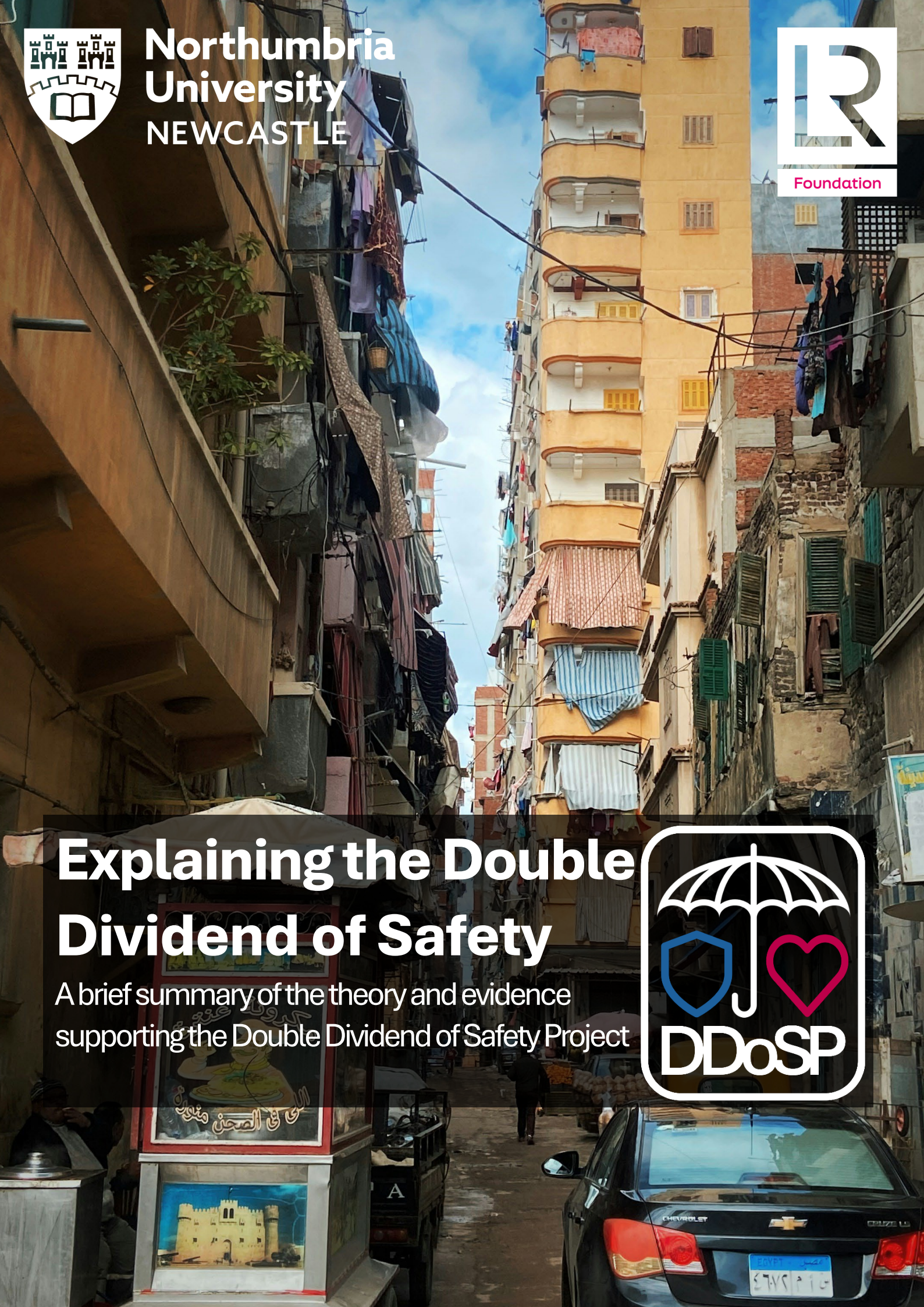

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Explaining the Double Dividend of Safety

A brief summary of the theory and evidence supporting the Double Dividend of Safety Project

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Explaining the Double Dividend of Safety

This document provides a summary of the theory and evidence supporting the double dividend of safety.

If you felt your life could be cut short at any moment by violence, accidents, or natural disasters, would you worry much about exercising regularly or eating healthily?

If your answer to this question is "no", then it's in line with both theory and empirical evidence.

When people are exposed to health and safety risks which are beyond their personal control, it reduces their chances of living to see old age, no matter what they do. Many of the benefits of a healthy lifestyle (or, indeed, the negative effects of an unhealthy one) are not experienced until later life.[1] Therefore, people who are exposed to more uncontrollable risk may, understandably, do less to avoid the later-life ill health they may never live to experience.

The evidence in support of this idea is briefly summarised below, with an explanation of its logical conclusion – that reducing those risks which people are unable to mitigate for themselves, will also improve their health behaviour. **Put simply, by making people safer, we can also make them healthier. This effect is something we call the double dividend of safety**.

For a more detailed summary of the aims and approach of this project, and how organisations can apply the double dividend of safety in their work, please refer to our related documents 'Project Summary' and 'Practical Applications for Organisations' available at **doubledividendofsafety.org**.

A Brief Summary of the Theory

Uncontrollable mortality risk is that portion of a person's risk of death that they cannot reduce by altering their behaviour.[2-5] In a behavioural ecological model, Daniel Nettle projected that effort towards healthy behaviours would be less for people who are exposed to higher levels of uncontrollable mortality risk.[6] He used this model to explain socioeconomic differences in health behaviour. People of lower socioeconomic status are generally exposed to more environmental and occupational risk and are also less able to avoid or mitigate those risks (e.g., by changing jobs, moving house, or paying to remove hazards from their environments).[7-13] Nettle proposed that this could be perpetuating health inequalities because being exposed to a greater level of unavoidable risk would also generate disparities in health behaviour, which would further exacerbate the problem.[6]

This theoretical model resulted in the **Uncontrollable Mortality Risk Hypothesis**,[14] that those who are more likely to die due to factors beyond their control are expected to be less motivated to invest in preventative health behaviours. This has been supported by the studies summarised below. Whilst the idea that risk generates further risk seems negative, we can turn this on its head, resulting in an important conclusion. If governments, employers, and other powerful organisations intervene to make people safer, this should result in improved health behaviour. They would therefore not only benefit from being safer, but also from being healthier.

A Brief Summary of the Evidence

Pepper and Nettle designed a measure of **perceived uncontrollable mortality risk**, which they used to test the Uncontrollable Mortality Risk Hypothesis in a sample of North American adults.[4] They found that perceived uncontrollable mortality risk was strongly associated with health behaviour and, that the measure explained most of the socioeconomic difference in health behaviour reported by participants. Since this original study, the finding of associations between perceived uncontrollable mortality risk and health behaviour have been replicated in multiple studies in the UK and USA.[2, 15-17] These studies were included in a recent meta-analysis by Brown and Pepper, which found that greater perceived uncontrollable mortality risk has been consistently shown to predict lower self-reported health effort.[2]

Additional support also comes from studies using measures of anticipated survival, a measure that is strongly related to perceived uncontrollable mortality risk.[18] Furthermore, during the COVID-19 pandemic, perceived uncontrollable mortality risk was associated with lower reported adherence to Government advice on physical activity, diet and smoking.[15] Recent evidence even supports the hypothesis that the effects of perceived mortality risk go beyond health behaviour to affect more general psychological traits.[19] For example, perceived morbidity and mortality risk have been linked to decreased patience and increased risk aversion.[20]

The evidence goes beyond the correlational studies summarised above. A series of experiments altered perceived control over mortality risk, leading to changes in dietary choice. These results support the idea that the link between the perceived controllability of risk and health behaviours is a causal one.[14]

The Double Dividend of Safety Project aims to expand the evidence base for understanding the implications of the Uncontrollable Mortality Risk Hypothesis, and to demonstrate how organisations can capture the behavioural health improvements that result from enhanced safety.

Further Reading

- **Our 2024 Position Paper - Outlining the public health implications of the uncontrollable mortality risk and the double dividend of safety.**
- **Our 2024 Evidence Synthesis - Supporting the relationship between perceived uncontrollable mortality risk and health effort.**
- **Nettle's 2010 Theoretical Paper - Explaining the behavioural ecological model underlying the double dividend of safety.**

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THE DOUBLE DIVIDEND OF SAFETY PROJECT

Dr Richard Brown and Dr Gillian Pepper
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DDoSP

doubledividend@northumbria.ac.uk
doubledividendofsafety.org

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