resulting from their actions. As the response develops from mitigation towards recovery, so too must the communication develop to maintain confidence (Sandman, 2020). Thus, balancing more in favour towards progress than simply information on the risk itself.

Focused Communication to different groups:

Reflecting on various cultural and social norms of society are critical considerations for risk communication when informing individuals on hazards. Vulnerable groups may feel they are not given equal attention and likewise others may feel less engaged with the campaign (Loss et al., 2021). It is critical that communication is focused to engage all members of society and all social groups (languages, religions, ethnicities etc.). Simply spreading information is not productive, risk communication must be relatable to each social group as the broad release of information can counter the strength of the campaign through poor interpretations as noted by Oh et al. (2015). Equally, poorly designed messaging impacts public responsiveness, delaying progress and creating inequalities in attitudes across society as some groups were not engaged through the initial messaging. This can be as simple as not providing messaging in additional languages or providing messaging that is only available online and on television which may be inaccessible to some social groups. Equally ineffective is providing messaging that is too academic and not convenient for the audience.

Coordination:

Risk communication requires a coordinated effort from all stakeholders to inform, build confidence and counter misinformation to support the response (Sullivan & White, 2019). Loss et al. (2021) refers to the difficulty of integrating trust and coordination among communicators during an emergency response particularly with added difficulties created by initial uncertainty surrounding

the risk. Yet, poor coordination across communicators leads to greater challenges if left unchecked as the risk develops several varied opinions and attitudes can develop which divide and weaken the coordinated effort to reduce the risk (*ibid*).

Communication Challenges

Mental noise:

Mental noise can develop when there is a large amount of information being disseminated which builds anxiety can cloud society's understanding of the risk (Slovic, 2000). Studies have noted the difficulty this clouded field of information creates leaving individuals feeling lost and helpless as there is no dominant rhetoric but clouded varied information (Ferrer & Klein, 2015). Mental noise can be reduced by having a dominant line of communication made widely available and disseminating clear information while dismantling misinformation. This line of communication should equally communicate solutions and build positive encouragement as opposed to focusing on negatives such as poor behaviours which build feelings of helplessness.

Communicating to maintain compliance and confidence:

Maintaining confidence in the communicator and confidence in the campaign it is supporting can be a challenging dimension to any response. With the possibility of shifting public opinion over the passage of time and potential administrative failures disrupting public trust, maintaining the publics' pro-active attitudes to risk reduction requires continued public engagement (Sullivan & White, 2019). Similar challenges for communicators can be reflected in attempts to encourage risk reduction when disparities have developed between public and expert opinion. Communicators attempts to influence individuals when such disparities have developed can be in vain. Therefore, it is far more effective that such challenges be averted were possible through positive and constructive feedback from a response which supports public engagement (Oh et al., 2015).

2.3. Risk Perception and Behaviour

Risk perception is an '*individual's perceived susceptibility to a threat*'; as noted by Ferrer and Klein (2015.p.2). The definition of the term and its importance to healthy behaviours have gradually developed with evolving research on risk behaviour and public health prevention since the early 1950s (Bae & Chang, 2020). Risk perceptions are labelled across a spectrum from High to Low with a high-risk perception indicating a strong awareness for the hazard and 'Low' indicating limited recognition of the danger (Yang et al., 2020). Some researchers also represent these levels under 'pessimism' and 'optimism'. Yet, in this research a scaled valuation is preferred as the subjective nature of risks means that an individual may perceive a risk as high but can also be optimistic regarding their susceptibility.

This nonlinear connection between risk perception and human behaviour highlights the difficult contradiction that can develop in determining future behaviour and then attempting to influence it as noted by Reyna and Farley (2006). Therefore, risk perception is regarded as a core indication but not determinant of how an individual may behave in response to a hazard. As all risks are

subjective so to is the decision in how to act which varies relative to the considerations and context of the individual which adds to the challenge in attempting to motivate healthy behavioural change.

Risk Perception Factors

Cognitive Risk Perception:

Traditional theories of risk perception reflected on rational choice as logical building blocks for an individual to perceive their susceptibility to a hazard. This logical perception of risk is known as deliberative risk perception, where an individual relies on reason based- decisions to evaluate their level of danger (Ferrer & Klein, 2015). This could be communicated as percentages, likelihood of harm or using comparative data among groups of different ages etc.

This is a very traditional understanding and accounts for much of how individuals evaluate danger. Early research largely focused on tolerance, noting that if a risk exceeds an individual's tolerance, they will perceive it to be high and act upon it (Paek & Hove, 2017). However, risk such as COVID-19, there is more to consider than rational thought, as individuals are asked to act even though they themselves are not exposed to a great deal of risk. It is for this reason that cognitive theories fall short in more modern understandings of risk perception and behavioural change (Reyna & Farley, 2006).

Affective Risk Perception:

Affective risk perception reflects more on emotions, such as worry, uncertainty and anxiety relating to a risk (Yang, 2015). This dimension of risk perception is very powerful, particularly under conditions where little is known by the individual regarding the risk and the influence of past experiences or understanding can add greater value to the danger (Bae & Chang, 2020). Affective factors are far more altruistic in their thought as they include emotional reflections on the risk posed to others which could add to an individual's fear for vulnerable loved ones. This perception of risk as described by Ferrer and Klein (2015) is more affective in activating preventative measures and instigating behavioural change as it can encourage actions based on feelings of responsibility.

Contextual factors for risk perception:

Contextual factors have a strong influence on risk perceptions reflecting on social norms, social heuristics and herd ideology (Reyna & Farley, 2006). When considering the consequences of action or inaction, factors of collective thinking and social tolerance add considerable influence on how an individual may perceive a risk and later how such actions may be perceived by their social environment. Studies on contextual factors of risk perception identify the importance of such 'fit in' mentalities and desires for social acceptance on defining perceptions and attitudes held by individuals who identify within social groups (Dyregrov et al., 2020).

From risk perception towards human behaviour

An individual's perception of a risk is a core component in how they perceive risk reductive behaviours and their attitude towards the response and risk itself. Risk perception is not a true determinant of behaviour yet, can activate greater risk awareness and positive risk reductive attitudes which favour healthy behaviours. Therefore, risk perception can influence an individual's compliance with restrictions as well as their attitude towards new healthy behaviours (Larcher et al., 2020). This path from perception towards action or behavioural change is complex and remains a topic of ongoing research on the cognitive, emotional and social influences with many theories presenting the dynamics of such development. As noted by Jun and Jin (2021), the shift from risk perception to behavioural change has many challenges particularly relating to the nature of risk communication and how the risk is interpreted by society. Differences in perception often makes it difficult to control attitudes over the course of a response and as such healthy behaviours may not be lasting as attitudes towards the response/campaign and progress shift with the course of the response. Yet, the challenges of maintaining compliance and retaining the practice of healthy behaviours can be overcome with active communication which encourages the individual on the practice of their healthy behaviour.

CHAPTER 3

THEORETICAL BACKGROUND & HYPOTHESIS

This section will review the theories which support and frame this study and its research hypothesis.

3.1. Introduction

Many theories and models are referenced across behavioural science and public health literature regarding the initiation and maintenance of healthy behaviours for risk management. Three models have been identified as central to the theoretical considerations of this research project; each are discussed separately below followed by the research hypothesis.

3.2. Health Belief Model (HBM)

The Health Belief Model was developed by US public health service researchers as a conceptual and practical model to interpret and represent an individual's behaviours in response to health risks (Bae & Chang, 2020). The HBM has been widely used across public health management and research to examine the role of social and psychological factors in determining if individuals will adopt healthy behaviours or why they fail to do so (LaMorte, 2019).

Healthy behaviours are identified as behaviours that may improve an individual's physical health or a behaviour that an individual believes may do so (Kim & Kim, 2020). The HBM highlights the critical relationship perceived risk plays on an individual's response. From observing public's perceptions, researchers can roughly indicate an individual's likelihood to adopt a preventative behaviour based on the perception of the risk (LaMorte, 2019).

The HBM identifies six determining factors for healthy behaviours. In this study two additional determinants are added reflecting on research by Orji and colleagues (2012) on the influential dynamics of an individual's social context to their perception of risk reductive behaviours.

Risk perception

Perceived susceptibility

This refers to people's subjective beliefs about how vulnerable and susceptible they are to a risk (Slovic, 2000). The HBM model includes both individual perception and altruistic perceptions of risk within this factor (Jones et al., 2015). Perceived susceptibility is a confident measure in the adoption of risk reductive behaviours and more so than perceived severity as susceptibility encompasses both danger to oneself and to others which may ignite social considerations.

Perceived severity

This refers to how serious people believe a health risk to be, and whether it will have carry physical consequences such as death, disability, pain and social consequences such as ostracism, stigma, and shame (Slovic, 2000). Like susceptibility, the severity of a risk is subjective and an individual may still underestimate their risk due to contextual factors regardless of the information provided.

Behavioural evaluation

Perceived benefits

This refers to considerations of outcome following the result of an individual's preventative actions (Bae & Chang, 2020). More modern research has reflected on the perception of these benefits in that the prospect of success is an important factor in choices to engage in behavioural change.

Perceived barriers

Opposite to the above, an individual's consideration about the barriers and other challenges related to the adoption of a health behaviour are equally considered in individual choice (LaMorte, 2019). Such barriers can reflect many dimensions such as physical, emotional, social etc.

Cue to action

This refers to stimuli observed or experienced by the individual which quickly results in greater recognition of the risk and encourages further investigation into their behaviour and response to the stimulus (Orji et al., 2012). Such cues may be personal (experienced pain/discomfort) or external (advice from a friend/ health professional or closing proximity).

Self-efficacy

This refers to an individual's confidence in their ability to enact a behaviour (Orji et al., 2012). Ability goes far beyond perception of risk and benefit vs barriers as contextual factors may prevent or reduce their capability to adopt a behaviour.

Additional factors identified by researchers

Consideration of Appearance:

This is reflected in the consideration of future consequences related to perceived benefits and barriers. And expands the model beyond simple rational decision making relating to cost and benefit. Encompassing how an individual's actions may alter their social context an individual may feel discomfort with acting in contrast with norms of the social environment (ibid).

Self-identity:

This represents an individual's perceived identity acting as motivator or barrier in adopting and maintaining a behaviour (ibid). As an individual identifies as a member of a behavioural group (e.g. green consumer) they are more inclined to maintain that identity by adopting a new behaviour which conforms with that identity (Jones et al., 2015). However, this can also have a negative effect if the health behaviour promoted is in direct conflict with their self-identity.

Considerations

The model is widely used but is often adjusted to improve its effectiveness as it remains largely focused on self-interests with emphasis placed on rational expectations of the individual. The HBM is categorised as reductionist for its lack of focus on external factors relating to an individual's lifestyle such as education, financial situation, social norms and emotional state (Kim & Kim, 2020). Which all play significant roles in determining their ability and willingness to adopt preventative behaviours. Another consideration is the limited focus on emotional cognitive influences in the model and cultural factors (Han & Cheng, 2020).

This critique has led researchers to include more contextual factors such as self-identity, considerations for appearance which add balance to the influential factors beyond self-interests to include desire and ability to change (Orji et al., 2012). The importance of ability and intention highlights the need for targeted communication in health campaigns so that they may build positive motivations across society to overcome barriers of inaction and engage society in risk reductive behaviours (Jones et al., 2015).

3.3. Theory of Planned Behaviour (TPB)

The theory of planned behaviour (TPB) is one of the most widely referenced models across risk and behavioural science (Xu et al., 2020). The theory was developed in the early 1980s following from theories of reasoned action and reflecting on critiques of rational choice models (Ajzen, 1991). TPB introduced several new factors reflecting more broadly on the influence societal values and perceptions of control can have on human behaviour (LaMorte, 2019). Central to the addition factors introduced is the influence of belief in driving intentions and maintaining behaviours (Xu et al., 2020)

The TBP is divided across three sets of beliefs: 1) behavioural, 2) normative and 3) control (LaMorte, 2019). Across these three sets of beliefs, six factors make up the TPB which indicate behavioural choice.

Behavioural beliefs

Attitudes

This refers to the degree to which a person has a positive or negative evaluation of the behaviour (Ajzen, 1991). Attitudes are central to how an individual may perceive a particular behaviour and outcome in performing such a behaviour.

Behavioural intention

This refers to the motivational factors that influence a certain behaviour as noted by LaMorte (2019). Where the stronger the intention to perform the behaviour can result in a greater likelihood that the behaviour will be performed.

Normative beliefs

Subjective norms

These reflect on social beliefs about the approval or disapproval of a behaviour across society. This is a critical factor in sociology and public health when reflecting on how an individual may act contradictory to health advice instead preferring to act in line with subjective beliefs (Ajzen, 1991).

Social norms

This refers to the customs and integrated codes of behaviour within a group or culture (LaMorte, 2019). Social norms are considered standard among a group of people and play a critical role in how individuals perceive risks and design their behaviours (Reyna & Farley, 2006).

Control beliefs

Perceived behavioural control (PBC)

This refers to an individual's perception of ability and skill to control a certain behaviour (Ajzen, 1991). PBC embodies an individual's perceived ability to adopt and maintain a behaviour [resources, accessibility etc.]. PBC can vary over time and circumstance, influencing their practices and attitudes towards a behaviour (Bae & Chang, 2020).

Perceived power/control

This refers to an individual's feeling of control over the factors that may facilitate or impede the performance of a behaviour (Jackson, 2005). Perceived power over such factors can strengthen an individual's confidence in their ability to perform a behaviour and contributes to a person's PBC. Like self-efficacy, perceived power reflects on an individual's perceived ability (power) to change their behaviour.

Considerations

The TPB model expands further beyond rational choice theories in considering variables of social order and control in human behaviour and decision making. Where the HBM reflects on considerations of ability to change behaviour through perception the TPB puts greater emphasis on personal and social considerations. Reflecting on behavioural intent rather than simply beliefs of self-interest seen across rational choice theories, this inclusion of attitudes and normative variables as influential factors in human behaviour relating to behaviour has made the TPB a common framework across pro-environmentalist research (Martinez & Lewis, 2016).

However, the TBP is limited as a framework for examining perspectives of low-risk individuals (Xu et al., 2020). The inclusion of social values as variables still limit reflection on emotional and environmental factors influential to one's willingness to adopt unfavourable behaviours (LaMorte, 2019). Additional variables have been added by researchers to further expand focus on moral and emotional variables. Yet, further research is needed to examine the capacity to which these variables service the TBP model.

3.4. Norm Activation Model (NAM)

Reflecting on the importance of norms as influential factors to an individual's behaviour. Both the HBM and TPB have been critiqued for their limited attention to responsibility and altruistic considerations as noted by Vandenberghe (2005). The NAM was designed by Schwartz (1977) to account for factors determining altruistic and pro-social behaviours where individuals adopt behaviours to support others without clear self-interest. The model has proven its utility and is widely used across sociology and psychology research (Shanka & Kotecho, 2021).

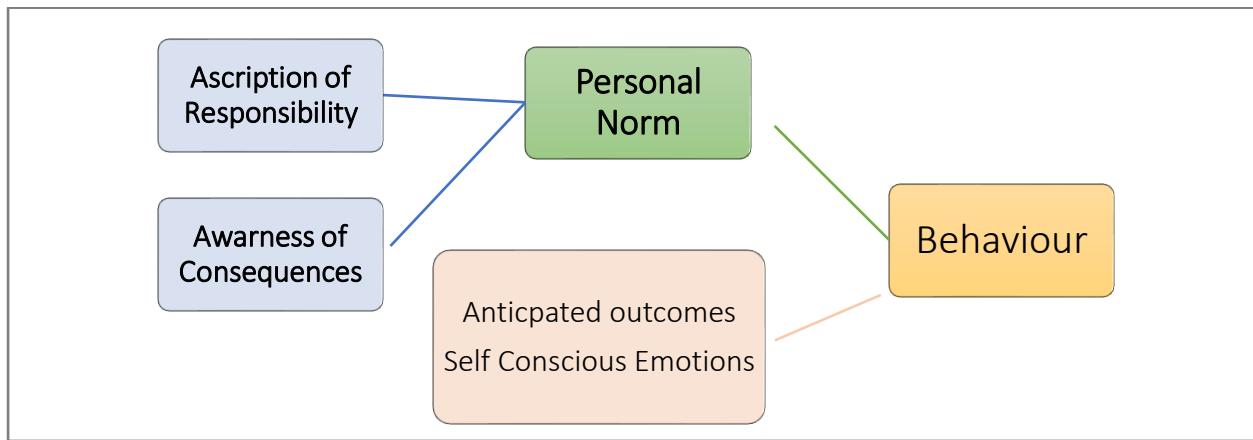


Figure 1: Representation of Norm Activation Model with additional self-conscious factor adapted from Onwezen et al. (2013, p. 144)

The model is centred around an individual's personal norm which is determined by two distinct factors as represented in the figure above. The strength of each factor contributes to the level of an individual's personal norm (intention to act altruistically) resulting in greater or lesser motivation for behaviour taken by the individual (Onwezen et al., 2013). An additional factor (anticipated and self-conscious emotions) is included following studies highlighting the importance emotional and outcome considerations play in unison with personal norms.

Personal Norm

An individual's personal norm is described by Schwartz (1977) as a representation of an individual's intention to act in a pro-social manner (Jackson, 2005). The personal norm of an individual can also be understood as the consideration of their moral obligation to others and has a powerful influence on choice of behaviour.

Personal norms are regarded as internal values which the individual considers important (Niemiec et al., 2020). While subjective norms are focused on how an individual may perceive themselves relative to the beliefs of their social group. Such externally focused norms are only focused on group beliefs and so personal norms differ as it represents internal values held by the individual that may or may not conform with external beliefs of the social group [sense of honour, responsibility etc.] (ibid).

Determinant factors

Ascription of Responsibility

This is described as an individual's assignment of responsibility for their actions when considering the risk. In the context of risk response, when an individual is confronted with a hazard, they may feel a sense of responsibility to act to protect others and themselves (Shanka & Kotecho, 2021). Ascription of responsibility can be a powerful motivator towards an individual's choice to act. Yet, this consideration for the wellbeing of others can also be critiqued as a self-interested motivation as an individual desires to project and uphold a sense of honour with reference to their subjective norms (Jackson, 2005). Nonetheless, responsibility is a powerful emotional consideration for the adoption of pro-social behaviours.

Awareness of Consequences

This represents a consideration of consequences related to the choice of action or inaction (Shanka & Kotecho, 2021). This can also be understood as an individual's prediction of the result and evaluation of its outcome (Onwezen et al., 2013). This understanding of outcome is a very influential consideration as it encapsulates emotional considerations as individuals reflect on the outcomes of their actions. However, the awareness of consequences is limited in its emotional and social scope and has been critiqued as too simplistic as a determinant and can also harbour self-interests motivations relating to one's appearance (Jackson, 2005).

Additional Factors

Self-conscious emotions

Researchers have noted that personal norms do not distinguish between emotions, as an individual may value the feeling of guilt over pride which then alters their motivation to act. The self-conscious emotions of Pride and Guilt are noted as the strongest when reflecting on considerations for altruistic behaviour and have considerable influence on an individual's intentions (Onwezen et al., 2013). Similar self-conscious emotions include shame, embarrassment, honour etc. all of which influence intentions beyond responsibility and consequences.

Anticipated outcomes

Anticipated outcomes are also considered important factors as an individual may perceive a particular outcome (consequence) to be of greater concern than another. In this instance an individual will wish to avoid more negative outcomes and so their intention may be skewed towards preventing a negative anticipated outcome (*ibid*).

Considerations

The NAM has proven its applicability across compliance and behavioural control research. The reflection on personal norms in research has been compared with other norms and has proven its

importance in indicating pro-social behaviour (Onwezen et al., 2013). The NAM adds greater emphasis to the moral judgements and internal values held by an individual and their influence on behaviour (Jackson, 2005).

While the altruistic and moral considerations of the NAM are motivators for adopting a behaviour servicing society. Such behaviours can also embody deeper self-interest considerations like appearance, guilt, consequence etc. (Vlerick, 2020). Personal norms can also reflect self-interest and egoistic desires which lie beneath the vail of pro-social behaviours leaving the NAM more reflective of rational choice as an individual is justifying their behaviour by assessing the value of their actions. Nonetheless the NAM remains a influential model in representing factors influential to the adoption of pro-social actions regardless of such critiques on the nature of considerations.

3.5. Research Hypothesis

Reflecting on the theories discussed, a hypothesis was designed to support the study with focus on factors that may be influential to the development of pro-social behaviours for Low-risk individuals.

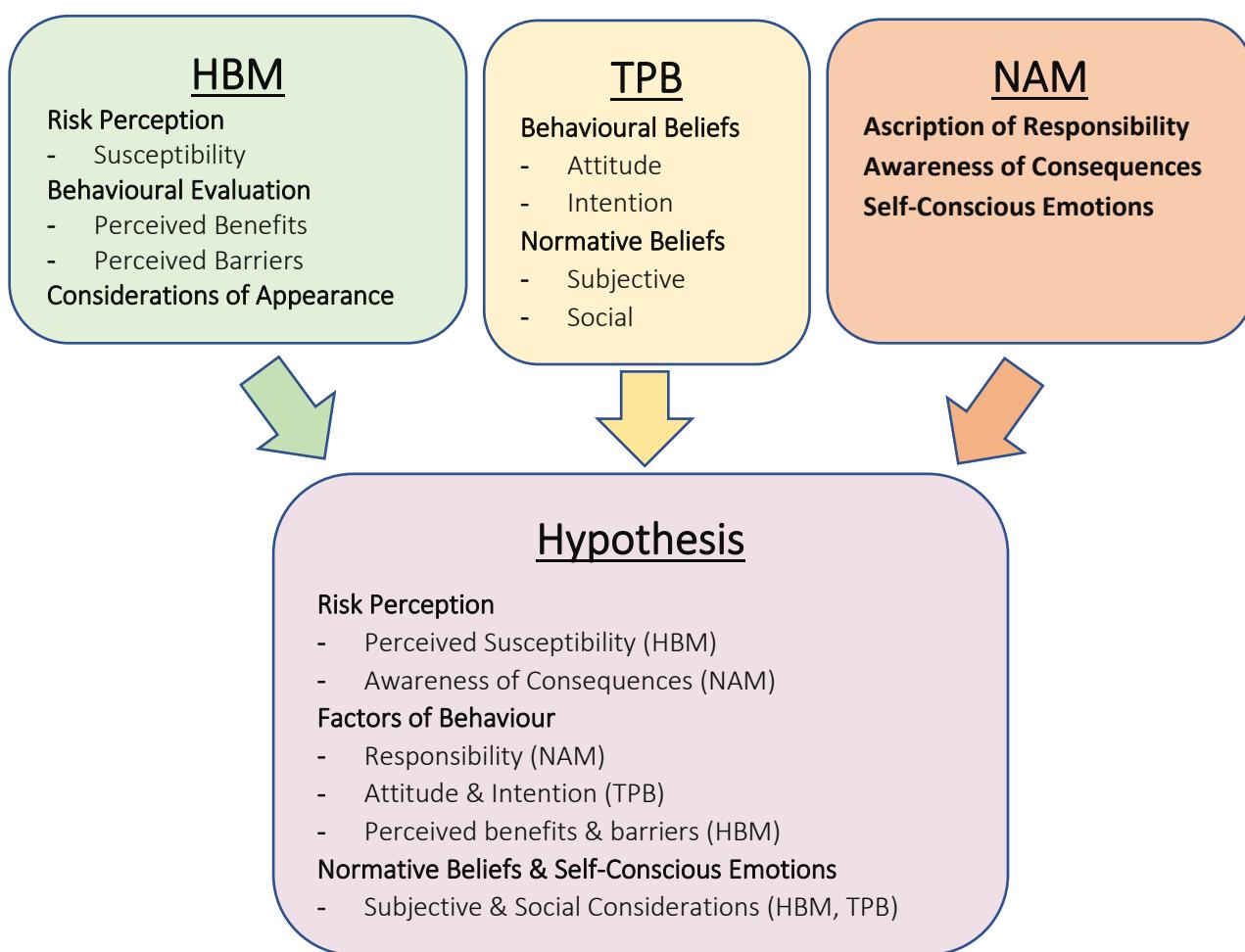


Figure 2: Depicting the theoretical framework of the research hypothesis.

Hypothesis

Low-risk individuals were influenced by factors of moral responsibility following an awareness of the risk the virus posed to vulnerable individuals in their community. This strengthened their attitude towards risk reduction and their intention to act in favour of reducing the risk. As a result, low-risk individuals adopted risk reductive behaviours and complied with measures to protect vulnerable individuals.

Hypothesis Reasoning

The hypothesis is designed on an expanded understanding of the rational and self-interest factors of the HBM and TPB. While including influential controls of responsibility and emotional considerations identified in the NAM. The addition of such concepts pays greater focus to the influence personal norms have on attitudes and intentions towards healthy behaviours (Onwezen et al., 2013). When designing the hypothesis, attention was paid to the research question and what factors may be influential to low-risk individuals. Four determinants were identified across the three models and integrated into the design of the hypothesis to indicate what may influence low-risk attitudes and behaviours. Below is a description of how each factor is believed to be influential to the behaviours adopted by low-risk individuals in this research.

1. Altruistic and Moral Responsibility:

Altruistic behaviour can be defined as '*behaviours and actions which support the welfare and benefit of others with no intended reciprocal reward for the actions taken*' (Vlerick, 2020. P.2). The held personal value of serving others is a strong influential factor in initiating a behaviour and maintaining behaviours (Pilivian & Charng, 1990).

When considering the behaviours of low-risk individuals throughout the COVID-19 pandemic. Their actions clearly reflect altruistic and pro-social intentions by supporting the wellbeing of others over their self-interests (Kim & Kim, 2020). The effect of altruism and feelings of responsibility therefore must be considered as a factor in initiating and maintaining risk reductive behaviours during the pandemic in Ireland.

2. Considerations for Appearance related to the Subjective Norm:

The consideration of public appearance is a strong motivation regarding how a low-risk individual may choose to act. A positive social appearance towards peers as noted by Jackson (2005) can add significant strength to an individual's intention to conform with the subjective norm. In this hypothesis it is recognised that low-risk individuals in Ireland were motivated by the perceived benefits of positive appearance to the subjective norm (sense of social pride). Equally, this can be reversed in that individuals acted so as to not be acting counter to the subjective norms of society.

This is highlighted by Onwezen and colleagues (2013) in their review of pride and guilt as factors influencing the strength of personal norms and the intention of an individual to adopt a behaviour.

3. Risk Perception:

The risk perception of the individual is critical in determining how they initially respond to a risk as identified in the HBM. This plays an essential role in their attitude and beliefs relating to that risk (Bae & Chang, 2020). The perception of a hazard by a low-risk individual in Ireland during the early stages can be understandably low as they were not susceptible to the risk. However, it is an important factor in this hypothesis as there must be factors which built an ascription of responsibility and pro-social behaviour.

4. Normative beliefs:

The consideration of normative beliefs stems from the understanding that social norms are dominant factors when considering acting on a risk. Xu and colleagues (2020), reference the importance of social norms on strengthening subjective norms that support preventative behaviours. Considering low-risk individuals in Ireland, if their families and friends perceived the risk to be high, then they too have a greater intention to act to reduce the risk and conform with the normative beliefs.

CHAPTER 4

METHODOLOGY AND METHODS

This chapter describes the methodology used for this research. The chapter is divided across four stages, from initial design towards data collection and analysis.

4.1. Research Methodology

An epistemological and inductive reasoning approach was used in this research. Wieringa (2014, pp 27-29), presents the inductive reasoning method as a useful approach towards supporting research through developing an initial hypothesis from investigation and observation and then applying this to the research.

A qualitative method was chosen using 12 semi-structured interviews selected using a purposive sampling method to inform the research question and test the hypothesis. The interviews were then examined using a snowball coding method with 7 codes used to identify participants perceptions, attitudes, motivations, compliance and trust which reflected on the national COVID-19 response and participant's behaviours in response to the hazard.

4.2. Ireland as the Study Location

Ireland was chosen as the location for this project due to the clear line of COVID-19 communication and the researcher's familiarity with the pandemic response and cultural norms. Ireland has a population estimated to be 4.9 million people (CSO, 2020). The country has a national public health care system, overseen by the Health Service Executive [HSE] which directs all areas of national health operations while directed by policy issued by the Department of Health.

COVID-19 Communication

In December 2019, a new virus similar to SARS was reported in China. In January 2020 communication of the risk increased following growing study. In February 2020 risk communication increased following large outbreaks across European countries. This initiated an emergency response from the national government with the activation of *NPHE^t, an independent body of health and crisis professionals tasked with informing the Irish government on public health emergencies (Department of Health, 2020). All ¹NPHE^t communications and meetings with the government was publicly available and disseminated through press briefings and government announcements.

Initial communication presented the danger posed to elderly individuals and the requirement to sanitise and wash hands was issued in early February of 2020 (*ibid*). COVID-19 information

¹ National Public Health Emergency Team

remained readily available to the public, with daily reports detailing statistics issued across all mediums of communication and in later stages of the response issued vaccination data. The dominate line of communication was favoured in the choice of Ireland as the study area as participants experienced the same level of communication and accessibility.

COVID-19 Response & Restrictions

Timeline	COVID 19 Response	Restrictions & Measure
March 12 th 2020	Guidelines introduced. Following increasing infection rates across Europe.	<ul style="list-style-type: none"> - Closure of public buildings and schools. - Guidance on social distancing of 2m, wearing of facial masks and hand washing. (Department of Health, 2020)
March 20 th 2020 1st Wave of Infections	Laws passed giving powers of arrest by police for failure to follow health restrictions. Infection rates begin to rise across Ireland with daily cases exceeding 100 people.	<p>Legal penalties imposed for:</p> <ul style="list-style-type: none"> - Failure to wear face mask indoors. - Travel beyond 5km from home. - Inter-county travel without valid cause. - Attendance at/ hosting public event. <p>All restrictions carried a financial penalty of €2,500 or 6 months imprisonment</p>
March 24 th 2020	1st Lockdown begins. (Citizens Information, 2020). 5 phased plan for reopening announced to begin May 18 th – August 10 th , 2020. Legal penalties remain enforced.	<ul style="list-style-type: none"> - Ban on all social gatherings. - Mandatory facing coverings in all public locations. - 5km travel restriction. - No inter- county travel. - Necessary travel for essential work (healthcare) and family shopping allowed.
October 21 st 2020. 2nd Wave	2nd Lockdown Infections increase, daily cases exceeding 1000 people.	Re-introduction of all restrictions.
December 1st 2020.	Restrictions partially relaxed. With reopening of hospitality businesses for outdoor dining	<ul style="list-style-type: none"> - Weddings and funerals can be held with a maximum of 25 people attending and social distant. - All other restrictions remain in place.
January 12 th , 2021. 3rd	3rd Lockdown. Schooling and childcare exempt. Rapid increase in infection rates over the month of	<p>Re-introduction of full restrictions with adjusted penalties for non-compliance.</p> <ul style="list-style-type: none"> - Compulsory 14-day hotel quarantine on arrival into Ireland.

Wave of Infections.	January, daily case numbers vary: 2000-7000 people.	<ul style="list-style-type: none"> - Traveling to an airport or outside of the state without a valid reason (€2,000 fine or 6 months imprisonment if broken) - Failure to wear face covering (€80 and €1,000 for failure to pay) - Attending social gathering (€150) - Organising social event (€500) - Traveling outside of restricted [5km] area (€100) <p>(An Garda Siochana, 2021)</p>
May – October 2021	<p>Staged re-opening of society and business opening with all restrictions in place for protection.</p> <p>Daily cases above 900 make hesitant re-opening.</p> <p>Vaccinations increase daily reducing fear of 4th wave.</p>	Restrictions remain in place and with phased reopenings of businesses. Penalties remain in place throughout the reopening.

Figure 3: An overview of COVID-19 restrictions and the response in Ireland from December 2019 – August 2021 (An Garda Siochana, 2021; Department of Health, 2020; Citizens Information, 2020).

A positive component to the selection of Ireland was the national distribution of COVID-19 restrictions. Several countries imposed location specific lockdowns with varied levels of restrictions due to different infection rates. Ireland chose to introduce nationwide restrictions which resulted in all participants experiencing the same level of restrictions over the same period. Thus, eliminating biases resulting from restriction variation.

4.3. Choice of Low-Risk Study Group

Individuals between the ages of 20 and 34 were chosen as the low-risk study group for this research as this age group is recognised by health professionals as less susceptible to hospitalisation and death if infected by COVID-19 (Lockerd, 2020). Thus, this age group was chosen for its satisfactory ‘low-risk’ of mortality and hospitalisation.

The dynamics across the study group reflected in their different lifestyles also add diversity to their attitudes towards the risk reductive behaviour. Individuals in their early 20s at the time of COVID-19 restrictions in 2020 were likely attending university while individuals in their late 20s or early 30s likely started their careers and may be developing future opportunities and relationships. This dynamic across the study group provided a varied insight into how low-risk individuals at different stages of their lives may have perceived the risk reductive behaviour relative to their context and how their choice in behaviour impacted their lifestyles. This consideration for the

consequences relating to action was identified as an important influence to individual decision making within the TPB and NAM theories.

4.4. Data Collection

The research was conducted using 12 semi-structured interviews. The interview method was chosen as a comfortable format for discussion between the researcher and participant. Offering a greater depth to the interview and a comfortable platform for participants to express their feelings related to the subject. This was an important factor when analysing discussions, to which quantitative methods simply would not satisfy. Qualitative methods are favoured for supporting a greater understanding of participant's motivations for their behaviour offering researchers the opportunity to ask further questions to gain greater insight (Loss et al., 2021; Larcher et al., 2020).

While several similar studies were conducted using large quantitative study groups (Yang et al., 2020). Large survey methods have been critiqued for their limitations in depth and validity as they offer no possibility to engage with the participant and further discuss their answers. Franzen and Wöhner (2021) highlight the limitations of survey studies in similar risk and behavioural research as the results are self-reported by individuals who are more likely to provide socially desirable answers, adding to biases. For such reasons a small sample of semi-structured interviews was the optimal method of delivering informed content with increased validity to identify factors influencing behaviours. Under COVID-19 restrictions all interviews were conducted online.

4.4.1. Participant Sampling Method

A purposive sampling method was used to identify candidates for this study. Individuals were identified by a third-party individual not party to the research but informed on the objectives of the study. The purposive method was chosen for its specificity in identifying and selecting individuals that satisfied the objectives of the study and for its nonprobability application which supports small sample research in selecting participants to add diversity and purpose to the study (Blackstone, 2012). A recognised challenge among small sample sized research can be the generalisation of wider society and the difficulty of diluting biases. This research strictly does not intend to generalise wider society and so suitable candidates were identified with consideration for adding diversity across the study group and to remove biases such as inter-participant relationships and knowledge the research field and purpose. A categorisation method was then used to select participants to increase diversity and reduce biases across the study group.

1st Sampling Stage

The third-party individual carried out the initial scoping for participants using LinkedIn, social media and social contacts whereby individuals were asked to identify another individual that matched the objectives of the research. It was requested that at least one teacher, medical worker and member of the Irish police force be identified in the first sample for participation in the study. This was chosen by the researcher as employees within these job areas were active in their employment during the pandemic and it was desired to have these experiences included in the study. The 1st

stage of sampling identified 24 individuals who fitted the three criteria below and were willing to participate in the research study. However, two police officers identified in the initial sampling stage no longer wished to participate in the study citing concerns relating to their employment. Identified individuals were then re-assessed to confirm they met the following criteria.

Criteria for 2nd stage sampling

- *Between the ages of 20 and 34 years old.*
- *Were resident in Ireland prior to and throughout 2020.*
- *Were present in Ireland during all COVID-19 restrictions issued throughout 2020 and 2021.*

2nd Sampling Stage

Three categories were designed with the main distinction for all three being the participant's occupation at the time of the pandemic in Ireland (January 2020 – August 2021). Identified individuals from the 1st stage were then selected using this categorisation method. While age variation is a variable factor across the three categories it was not considered a criterion in the categorisation of participants as the age of individuals is not consistent with their lifestyle. The categorisation method was used as a tool to increase diversity and reduce biases in generalisation and those within the sample itself. Gender balance, age variation and occupation were favoured across the categories to add balance and diversity to the study group. Categories were designed to represent possible differing attitudes towards the risk and behavioural change relative to their different lifestyle. Below is breakdown of the three categories and how they add diversity to the study

<u>Category 1</u>
Individuals who are/were university students or starting their career as of January 2020. This group represents individuals that may have a more social-based lifestyle given their status. Their considerations for compliance, norms and responsibility will present an interesting dynamic as they are more likely to have moved home during the pandemic lockdowns.
<u>Category 2</u>
Individuals who are at the early stage of their career: 1-3 years This group reflects on young professionals starting their careers. Their perception of the risk may reflect on how the restrictions impacted their professional aspirations which may have influenced their considerations of barriers, benefits and self-efficacy etc.
<u>Category 3</u>
Individuals with greater than 3 years in employment. This group is hoped to represent individuals with a developing professional career. Their considerations of responsibility, barriers and susceptibility may differ relative to the disruption the restrictions placed on their career environment.

Figure 4: Description of categories used to diversify participant selection.

Ethical and Privacy Considerations: All interviews were conducted with full disclosure of the use of participant's information and recorded interviews. All interviews were recorded for later transcription and then deleted. It was chosen that this research be conducted with anonymity granted to all participants personal information as several participants requested this. Participants were asked at the beginning of each interview if they accepted these terms and conditions before proceeding.

4.4.2. Interview Design

Interviews were designed to satisfy four core objectives reflecting the research purpose.

Core Objectives:

1. Determine if participants felt a responsibility to others and if this motivated their actions and compliance with the restrictions.
2. Determine the factors influencing participant's behavioural intent (altruistic/pro-social or self-interest)
3. Determine what factors of COVID-19 messaging were influential to participant's risk perception and behaviour.

Characteristics

- *Elements: These were representative of statistical data or expert knowledge communicated across COVID-19 communication mediums. (e.g. daily case numbers, death numbers, expert understanding and learnings)*
 - *Themes: These represented emotional and experiential content which was presented across the COVID-19 communication. (e.g. fear, caution, unity, community, uncertainty, anger, irritation)*
4. *Determine what factors influenced their feelings of compliance.*

The interviews were designed to progressively build a greater understanding of the participants' risk perception during the crisis and what factors were influential to their behaviour (communication, messaging, emotions, responsibility etc.)

The questions were structured to gradually engage participants in discussing their motivations and considerations for their behaviour towards the risk. Initial questions were designed to build rapport and were purposefully non-intrusive to participant's experiences, questions then gradually became more focused on their motivation and feeling towards the restrictions and the campaign. This gradual structure to questioning was preferred as COVID-19 remained a sensitive subject for many participants at the time of the study as people across society had experienced loss of family members from COVID-19. A complete interview guide detailing the objectives and questions can be found in Appendix 1.

4.5. Data Analysis

A structured, manual method of descriptive qualitative coding was used as the preferred method of data analysis for this study. Several codes were initially designed prior to the analysis of the data followed by more exploratory codes introduced upon analysis of the results. A total of 7 codes across 4 sections were used to investigate the hypothesis and research question. These codes were designed to provide a broad view of what factors were influential. A snowball method was then used as data was coded and analysed to extract factors influential to participants motives such as moral responsibility, format of communication, perception etc.

Codes

1. Influential to Perception

- Factors influential to Perception of the risk
 - Knowledge
 - Fear
 - Other nations experiences

2. Influence of Risk Communication

- Understanding of the risk and progress
 - Feedback
 - Clarity
- Characteristics
 - Influence of Elements (statistics, expert opinion etc.)
 - Influence of Themes (emotional content, feelings of fear/ optimism, stories and experiences, emotional messaging etc.)

3. Factors Influencing participants Behaviour

- Motivation Factors
 - Self-Interest
 - Altruism/ Moral responsibility
- Normative Beliefs
 - Subjective Norms
 - Social Norms

4. Behaviours and Compliance

- Tolerance (Behavioural Control)
 - Perception of control and progress
- Communication Influences

Manually coding the of data, was preferred over automated methods as it offered a greater understanding of what factors and considerations were influential to each participant's behaviour. Automated software presented several limitations regarding its ability to accurately interpret participants and understand their wording and language.

4.6. Limitations

Time and resources:

A larger study including both qualitative and quantitative research would provide a greater platform to understand and support the hypothesis while serving to add greater validity to the findings. Limitations in time and resources reduced the scale of this research, however, did not limit the validity of its findings as they represent the motivations and understanding of the participants of this study. And therefore, serve to improve researchers understanding of held moral responsibility and its influence across risk and crisis management.

Timing of the Study:

At the time of the study individuals' opinions and feelings may have been influenced as the study coincided with the re-opening of society and vaccinations. The staged research of Niepel and colleagues (2020), of US adult's perceptions of COVID-19 noted the biases that may develop when the risk is depleting. The design of the interviews reflected on this limitation. However, it is recognised that a future periodical study taken at different stages of a response would be preferable.

CHAPTER 5

RESEARCH RESULTS

This chapter presents the research findings across 4 sections: risk perception, COVID-19 communication, behavioural influences and compliance.

5.1. Risk Perception

All participants initially regarded the risk as low, referring to it as distant with a limited awareness of consequences referenced by some participants. The research found that as media coverage became more focused on the risk, perceptions changed.

'I assumed it would be like SARs and have no real impact on my life. I didn't consider it to be an apparent danger, I didn't consider it to be a danger to me at all. I thought of it as this foreign disease and issue that would never affect me.' (Participant 5)

Factors influential to changing risk perceptions

- **Proximity and increasing media attention developed greater awareness**

Events in European countries in early 2020 and increased media attention of COVID-19 played a significant role in developing participants' perceptions of the risk. In the discussions with participants, imagery and news stories reflecting the difficulties faced by European nations such as Italy and Spain were found to build greater emphasis of danger. The combined coverage and proximity of the risk activated rational and affective perceptions which developed participants perceived danger and can be seen as cues to action influencing perception.

'Well, yeah, obviously my perception of it completely changed because it's on your doorstep. You are thinking how am I going to deal with this? What's going to happen? The question for me was how long is this gonna last?' (Participant 12)

- **Greater understanding of the risk**

Several participants referenced an increased understanding of the virus as a factor which changed their perception of the risk. With more media exposure and a greater understanding from countries experiences more information was known about the virus and its risk prior to the beginning of restrictions in Ireland. Knowledge was found to be more discussed among participants in category 2 and those with a science background. Participants found comfort in having a greater understanding of the virus itself and having knowledge of the unknowns which supported their trust in the response and communication campaign.

'Having a science background, I was very interested in the professional advice and I was familiar with some of the professors from college. I thought the professional advice, particularly by

'Professor Luke O'Neill was very informative without coming across as elitist or condescending. It was comforting to have more information, I felt I could make decisions more confidently.'
(Participant 5)

- **Elderly susceptibility and affect heuristics:**

The interviews also highlighted the importance of emotional factors such as susceptibility and fear in changing participants attitudes towards risk reduction and prevention. Emotion was identified as a factor for overcoming initial optimistic perceptions as the majority of participants made a direct reference to feelings of worry concerning the virus during the interviews. Participants made references to fearing for the safety of their loved ones which indicated developing pro-social consideration of altruistic values.

5.2. Influential Factors of COVID-19 Communication

Preferred mediums of COVID-19 communication identified by Participants

1. **HSE and Irish COVID-19 Campaign**

(8/12 rated this as their favoured platform)

2. **Radio and TV Discussion Media**

(2/12 rated this as their preferred platform while 4/12 rated this as their second)

3. **Friends and Family (1/12) + Social Media (1/12)**

- **Unity and pro-social values in initial COVID-19 messaging**

Findings from the interviews show mixed reflections on feelings of unity. Four participants made direct reference to feelings of community during the initial stages of the response. While several participants refer to community as throw away terms used half-heartedly by the campaign. Campaign messages were reflected on as supportive in stimulating pro-social thinking and responsibility among participants. Terms like 'protect your bubble' which identified an individual's protective group (family, colleagues etc.) activated such feelings of responsibility which supported later behavioural intentions. A greater sense of community spirit was communicated across social media with events and activities being held to support individual's lockdown experiences. Participant's reflect on this focus and a strong sense of positivist freedom drawn from the messaging during the first 3 months of lockdown which was influential to participants attitudes and wellbeing.

'And everyone did feel like they were just coming together and it was bringing people together and everyone was like a team together trying to beat the virus and everyone was following the rules. So I did feel like I had an obligation to be part of that effort and stay at home and I wasn't going out'. (Participant 9)

- Radio as a platform for engagement

An important finding from the research was the influence local and national radio played in developing participant's behaviours and attitudes towards pro-social behaviours. Participants showed interest in public and expert discussions, particularly, for the non-academic way the risk and restrictions were discussed. Radio had as a strong influence as a platform for engagement supporting feelings of community and allowed many different groups across society to engage with the discussion.

'Especially in early 2020 I found the expert voice really good because there was that sense of uncertainty and confusion around things about the virus and its effects. Some people were saying it was very similar to the flu and some people were spreading misinformation on social media so being able to look at the expert advice was much better'. (Participant 2)

- Confusion over restrictions built perceived barriers among participants

Initial communication was clear and coordinated. However, as greater restrictions began to be introduced in Ireland, several participants made a direct reference to the confusion this created. This confusion created perceived barriers influencing participant's action and control beliefs which attributed to delays in responsiveness witnessed by participants and feelings of panic across society as shops were being cleared of stock.

'I didn't like what we were getting was the clarity around the restrictions, there had to be clarity around the restrictions, regardless if this is an unprecedented event or not. (Participant 10)

'It felt like a war had just begun. The shops were emptied, public transported was packed. People were fleeing from the city. The sense of panic was clear especially with all the panic buying.'
(Participant 1)

Influence of communication characteristics

- Expert knowledge supported confidence

Participants identified the influence of expert knowledge in developing their risk perceptions. Participants highlighted radio and social media as central to expanding their knowledge as experts spoke largely on radio shows which allowed for public engagement and discussion which participants preferred over nightly news and campaign announcements. Equally, important was the diversity and clarity of knowledge and speakers present on radio which was more informative for participants without an academic background.

'For me, Professor Philip Nolan and the expert advice. I think he was God sent. He was the person that I would listen to and take seriously whereas with the government officials I don't think they had a clue what to do. Whereas I needed that expert knowledge to really understand what was going on. Especially in the first lockdown I was really struggling.' (Participant 5)

- **Statistics clearly displayed risk but also failures**

Participants described statistics as a two-way influential tool which informed but also frustrated them. Statistics were a supportive method which built greater risk awareness by providing a daily indication of the danger through case numbers and infection rates. Yet, on the other hand, statistics were described as an overhyped tool that was given too much attention throughout the campaign, giving the illusion of safety when in fact the risk was increasing.

Statistics were seen as an over simplified representation of the risk which symbolised the outcome of progress and also what some believed to be administrative failures at different points in the response. The volatility of the statistics at times damaged public confidence in the response.

'As the virus moved closer I relied more on the HSE and statistics like case numbers. They were good. I checked the statistics regularly online or on the news. They were talked about a lot and I felt that they were given a lot of air time. Which sometimes was too much and in your face which made it feel depressing. Like everything almost seemed about the statistics and it was a little out of touch.' (Participant 1)

- **Themes and emotional content framed fear but also ascriptions of responsibility**

Participants did not regard themes and emotional content as very influential in their experience. Documentaries and investigative journalism were referenced by some participants however, it was referred to by others as 'heartbreak . . drama' (Participant 10)

Participants did reflect on the national campaign's focus on family and 'staying within your bubble' as grounded themes suggesting that participants developed feelings of responsibility through such emotional media.

'And, I guess the biggest part was, keeping my mom and dad safe as they're high risk, and my sister will be quite high risk as well, like they were my bubble. And with all the information about the danger they're under, I was just kind of doing everything I could to protect them, I had that responsibility to make sure they were ok' (Participant 8)

5.3. Factors Influential to Participant's Behaviours

Pro-social perception of the risk

A most influential finding was participant's reflections on their actions and behaviours which indicated strong pro-social behavioural intentions. Discussion highlighted pro-social values which supported feelings of responsibility and held personal norms, which in turn led them to adopting behaviours which protected others as well as themselves.

'I didn't feel like I was protecting myself really, because I didn't think it was that much of a risk to me. But I knew that this was something I should be doing. Even if it wasn't at the forefront. It was a moral obligation to me. I was aware of the consequences of not helping for sure. I think this motivated me. You have to think about those around you who are at risk.' (Participant 11)

In the early stages of the crisis this pro-social understanding contributed towards participants rapid adoption of risk reductive behaviours and changed attitudes towards compliance. It is possible that a focus on vulnerable people and the elderly across COVID-19 communication had a significant impact in developing participants pro-social values towards a subscribed altruistic behaviour.

Subjective norms and self-conscious emotions

Pro-social beliefs were also supported by subjective norms discussed by participants which helped to maintaining those behaviours. Seven of the participants indicated considerations of appearance and subjective norms as influential to their practicing of behaviours. Participants mostly reflected on guilt as a self-conscious emotion while two participants reflected on pride in their work. Pride was also referenced in a second way by participants as they assessed their actions and behaviours during the pandemic based on their success in preventing COVID-19 infections of themselves and their social bubble. Pride as an influential emotion can be seen as an acknowledgment of responsibility held by participants. However, pride can also be interpreted as a self-interest factor like charitable donations and the self-fulfilment that may bring to an individual.

'I wasn't worried about myself but more so my dad because he's high risk, I was thinking more about him than me. So I was a bit anxious about going to the shop and going out because I wouldn't have liked that guilt had something happened to him.' (Participant 4)

'I didn't want to be the person who gave COVID to someone else, I didn't want to feel that guilt and I suppose I didn't want to be known as a spreader of the virus. So my motivation was selfish really like protecting myself and my reputation. It may sound bad but that's sort of how it felt a little.' (Participant 1)

5.4. Factors Influencing Compliance

Restriction fatigue

Two factors are discussed relating to restriction fatigue which the findings highlight was a period where participants' confidence and tolerance for the government's restrictions deteriorated.

- Poor responsiveness reduced positive momentum:

Poor feedback from the campaign relating to progress and other aspects of the response reduced confidence among participants. Several participants refer to the lack of feedback from the campaign as difficult and frustrating over the prolonged period of restrictions. Participant 5 makes reference to the lack of information about people who recovered from COVID-19 as influential to their fatigue of the response. Participant 7 describes this unresponsive dialogue as a 'carrot on a stick feeling' that the campaign used to as an attempt to maintain compliance. But for some participants it was half-hearted and debilitating.

'And one thing that was not great was the way, the government kept holding the carrot in front of the public in terms of different things. I remember, initially, the schools closed in April or May or whatever it was, and there's no Leaving Cert and then it was all about staying within our 5k or 10k, or county or whatever it was at the time, so that come September 2020 kids go back to school, and then that kind of happened and then it didn't happen'. (Participant 7)

Participants felt the communication was unresponsive to public feeling and expressed a growing sense of discomfort as news and media promoted progress that was contradicted by another outbreak reducing positivity. These actions challenged feelings of unity and community among participants.

'Between waves in the pandemic, we seemed like everyone doing their job, protecting one another and protecting themselves and their family. So at the start there was some sense of 'we are all in this together' but as time went on that definitely left. It was frustrating too, the campaign was about unity but the restrictions were tough and long and didn't really feel unified after a while.' (Participant 1)

- Administrative failures reduced confidence in the response:

At periods throughout the response participants reflected on the longevity of restrictions and intermittent lockdowns as indications of perceived administrative failures in the national response. Participants referenced re-openings of society and the hosting of a national election during the crisis as factors which weakened their trust in the national responses capability to maintain control.

'When we were in lockdown, there was a set plan with five phases then when these cases started to go down they escalated this plan quickly opening things up. I didn't understand this, there was a reason for the original plan and the plan was only three weeks old so why would the government change this?' (Participant 4)

Disengaged format of COVID-19 communication over time

Participants reflected on the repetitive format of COVID-19 communications over the course of the response which reduced unity and compliance. Participants did not favour the extended dissemination and focus given to statistics on daily news referring to the statistics as 'in your face' and having a numbing effect on risk perception. This had a negative impact on participant's confidence and compliance after their prolonged experience with imposed restrictions with limited indication of finality. Several participants made direct references to the negative influence statistics had on their behaviour and mental wellbeing as the COVID-19 restrictions continued over months as opposed to the initial plan of weeks.

'Then you'd come home from work and at first we will put on the news and see the statistics but as good friends we changed it when we looked at the statistics because the numbers were increasing and it all seemed like doom and gloom.' (Participant 3)

Participants felt that the communication was disconnected with the feelings of society. As the numbers would vary daily the inconsistency of progress coupled with perceived government failures and irrational actions led many participants to feel withdrawn from the response. Some admitted to breaking the restrictions as a result of their reduced confidence and frustration with the response and lack of progress.

'For me, government communication was very good at the start, then the election happened and the communication took a complete nose dive. To the point where I was very frustrated'.
(Participant 12)

Preference for personal behavioural control instead of a dependence on restrictions

The research found that while responsibility and personal norms were influential factors in participant's behaviours initially. As confidence drained and fatigue from the restrictions set in, participants reflected more on their personal ability to control their own actions while becoming more lenient with restrictions. When asked about their actions participants alluded to their confidence in their ability to control their behaviours while maintain protection. This is found to be a negative factor of perceived behavioural control spurred on from poor management of public feeling.

'I still wear a mask but during the latest lockdown I was more willing to meet up with people and go to restaurants because I just felt very isolated. I know we weren't supposed to meet with people but I did, we still wore masks and were very responsible but I was definitely more relaxed about the restrictions in the recent lockdown'. (Participant 4)

Strong feeling of investment in behaviours helped maintain compliance

An interesting finding was the influence responsibility and subjective beliefs had on participants as they remained invested in their altruistic behaviours even while some participants admitted to breaking restrictions. This suggests that not only were these beliefs factors in their adoption of behaviours. The beliefs also had an influential role in participants maintaining them while feeling less compliant with restrictions.

'I don't think my motivation ever fell, because I think the emotional side of what would happen if my family got it just drove me to keep to the restrictions. But definitely, I questioned it multiple times, particularly around March this year, I think I still will keep the restrictions.' (Participant 8)

Discussions with participants indicated a feeling of investment or subscription in their adopted pro-social behaviours as they chose to continue their practice while feeling less compliant. All participants reflected positively on the outcome of their actions and behaviours while several participants did express that restrictions were unfair, yet were satisfied with their actions in reducing the spread of the virus.

'At the time, I didn't think it was fair, I didn't think it was fair that we had to sacrifice a year of our lives, socializing, climbing that ladder at work and just moving on in life. But looking back now, I think it's a small price to pay. And we're lucky enough to not know anyone that has gone through losing a loved one. And I think in the grand scheme of things, family is more important'.

(Participant 6)

CHAPTER 6

DISCUSSION

This chapter will discuss the findings with reflection on the research question and research concepts of behavioural science and risk communication.

6.1. Role of Media in Changing Risk Perceptions

Findings from the study show that perceptions of the risk developed quickly, changing from low to high in line with greater media coverage and the closing proximity of the danger. Proximity, knowledge and fear were the main factors referenced by participants indicating a greater awareness of perceived susceptibility. Such factors indicate cues to action which was supported by media coverage in developing cognitive and affective risk perceptions. It is recognised that with increasing proximity came growing media attention which in turn developed perceptions which follows similar findings from recent research on health emergencies (Paek & Hove, 2017). A closer interpretation of the results suggests that while a greater awareness of the risk was essential, the messaging used must have been influential towards building a strong ascription of responsibility encouraging pro-social behaviours. This suggests that media framing was equally influential in getting participants to adopt pro-social values. Aligning with recent research by Shanka and Kotecho (2021) on the influence of COVID-19 media coverage, tone and framing in developing personal norms supporting pro-social attitudes towards risk reduction. With growing media coverage came increasing levels of perceived susceptibility which activated cues to action which in turn developed growing risk awareness changing perceptions and building ascriptions of responsibility.

Prior to increased media coverage, participant's perceptions and awareness was limited referring to the risk as 'distant' highlighting the limited perceived susceptibility of participants (Kahan et al., 2007). Thus, media coverage and framing can be considered as instigating actors in building susceptibility and affective perceptions of the risk. If this change was influenced by affective framing this is an interesting finding for risk communication and behavioural change. As the tone of the communication may have influenced participant's perceptions thus, encouraging feelings of responsibility. However, this correlation between possible media framing and the development of ascriptions of responsibility and adoption of pro-social behaviours cannot be accepted as causation as this research does not investigate the media framing itself. Nonetheless, the findings highlight the importance of media coverage for informing and promoting risk reduction across the study group.

6.2. Subscription Mentality Towards Behaviours

A central factor supporting the behaviour and attitudes of the participants was the strength of pro-social values in motivating behaviours. Participants held a subscription like mentality towards their risk reductive behaviours which were found to be driven by embodied pro-social values. This subscription mentality towards practiced behaviours can best be seen in later stages of the response as participants maintained their protective behaviours regardless of their weakened compliance. This continued maintenance of pro-social behaviours even when openly critical of the response are reflective of behaviours witnessed in financial investment which highlight a psychological subscription to a behaviour of social and personal value (Jackson, 2005). Such strong values supporting the continued practice of behaviours underline the importance of early influential factors to perception and intention in building these strong pro-social values.

6.3. Intentions, Barriers and Benefits for Healthy Behaviour

Participants referred to several barriers (restrictions, uncertainty etc.) as influential to their attitudes, behaviours and compliance. Initially, these barriers must have been overcome for the adoption of healthy behaviours as rational determinants for behavioural change fail to account fully for participant's motivations to comply. There was no clear personal risk or benefit as many participants refer to the costs of their actions relating to lifestyle changes over the perceived benefits. Shank and Kotecho's (2021) research found a balance between rational cognitive determinants and affective beliefs as motivators for participant's behaviour in their study. Similar balances can be found in this research as perceptions and attitudes towards the risk developed so did intentions and feelings of responsibility to protect loved ones. This interpretation of participant's behaviours as a combination of rational decision making and affective pro-social beliefs is further supported by participant's assessment of their actions. Participants signified success as their ability to have protected themselves and loved ones from infection. Which reflects on essential behavioural intentions at the beginning of their experiences. As participant's personal assessments of success was viewed as protecting vulnerable loved ones and themselves then there is also a suggestion that the evaluation of behaviours reflects strongly on the initial pro-social intentions and perceived altruistic benefits as opposed to perceived barriers of adopting a new behaviour. Supporting suggestions that pro-social values had a profound impact in developing subscription like behaviours.

6.4. Time-Dependent Compliance

In this research a correlation can be seen between the longevity of the response and participant's compliance. Participant's referred to perceptions of temporary barriers or 'temporary cost' in their discussions which could be a possible explanation for their quick compliance and subscription to pro-social attitudes and behaviours. The understanding of a 'short price' with a benefit of public good is an acceptable compromise which may have motivated their compliance. Equally a perception of temporary barriers had negative effects on some participant's experiences with

prolonged restrictions and compliance. As the response prolonged some participants confidence in the response drained. However, pro-social behaviours continued to be practiced suggesting that perceived temporary barriers did not devalue participant's intentions or attitudes to protect loved ones as participants remained invested in such pro-social behaviours. Yet, the longevity of the response with limited repetitive media coverage did damage compliance and confidence in the campaign itself. Indicating the duality of presenting risk reduction as a temporary barrier/cost.

6.5. Role of Subjective Beliefs and Appearance

Subjective beliefs and self-conscious emotions such as guilt were found to influence decision making and compliance throughout the response. Considerations for appearance and subjective beliefs are important factors included in all three of the models discussed in chapter 3. Dyregrov and colleagues (2020), in their recent study on the risk behaviours of adolescents in Norway during COVID-19, found similar beliefs, as the desire to fit in and belong was found as an influential sociological prompt for continued practice of healthy behaviours. The influence of such beliefs and emotions on behaviours may be an indication of the COVID-19 campaigns success in building strong social norms favouring compliance which coordinated participant's subjective beliefs.

Han and Cheng (2020) highlight the role media exposure and normative responses have on re-defining social and personal norms which then influence and are influenced by behaviours. Thus, if a risk campaign focuses on promoting behaviours through moral values than social norms may adapt to reflect such values which increase pro-social behaviours, and so the practice of these behaviours further strengthen the established normative beliefs. The desire to comply with norms is a strong factor for changing and maintaining behaviours. Yamin et al. (2019) highlights that intervention methods designed to adapt or alter social norms through soft-persuasive communication methods can motivate compliance and behavioural change (e.g. X number of individuals your age don't smoke). Yet such methods can be negative as it creates differences across society impacting individuals' attitudes towards each other and future campaigns (Lee, 2020). This research is limited in its ability to identify if COVID-19 messaging embodied such soft-persuasive methods to build pro-social values. However, participants did reference desires to comply with personal beliefs and avoid negative emotions (guilt, shame) suggesting that participants did consider normative beliefs which embodied strong pro-social attitudes supporting compliance and healthy behaviours.

6.6. Reflection on Theoretical Considerations

The findings reflect much of what the hypothesis represented, while several additional considerations were found to be influential to the behaviour of low-risk individuals. Figure 5 includes a complete representation of influential considerations found across the research

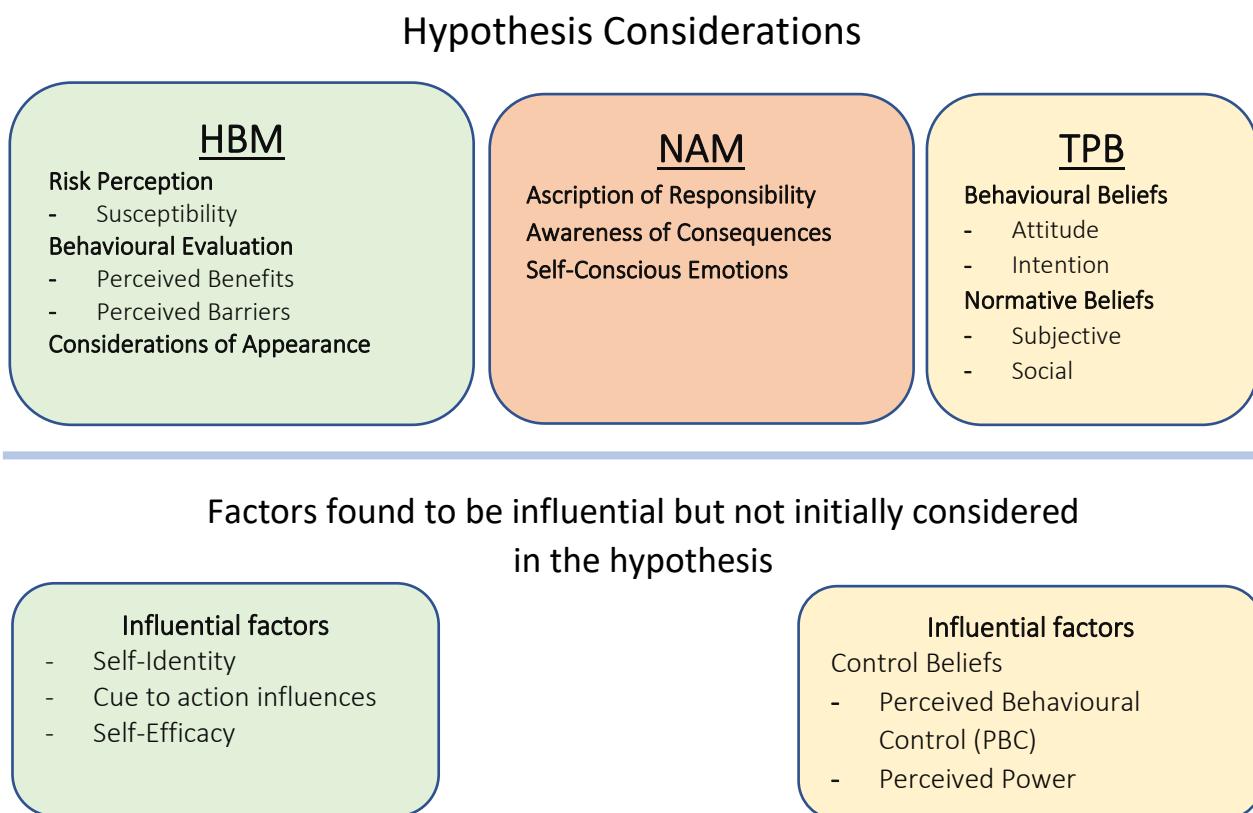


Figure 5: Depiction of factors found to be influential to the behaviours of Low-risk individuals from the research.

Self-Identity: The strong presence of pro-social beliefs and emphasised subjective beliefs (fit in mentality) witnessed from the research suggests that participants did share a common identity which supported values of responsibility and honour. This identity embodied pro-social values and promoted subjective beliefs to maintain behaviours supportive of the identity.

Cue to action: From discussions with participants several cues to action can be identified as which changed perceptions and behavioural intentions. The closing proximity and growing awareness for elderly susceptibility communicated across the media are recognised as cue to action events which altered individuals' risk perceptions and instigated their behavioural change.

Self-Efficacy: This was recognised across the research in the desire participants held to adopt and maintain these behaviours for the specific outcome of protecting loved ones and themselves. Their belief in their capacity to protect is reflected in their maintenance of pro-social behaviours.

Control Beliefs: The influence of PBC and perceived power were found influential to behavioural practice at later stages of the response. Participants reference how they were confident in their ability to maintain sufficient levels of protection while meeting their friends breaking with some restrictions. This reflects a perception of behavioural control and risk control. Such perceptions were important in participant's decision to break restrictions as they felt confident in their ability to maintain protection.

6.7. Reflection on Methods and Limitations

The design of the research successfully engaged participants providing good discussions on their experience and behaviours. The small sample size is a recognised limitation, reducing the findings application to wider society. However, the decision to use a small sample has proven to be a successful decision over a large quantitative study as participants were comfortable expressing their feelings towards the risk and their own behaviours both negative and positive. Providing a greater understanding of factors influential to their behaviours and compliance. Subjective norms and personal values of participants most likely would not have been examined at such an individual level if a larger survey-based method was chosen over the discussion format. A limitation of this research method remains its single stage investigation. It is recognised that participants behavioural development is not as clearly captured as they are asked to reflect on their experiences. A multi-staged study is recognised as a preferable method for future research where possible.

CHAPTER 7

CONCLUSION

This chapter concludes the research with reflection on the hypothesis and research question.

7.1. Hypothesis Outcome

An ascription of responsibility was found to be the dominant factor in motivating participants behaviours as risk perceptions were largely built on the susceptibility of loved ones which influenced behavioural intentions and attitudes. This adoption of responsibility for protecting others can best be understood as a subscription among participants which maintained their behaviours even during periods of limited confidence in the response.

Subjective norms and self-conscious emotions of guilt were found to be influential to their behaviour. Several participants make direct reference to their desire to not be guilty of infecting others while other participants assess their behaviours relative to their ability to protect themselves and loved ones which suggest motivations driven by responsibility and social beliefs built on strong pro-social intentions. These findings support the hypothesis presented in chapter 3 as participants were found to be motivated by an ascription of responsibility which determined their behaviour. Subjective norms and altruistic values were also important in maintaining behaviours yet, these factors are reliant on a strong belief in responsibility and behavioural control without which participants may not have maintained their behaviours or continued to comply with restrictions.

7.2. Research Conclusion

What factors influenced the behaviour of low-risk individuals during the COVID-19 pandemic in Ireland?

The factors influential to behaviours during the response largely embody a desire to vulnerable others which supported participants subscription to pro-social behaviours driven by feelings of responsibility. This ascription of responsibility was found to be the dominant factor to behavioural change and maintenance. However, all influential factors varied at different periods of the response and the influence of the COVID-19 media which supported the development of affective and pro-social values can be interpreted as the central factor in establishing participants ascriptions of responsibility. This means that the essential factor to participants behaviours both negative and positive was the influence of risk communication and messaging which initially activated and supported pro-social values through coverage and framing of the risk. The COVID-19 messaging was well coordinated and informative across different platforms which increased participants confidence in their ability to reduce the risk which in turn supported their ascription

of responsibility and adoption of healthy behaviours. However, the HSE COVID-19 Campaign which was most widely preferred was also a negative factor in participants experiences at later stages. The HSE campaign's limited feedback and mundane format of rhetoric and statistics diminished public support and unity which was discussed across the study group. This poor responsiveness to public sentiment weakened the response as participants developed a negative attitude towards the national response, leading some to break compliance with restrictions.

Changing perceptions

- Pro-social imprint in communication and messaging influenced participants perception of the risk
- Growing media attention built affective risk perceptions and added strong emotional value to the ascription of responsibility

Initiating pro-social behaviours

- Pro-social subscription to behaviours developed from ascription of responsibility
- These pro-social values also supported compliance with restrictions and the national response

Factors influencing compliance

- Disengaged communication reduced compliance and confidence (messaging was not responsive to participants and public feeling)
- Reduced confidence in the national response encouraged perceptions of behavioural and risk control which led some to break restrictions. However, normative beliefs and altruistic values maintained practice of healthy behaviours.

The findings of this research show the significance of perception and belief in determining how we choose to behave. We assess risk based on factors familiar to us which in turn is influenced by our understanding of the risk. The framing of the risk as a danger to participant's families was indeed effective and tangible. Proving that human behaviour is not simply a rational calculation rather a complex balance of understanding, belief, intention and reason. Risk is subjective and so is our choice in how to respond.

As individuals perceive their world from their understanding of it, to tackle future challenges we require a greater focus on prevention over reactive measures. If we desire society to invest in risk preventative behaviours, then we must market said risks and behaviours directly to the society in a manner which they will engage in. This research shows the significance communicating tangible dimensions of the risk can have towards developing invested healthy behaviours which are supported by social values.

CHAPTER 8

RECOMMENDATIONS

Reflecting on the research, several recommendations are described in this chapter to support future research and health communicators.

8.1. Intended Beneficiaries

These recommendations are to support future risk communicators and health campaigns in the design of campaign messaging reflecting on the factors influential to individuals during a crisis. The recommendations made reflect on the findings of this study and identify methods for improved campaign engagement with low-risk groups. This small study does not reflect the beliefs and norms held by all individuals yet, its findings identify several factors which can support future public health campaigns and campaigns attempting to encourage healthy behaviours.

8.2. Recommendations

Marketing risk and healthy behaviours for sustained practice

An interesting finding from this research was participants' sustained practice of pro-social behaviours which supported their efforts in protecting loved ones from infection. For future public health campaigns attempting to change behaviours, it is recommended that the design of messaging be created with greater emphasis on the beliefs and values of individual consumers. This research found that the susceptibility of loved ones highlighted a tangible dimension of the risk which participants responded to positively and quickly. Simply informing the public of a risk is not a strong strategy for developing lasting behavioural change. Thus, future campaigns would benefit from consumer-based and social marketing techniques which engage society and place emphasis on tangible dimensions of a risk. This, coupled with coordinated messaging focusing on the ease of adopting new behaviours will benefit future campaigns. Equally, marketing healthy behaviours as a product which society should invest in will greatly benefit campaigns attempting to increase preventative behaviours using such methods as discussed.

Establishing a dominant and coordinated line of communication

The importance of responding quickly and accurately to the COVID-19 risk has been identified across the discussions. The popularity of the HSE COVID-19 campaign underscores its success in building a confident line of communication among the participants. Even participants who admittedly had little interest in national news and COVID-19 updates, showed a preference for the campaign in discussions. Without establishing a dominant line of communication quickly, the responsiveness of society and the ability to influence behaviours and actions is delayed.

Equally important is the quick dissemination of coordinated messaging to overpower the growth and spread of misinformation which can grow quickly if many uncertainties exist and are not confronted by the campaign. Having a dominant and coordinated communication campaign that is extensively accessible will support efforts to change perceptions and develop positive attitudes towards the practice of healthy behaviours.

Provide a platform for discussion and public engagement

A platform for public and expert discussion was found to be an irreplaceable tool in communicating the risk and building confidence across society during the COVID-19 response. While public discussion platforms can also be a tool for negative content the importance of providing platforms for public engagement such as radio or podcasts allows misinformation to be dispelled by expert discussions. Local radio was found to be a very positive and a trusted platform for the public which provided a trusted and detailed local view which the national campaign lacked. The use of these platforms also informs the campaign on the dynamic of public opinion and can be used to inform the response on how to improve design and clarity. Reflecting on marketing risk reductive behaviours as a product, the engagement of the public through platforms like radio and discussion shows is essential if the product (healthy behaviours) is to be invested in by society. Such feedback loops can be built using consumer-marketing tools and techniques to inform local and national campaign design.

8.3. Future Research

Conduct a staged study over the course of a response

A staged study conducted periodically over the period of a crisis would be a fantastic opportunity to better understand the influence different factors have on individuals at different stages during a response. A limitation of this study was the hindsight nature of participants experiences presenting possible inaccuracies in recollection and biases from hindsight influences. As the influence of different factors varied through the duration of the crisis experiences a staged study would capture such variation and provide more accurate information relating to the influence had on behaviour and attitudes. Therefore, a staged project would be recommended to test the findings and indicate the variation of influential factors on human behaviour during a risk response. Such a project will be more informative to the design of future health campaigns employed over a prolonged period.

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APPENDIX

INTERVIEW GUIDE

Core Objectives:

1. Determine if participants felt a responsibility to others and if this motivated their actions and compliance with the restrictions.
2. Determine the factors influencing participant's behavioural intent (altruistic/pro-social or self-interest)
3. Determine what factors of Covid-19 messaging were influential to participant's risk perception and behaviour.

Characteristics

- *Elements: These were representative of statistical data or expert knowledge communicated across Covid-19 communication mediums. (e.g. daily case numbers, death numbers, expert understanding and learnings)*
 - *Themes: These represented emotional and experiential content which was presented across the Covid-19 communication. (e.g. fear, caution, unity, community, uncertainty, anger, irritation)*
4. *Determine what factors influenced their feelings of compliance.*

Subsidiary objectives

- *Determine the preferred communication medium for participants during the covid pandemic.*
- *To examine if participants have changed their trust in society and authority as a result of their experience with the response.*

Interview Questions

1. What were your plans for 2020 prior to Covid-19?

(This question is designed to open the discussion regarding their lifestyle and reflect on how Covid-19 may have impacted such a lifestyle. It allows supports to engage the participant)

Add on: Did you feel it would turn into what it did?

2. What was your perception of covid-19 when you first heard about it, did you feel it was an apparent danger?

(The objective of this question is to allow the participant to reflect on their interpretation of the virus initially and how it has changed over time. It is important that the participant sub-

consciously reflects on how they felt as it will inform later questions regarding why they perceived the risk in such a manner and the most influential content to their behavioural change.)

3. Did your perception of the risk change over the course of the crisis, what prompted this change?

(The objective of this question is to build a timeline of the participant's risk development and what may have motivated their behavioural change. It is important that this question comes before any discussion regarding communication mediums and themes as the participant is gradually reflecting on their experience.)

4. Rate in order of preference, which of the following communication mediums was most influential to your risk perception of Covid-19?

- **Social Media** (information sharing)
- **Local Radio or National Radio** (discussions and statistics)
- **Friends and Family** (experiences and stories)
- **HSE and Irish covid-19 campaign** (statistics and professional advice)
- **Documentary film/ individual stories shared publicly** (hospital patients' documentary) [specify sources]
- **Other mediums** - Please provide information.

(This question probes the participant on the influential elements of their decision making. Was their decision making more emotionally driven or statistical, was their risk perception individualistic or were they reflecting mostly on the danger it presented to their family and others? The discussion following this question is also designed to examine how trusting they were in the information.

Add on question: Did you feel comfortable and informed by the communication received given the level of uncertainty?

5. What characteristics of the communication appealed to you and influenced your perception of the risk?

(The objective of this question is to set a clear marker in the interview regarding the influential properties of the communication. This question is designed to open the conversation regarding emotion vs logic. It is understandable that at different times, participants were more provoked by one or the other. Thus, it is important to examine when these changes happened.)

Characteristics:

Elements: Statistics, stories, expert knowledge etc.

Themes: Emotional content, Uncertainty, Responsibility/ Moral code etc.

Add on Question: Which was more influential to your perception of the virus, elements or themes?

6. How did the Covid -19 messaging/communication make you feel?

(Following on from the above discussion. This question expands their reflection with a focus on their feeling towards the messaging within the Covid-19 campaign. (e.g. unity, community, fear, safety). The purpose of this question is to understand how participants evaluated the risk through feelings which may have influenced their risk perception. It can be estimated that the themes they are likely to recall and discuss are those most influential to them.)

Add on Question: Was there some aspects of the communication that you interpreted as motivating for your actions?

7. What actions did you take in response to the Covid-19 messaging, both initially and over the course of the pandemic?

(The objective of this question is to examine what actions and behavioural changes individuals took in response to their perception of the risk and if their actions reflected a change in their risk perception)

Add on Question: Did you feel a sense of unity and were you empowered by this?

8. Reflecting on the Covid-19 messaging, what motivated you take these actions in response to the risk?

Add on: Did you feel a moral obligation to protect others from the Covid-19 communication.

9. How do you feel about the changes you made?

(This question is designed to open a discussion with the participant regarding how they feel they participated in the crisis and if it was a worthwhile or do they feel they have suffered more. It will also help to expand on their emotions towards the crisis. Was it fear, anger, nobility that they reflect on?)

Add on: Do you feel your actions had a positive impact?

10. Did you feel a sense of responsibility for other peoples' wellbeing by restricting and making changes to your lifestyle?

(This question reflects on the individual's 'willingness to pay' through their actions. And examines their desire to support prevention methods or focus on their personal danger)

Add on Question: Would you interpret your actions as a willingness to pay for the greater good?

11. How has your trust and confidence in your social circle and the government changed over the course of the pandemic?

(This question is important in gauging the individual's confidence in community and administration. It will be interesting to compare how people perceived the risk of Covid-19 vs their confidence in national institutions responsible for the crisis. It seeks to answer if trust in national institutions is a critical element in behavioural change during a crisis or does interpersonal trust have a greater role to play in supporting behavioural change to tackle the risk. Also, how has their confidence changed over the course of the crisis and has that influenced the individual's willingness to pay?)

Add on question: Considering some nations did not impose such strong restrictions, do feel comfortable with the actions you took and why?

12. Did your motivation and tolerance for risk reduction and the restriction-imposed change over the course of the crisis?

Add on Question: Considering some nations did not impose such strong restrictions, do feel comfortable with the actions you took and why?

Add on Question: Did you feel your tolerance of the restrictions changed as a result of the emotional strain of lockdown or was it more of a logical reflection on the progress or lack thereof?

13. Due to your age, you would be considered to be a low-risk person. Yet, you paid a large price in sacrificing so many elements of your lifestyle. Do you feel this is fair?

(The objective of this question is to challenge their logic and question their intentions E.g. 'They are not in danger so why help'. It also reflects the 'white male bias' which is a bias towards risk reduction and restrictions to hazards which are not experienced by the individual. The opening statement embraces this bias and questions the participants true decision making. Why did they follow the restrictions, and would they have followed them if they were not enforced etc.? These questions provide important information regarding the power of social nobility and where it may fail to persuade people to change their behaviour.)